

Andrea Clarke, General Counsel
Tuesday 25 February 2025

Agenda
Programmes and Investment Committee
Wednesday 5 March 2025

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 11 December 2024

General Counsel

The Committee is asked to approve the minutes of the meeting of the Committee held on 11 December 2024 and authorise the Chair to sign them.

4 Matters Arising and Actions List

General Counsel

The Committee is asked to note the updated actions list.

5 Use of Delegated Authority

General Counsel

The Committee is asked to note the paper.

6 Investment Programme Report Quarter 3, 2024/25

Chief Capital Officer and Director of Investment Planning

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

7 Independent Investment Programme Advisory Group Quarterly Report

General Counsel

The Committee is asked to note the Independent Investment Programme Advisory Group's quarterly report and the exempt supplementary information on Part 2 of the agenda.

8 TfL Project Assurance Update

General Counsel

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

9 London Underground Four Lines Modernisation Programme

Chief Capital Officer and Director of Investment Planning

The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda and approve additional Programme and Project Authority and Procurement Authority for the Automatic Train Control signalling contract for the sum set out in the paper on Part 2 of the agenda.

10 Docklands Light Railway Rolling Stock Replacement Programme

Chief Capital Officer and Director of Investment Planning

The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda and approve Programme and Project Authority, and Procurement Authority for the amounts set out in the paper on Part 2 of the agenda in respect of the Programme and other activities related to addressing legacy signalling issues on the DLR.

11 Environment Programme

Director of Investment Planning

The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda and subject to approval by the Board of the proposed Budget for 2025/26, approve additional Programme and Project Authority to support the on-going delivery of the Environment Programme and approve additional Procurement Authority, in the sums requested in the exempt supplementary paper on Part 2 of the agenda.

12 Technology Programme

Director of Investment Planning and Chief Technology Officer

The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda and subject to approval by the Board of the proposed Budget for 2025/26, approve an increase in Programme and Project Authority for the Technology Programme.

13 Bakerloo Line Upgrade Stage 1

Chief Capital Officer and Director of Investment Planning

The Committee is asked to note the paper and approve additional Programme and Project Authority

14 Network Development and Third-Party Pipeline Programme

Director of Investment Planning and Director of Spatial Planning

The Committee is asked to note the paper and approve unbudgeted Financial Authority for the Docklands Light Railway Thamesmead Extension project.

15 Forthcoming Key Procurement Activities

Chief Finance Officer

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

16 Members' Suggestions for Future Discussion Items

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.

17 Any Other Business the Chair Considers Urgent

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

18 Date of Next Meeting

Wednesday 2 July at 13:00pm

19 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

20 Investment Programme Report Quarter 3, 2024/25

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

21 Independent Investment Programme Advisory Group Quarterly Report

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

22 TfL Project Assurance Update

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

23 London Underground Four Lines Modernisation Programme

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

24 Docklands Light Railway Rolling Stock Replacement Programme

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

25 Environment Programme

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

26 Technology Programme

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

27 Forthcoming Key Procurement Activities

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

Transport for London

Minutes of the Programmes and Investment Committee

Conference Rooms 1 and 2, Ground Floor, Palestra,
197 Blackfriars Road, London, SE1 8NJ
10:00am, Wednesday 11 December 2024

Members

Peter Strachan (Chair)
Arthur Kay (Vice Chair)
Seb Dance (from Minute 60/12/24)
Deborah Harris-Ugbomah
Mark Phillips
Omid Shiraji
Sara Turnbull

Government Observer

David Coles

Executive Committee

Andy Lord	Commissioner
Andrea Clarke	General Counsel
Stuart Harvey	Chief Capital Officer

Staff

Isabel Coman	Director of TfL Engineering Asset Strategy
Michael Cooper	Director of Programme Management Office
Nick Fairholme	Director of Capital Delivery – Systems
Scott Haxton	Director of Capital Delivery – Infrastructure
Luke Jarvis	Interim Director of Procurement & Commercial, Capital, IT & GLA
Zoe Manzoor	Senior Committee Officer
Peter McNaught	Director of Operational Readiness
Vicky Morley	Senior Advisor, Chief Capital Officer
Robert Niven	Head of Investment Delivery Planning Major Projects
James Norris	Head of Project Assurance
David Rowe	Director of Investment Planning
Rachel Sherry	Finance Director – Capital

Independent Investment Programme Advisory Group (IIPAG)

Alison Munro	Chair IIPAG
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55/12/24 Apologies for Absence and Chair's Announcements

There were no apologies for absence from Members. Seb Dance had given an apology for lateness. The meeting was quorate.

The Chair welcomed everyone to the meeting. The meeting was broadcast live to TfL's YouTube channel, except for the discussion of the information on Part 2 of the agenda which was exempt from publication, to ensure the public and the press could observe the proceedings and decision-making.

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 the appropriate member of the Executive Committee after the meeting.

With great sadness, the Chair reported that tragically a colleague, Jorge Ortega, a Customer Experience Assistant for the Elizabeth line, died on 6 December 2024, after being assaulted while at work at Ilford railway station. The Committee's and Executive's thoughts were with Jorge's family and friends and colleagues at this incredibly difficult time. TfL was working closely with MTREL, the operator of the Elizabeth line, to provide support to Jorge's family and all colleagues affected. The safety and wellbeing of colleagues was paramount to TfL. Jorge had served the railway community with dedication and kindness for 24 years. This was an appalling attack while Jorge was doing his job helping customers travel around London. Everyone should be able to go about their day without fear or intimidation and it was unthinkable that someone could lose their life due to unprovoked violence while just doing their job.

TfL was fully supporting the British Transport Police with its investigation and there was enhanced security at Ilford station and across the eastern route of the Elizabeth line.

The Committee would join colleagues on the Elizabeth line who were observing a one-minute silence at 11am in memory of Jorge.

The Chair congratulated Justine Curry on her appointment as the Director of Legal, following a competitive recruitment process.

The Chair also reported that there were three updates to the membership of the Independent Investment Programme Advisory Group (IIPAG). Phil Threlfall retired in December 2024. The Chair thanked him for his excellent work since 2022, most notably in the signalling discipline. He was succeeded by the reappointment of Kenny Laird. Sarah Johnson had also been appointed to IIPAG. The Chair welcomed both Kenny and Sarah and thanked them in advance for the valuable contributions that they would make to this Committee.

56/12/24 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.

Since the last meeting, there had been one update to Members' declarations: Peter Strachan's term as Chair of the North East Ambulance Service NHS Foundation Trust had concluded, with effect from 29 November 2024.

57/12/24 Minutes of the Meeting of the Committee held on 3 October 2024

The minutes of the meeting of the Committee held on 3 October 2024 were approved as a correct record, and the Chair was authorised to sign them.

58/12/24 Matters Arising and Actions List

Andrea Clarke introduced the item, which set out progress against actions agreed at previous meetings of the Committee.

The Committee noted the updated Actions List.

59/12/24 Use of Delegated Authority

Andrea Clarke introduced the item. There were no uses of delegated authority, Chair's Action nor Mayoral Directions to TfL within the remit of the Committee since the last meeting.

The Committee noted the paper.

60/12/24 Investment Programme Report Quarter 2, 2024/25

Stuart Harvey and David Rowe introduced the Investment Programme Report for Quarter 2 of 2024/25 (23 June to 14 September 2024) of TfL's Investment Programme. The changes to the report style summarised the key progress and challenges on the delivery of projects across TfL in a more succinct format.

Due to impact of the cyber security incident, there had been systems challenges providing operational and capital colleagues' significant incident information for Quarter 2.

During the period, TfL Capital continued to have a good safety record, with no incidents under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations. This was a significant achievement given the variety and complexity of work. On 2 November 2024, there was a collaborative "keeping in touch" event to share knowledge and best practice. The team continued to plan for a safety conference for February 2025. The Capital team continued to ensure that safety remained a core priority.

Of the 26 strategic milestones, seven had been achieved early or on time and it was forecast that a further 15 would be completed on time. Three had been missed: the Four Line Modernisation Programme (4LM) Signalling Migration Area (SMA) 8 go live date had been delayed; the Kentish Town London Underground (LU) station reopening milestone had been revised; and the milestone for the LU Jubilee line train refurbishment programme was delivered late. The project teams would take lessons learnt from these milestones.

On 4LM, the estimated final costs (EFC) remained above the Programme and Project Authority and the focus continued to be placed on managing the costs. There had been continued progress with delivering SMA8 and SMA9. Preparations were underway to introduce the new timetable in early 2025. In response to a question, it was noted that there was confidence that the team had stabilised key challenges in the Programme. A further paper was scheduled for the March 2025 meeting, which would request additional authority for the Programme.

On the Piccadilly line upgrade, the EFC in Quarter 2 had reduced but remained above the Programme and Project Authority, however, there was confidence that it would be brought back within the authorised authority. The manufacturing of the new trains was progressing well, with the arrival of the first of the new trains in October 2024, and these would undergo rigorous testing.

At Elephant & Castle station, the pre-tunnelling ancillary works had been completed. At Surrey Quays station, the new ticket hall had been installed and the works remained on track for completion by 2026. There had also been further progress on delivering projects to increase accessibility and relieve congestion, with safer junctions work. The procurement exercise was also underway for the tram rolling stock replacement programme.

David Rowe presented the highlights on the Safe and Healthy Streets Programme. The spend during the quarter on projects was behind schedule, due to delays in starting on site at Nine Elms and Streatham Hill. All other schemes in the Programme remained on track, including the delivery of new cycleways and bus lanes. On the vehicle fleet, TfL remained on track to meet the Mayor's Transport Strategy target requiring all cars in the support fleet to be zero-emission capable by 2025. This was in addition to the work to provide zero-emission buses with innovative technology. It was also noted that TfL would continue to monitor the benefits of the safe and healthy streets schemes and the impacts of any delays, as this would help with demonstrating the benefits of the schemes and with obtaining Government funding.

On technology, the Committee would be kept updated through the reports on the recovery work from the cyber security incident and any impacts on milestones. More widely, TfL had continued to deliver a range of improvements including the installation of equipment to review CCTV remotely and extending the mobile network on LU.

The spend on the Streets, Bus and Rail and Sponsored Service Renewals Programme was ahead of forecast, due to the in-year re-prioritisation work, which had focused resources. On LU, TfL was slightly ahead of forecast reflecting the positive progress with the Central line improvement programmes and with track replacement and fleet overhaul works. On the Bakerloo line, wheelchair bays had been fitted on 15 trains.

There was also a positive update on the progress with alleviating access problems at Cutty Sark DLR station, which had been due to the unavailability of escalators. This was a significant priority given the use of the station, including by a lot of students and people with luggage. Good progress had been made with several remedies being explored with stakeholders to provide an effective solution and funding had been set aside for this work. In response to a Member's request, David Rowe would provide a further update on the work to address the access issues at Cutty Sark DLR station, including the engagement with stakeholders.

[Action: David Rowe]

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

61/12/24 Independent Investment Programme Advisory Group Quarterly Report

James Norris introduced the Independent Investment Programme Advisory Group's (IIPAG) quarterly report, which set out work undertaken by IIPAG since the report to the Committee in October 2024.

Alison Munro presented the report summarising IIPAG activities.

IIPAG had completed a review of potential Major Road Network (MRN) schemes underlining the opportunities but also the need to agree submission timescales with the Department for Transport, allowing design, schedule, cost estimates and risk assessments to be developed to a sufficient level of robustness. Management had responded to these recommendations. The work on developing a robust business case for the works at Brent Cross was in progress. Members also noted the need to deliver MRN schemes and obtain the funding for declining assets at pace, including the works at Brent Cross, given the significant impacts of delays in funding on the condition of assets both on capital and revenue costs.

IIPAG had also carried out a review of traffic management costs. The report highlighted the need for greater emphasis on protecting bus performance from the onset in the design of schemes.

The Committee noted the Independent Investment Programme Advisory Group's quarterly report and the exempt supplementary information on Part 2 of the agenda.

62/12/24 TfL Project Assurance Update

James Norris introduced the item, which provided an update on the project assurance work undertaken between 18 August and 9 November 2024 (Period 6 to Period 8 of 2024/25) and the key findings from the reviews.

The Project Assurance team had undertaken two programme reviews with the Independent Investment Programme Advisory Group (IIPAG) during the period, and 12 project reviews, with IIPAG involved in nine of them. These reviews raised 61 recommendations, of which 16 were considered critical issues.

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

63/12/24 Docklands Light Railway Rolling Stock Replacement Programme Update

Stuart Harvey presented the update on the Docklands Light Railway (DLR) Rolling Stock Replacement Programme, including progress since the last full update to the Committee in December 2023. Good progress had continued to be made with the manufacturing of trains, with over 40 completed. Other key milestones noted included: the successful completion of the electrical track equipment upgrades across four of the five DLR routes; and good progress on expanding the Beckton Depot with the

northern sidings already bought back into operation use and work was on target to bring the southern siding back into operational use. The final costs remained under extensive review.

An update was also provided on the train testing and the legacy system issues, and the work to mitigate risks including through the introduction of a new timetable. Engagement continued at a senior level with suppliers to manage the programme. A further update was scheduled for the March 2025 meeting, with an assurance report. A Member commented that the new trains were of a very high quality.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and approved unbudgeted Financial Authority, Programme and Project Authority, and Procurement Authority in the sums set out in the paper on Part 2 of the agenda.

64/12/24 Safe and Healthy Streets Programme

David Rowe presented the update on progress of the Safe and Healthy Streets Programme, since the previous update in December 2023, and set out indicative milestones planned for 2025/26.

During the period, there had been significant progress with delivering the programme schemes working with London boroughs and through the boroughs' Local Implementation Plans, which were aligned to the objectives of the Mayor's Transport Strategy (MTS).

Key highlights of the programme were noted. There had been a positive increase in cycling and the number of fatal collisions had reduced compared to the national levels. The update also set out details of the lessons learnt, and the benefits/costs assessment carried out for schemes. An overview was also provided of the prioritisation process for identifying projects in line with the MTS and of the wider activities to deliver strategic outcomes. An assurance review of the programme had been completed by the Independent Investment Programme Advisory Group (IIPAG) and by the Project Assurance team. Overall IIPAG had found the programme to be well led and specific recommendations made had been responded to by management.

Members welcomed the table in the paper summarising the sub-programmes contributions to key outcomes, for example from the impact of bus priority initiatives and customer experiences. Consideration would be given to applying this approach across the Investment Programme reporting to measure impacts on strategic outcomes.

[Action: Stuart Harvey/David Rowe]

Members also sought further clarity on the work with the London boroughs on the projects, and the distribution of projects across boroughs. A briefing would be arranged on the relationship with the boroughs regarding the Investment Programme, including an update on the distribution of funding across the boroughs.

[Action: David Rowe/Secretariat]

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

- 1 approved additional Programme and Project Authority of £174.4m to support delivery of the Programme, bringing the total Safe and Healthy Streets Programme and Project Authority to £711.3m (net, including third party funding); and
- 2 noted that Procurement Authority for the matters addressed in the paper would be sought at officer level in accordance with Standing Orders.

65/12/24 Bakerloo Line Upgrade Stage 1

Stuart Harvey and David Rowe presented the update on the Bakerloo line Upgrade Stage 1, highlighting the work undertaken to date and the upcoming next steps and key milestones.

Members were reminded of the significant challenges with the continued operation of the rolling stock, due to its age. It was noted that good progress continued to be made in preparing the business case to the Department for Transport for the funding for a high-quality new fleet, using the preferred time-limited option in the Siemens Mobility Limited contract for the Piccadilly line upgrade. The informal feedback on the business case had been very positive.

It was also reported that significant work had been carried out on learning the lessons from the Piccadilly line upgrade and with the Four Lines Modernisation Programme.

The fleet replacement offered very high value for money. A Member suggested that the benefits and the risks of not renewing the fleet should be placed at the top of the paper in future submissions. Members supported the business case and agreed that it should be progressed at pace. A discussion also took place on the challenges with maintaining the ageing fleet and the arrangements in place to monitor this and maintaining the fleet. A site visit would be arranged to the Bakerloo line depot at Stonebridge Park.

[Action: Stuart Harvey/Secretariat]

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

66/12/24 Pontoon Dock Station Upgrade

David Rowe presented the update on the Pontoon Dock DLR station upgrade progress. This project was being considered by the Committee on a stand-alone basis, ahead of the annual Rail and Stations Enhancements Programme update, due to the timing of agreeing complex funding arrangements, which involved multiple third-party organisations.

The accessibility of the station was challenging at present. It was anticipated that with the number of developments planned in the area, passenger demand would increase significantly.

This was essentially a third-party funded project, by the Royal Docks Enterprise Zone. Section 106 funding from Silvertown Quays and Homes England, with a contribution from TfL. The project demonstrated excellent value for money. There had been engagement with the Greater London Authority (GLA) on the potential to underwrite

the funding arrangements through the Homes for Londoners Land Fund. The GLA had confirmed that the project met the criteria and it was in the process of preparing an overarching agreement, which was anticipated to be in place by March 2025. A Member asked about the risks to TfL from the project. It was confirmed anything above the upper end estimate would be at TfL's risk. Consequently, a funding package for the highest estimate for the project with an additional contingency, had been agreed in principle with third-party funders.

A further paper would be scheduled for the Committee to approve the full amount of Programme and Project Authority before moving into the construction phase when all the high-end funding had been secured. **[Action: David Rowe]**

A targeted assurance review of the programme had been completed by the Independent Investment Programme Advisory Group (IIPAG) and the Project Assurance team. Overall, IIPAG had found the programme to be well led and specific recommendations had been responded to by management.

The Committee noted the paper and:

- 1 approved additional Programme and Project Authority of £12m, to enable receipt of third-party income for the Pontoon Dock DLR station upgrade, bringing the total Programme and Project Authority to £17m for the Pontoon Dock DLR station upgrade project and £1,078.9m for the Rail and Station Enhancements Programme, of which it was part;**
- 2 approved an additional £15m of unbudgeted Financial Authority bringing the total project Financial Authority to £49.3m and wider Rail and Station Enhancements Programme Financial Authority to £1,083.8m; and**
- 3 noted that Procurement Authority would be sought at officer level in accordance with Standing Orders.**

67/12/24 Silvertown Tunnel Programme Update

Stuart Harvey provided an update on the Silvertown Tunnel Programme. On 4 December 2024, the Board approved the Tunnel User Charges to be applied to the Silvertown and Blackwall Tunnels.

The Silvertown Tunnel was now fully constructed and in the final stages of the system integration work. It was anticipated that the programme would deliver a substantial number of benefits, including an increase in zero-emission buses across the river. An update was also provided in the paper on Part 2 of the agenda on the commercial negotiations with Riverlinx and its supply chain.

The Chair praised the comprehensive nature of the consultation exercise and the assessment of the consultation report on the Silvertown Tunnel and Blackwall Tunnel charges.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and endorsed the arrangements proposed in relation to the Silvertown Tunnel Programme.

68/12/24 Enterprise Risk Update – Delivery of TfL Key Investment Programmes and Projects (ER08)

Stuart Harvey and Michael Cooper presented the paper, which provided an overview of Enterprise Risk 08 – Delivery of TfL key investment programmes and projects (ER08) and provided a positive update on how TfL managed the risk across its capital investment portfolio.

It was noted there were several key controls in place to manage the risk, including the Project Management Community, TfL Project Delivery Models, Lifecycle Gate Control and Resource Management. There had also been continued progress around corrective controls, including the introduction of a new pathway system to review benefits realisation of projects. The Committee welcomed the work on the benefits realisation programme, and consideration would be given to how best to reflect these reviews in papers to the Committee. **[Action: Michael Cooper/David Rowe]**

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

69/12/24 Forthcoming Key Procurement Activities

Luke Jarvis presented the paper, which provided a summary of the major new procurements or contract extensions planned over the next two years and decisions that were anticipated to be required from the Committee by way of Chair's Action between this meeting and the next planned meeting in March 2025. It also highlighted significant forthcoming procurements that required approval at officer level during that period.

The pipeline for strategy approvals and contract awards covered 291 contracts with an estimated total value of £18bn.

The Chair noted that the paper demonstrated the breadth and the value of TfL contracts within the supply chain. Members sought further clarity on the benefits of the contracts, especially in relation to sustainability matters and the social value of contracts. The Chair also commented on the need to give further consideration to the wider benefits of contracts, both regionally and nationally. Officers would explore how best to reflect these points in a future paper. **[Action: Luke Jarvis]**

It was also commented that TfL should continue to ensure that there was greater engagement with industry bodies to share outcomes and to input into strategies to close any gaps in consultation exercises.

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

70/12/24 Members' Suggestions for Future Discussion Items

Andrea Clarke introduced the item. No additional suggestions were raised for future discussion items on the forward plan or for informal briefings, other than those already noted during the meeting.

The Committee noted the forward plan.

71/12/24 Any Other Business the Chair Considers Urgent

There was no other urgent business to discuss.

72/12/24 Date of Next Meeting

The next scheduled meeting of the Committee would be held on Wednesday 5 March 2025 at 10.00am.

73/12/24 Exclusion of the Press and Public

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 2, 2024/25; Independent Investment Programme Advisory Group Quarterly Report; TfL Project Assurance Update; Docklands Light Railway Rolling Stock Replacement Programme Update; Safe and Healthy Streets Programme; Bakerloo Line Upgrade Stage 1; Silvertown Tunnel Programme Update; Enterprise Risk Update – Delivery of TfL Key Investment Programmes and Projects (ER08); and Forthcoming Key Procurement Activities

The meeting closed at 12.30pm.

Chair: _____

Date: _____

Programmes and Investment Committee



Date: 5 March 2025

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. Appendix 1 sets out the 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: Andrea Clarke, General Counsel
Email: AndreaClarke@tfl.gov.uk

Appendix 1

Programmes and Investment Committee Action List (to be reported to the meeting on 5 March 2025)

Actions from the meeting held on 11 December 2024

Minute no.	Item/Description	Action by	Target Date	Status Note
60/12/24	Investment Programme Report Quarter 2, 2024/25 - Cutty Sark DLR station A further update would be provided on the work to address the access issues at Cutty Sark DLR station, including the engagement with stakeholders.	David Rowe	March 2025	Completed. Updates issued to stakeholders on the planned works at Cutty Sark DLR station and information is provided in the Investment Programme Report Quarter 3, 2024/25 on the agenda for this meeting.
64/12/24 (1)	Safe and Healthy Streets Programme: Reporting of Key Outcomes For Other Programmes Members welcomed the table in the paper summarising the sub-programmes contributions to key outcomes. Consideration would be given to applying this approach across the Investment Programme reporting to measure impacts on strategic outcomes.	Stuart Harvey / David Rowe		A similar format of reporting of sub-programmes by outcomes will be adopted in future annual programme reporting for other investment areas where applicable.
64/12/24 (2)	Safe and Healthy Streets Programme – Borough Relationships and Funding A briefing would be arranged on the relationship with the boroughs regarding the Investment Programme, including an update on the distribution of funding across the boroughs.	David Rowe / Secretariat	July 2025	A briefing for Members is scheduled to take place following the meeting of the Committee on 2 July 2025.
65/12/24	Bakerloo line Upgrade Stage 1 – Depot Site visit A site visit would be arranged to the Bakerloo line depot at Stonebridge Park.	Stuart Harvey / Secretariat	2025	In progress. A visit is being arranged and proposed dates will be shared with Members.

Minute no.	Item/Description	Action by	Target Date	Status Note
66/12/24	Pontoon Dock Station Upgrade – Future Update A further paper would be scheduled for the Committee to approve the full amount of Programme and Project Authority before moving into the construction phase when all the high-end funding had been secured.	David Rowe	July 2025	A follow up paper is provisionally scheduled for 2 July 2025, this is dependant on the costs and funding arrangements being finalised.
68/12/24	Enterprise Risk Update – Delivery of Key Projects and Programmes (ER08) – Reporting Benefits Realisation The Committee welcomed the work on the benefits realisation programme, and consideration would be given to how best to reflect these reviews in papers to the Committee.	Michael Cooper / David Rowe	March 2025	Completed. Benefits realisation will continue to be provided by portfolios going forward and in the Investment Programme Report quarterly reports.
69/12/24	Forthcoming Key Procurement Activities – Social Benefits from contracts Officers would explore how best to reflect the points raised by the Committee in a future paper regarding the benefits of contracts, especially in relation to sustainability matters, the social value and the wider benefits both regionally and nationally.	Luke Jarvis	March 2025	A verbal update will be provided on the broader social and economic generated through our supply chain spend as part of the presentation of the Forthcoming Key Procurement Activities paper on the agenda for this meeting.

Actions from previous meetings

Minute no.	Item/Description	Action by	Target Date	Status Note
42/10/24	TfL Project Assurance Update: Asset Management Update A briefing would be arranged on asset management highlighting progress in this area.	Isabel Coman	December 2024	Completed. A briefing for Members was held after the meeting of the Committee on 11 December 2024.
44/10/24 (1)	Piccadilly Line Upgrade - Stage 1 Progress Update: Energy Efficiency and Decarbonisation The Committee noted the benefits analysis and improvements in terms of energy efficiency and decarbonisation. At the request of a Member, future reports would provide further details about this.	Stuart Harvey/ David Rowe	October 2025	Future report will include information on energy efficiency and decarbonisation.
44/10/24 (2)	Piccadilly Line Upgrade (PLU) - Stage 1 Progress Update: Cockfosters site visit A site visit would be arranged to Cockfosters depot at an appropriate time.	Stuart Harvey	2025	In progress. The team are working on identifying a date for Board Members to attend a site visit of the PLU programme. It is expected that this will be in the second half of 2025.
07/02/24	Independent Investment Programme Advisory Group Quarterly Report: Environmental Matters A new Net Zero matrix team had been established to share and coordinate progress in relation to environmental matters across the Capital team. A further update would be provided on this work to the Committee.	Stuart Harvey	March 2025	Information will be provided as part of the annual review of the TfL Corporate Environment Plan - Capital update to the meeting of the Customer, Sustainability and Operations Panel on 13 March 2025.

Minute no.	Item/Description	Action by	Target Date	Status Note
10/02/24	Technology Programme: Future Reports Changes to the Estimated Final Cost (EFC) for projects should be more clearly reflected in future reports, to provide the Committee with a more accurate understanding of developments with the Programme.	Shashi Verma	March 2025	Completed. Changes to EFCs are reflected in the paper on the agenda for this meeting.
11/02/24	The Growth Fund: Analysis of the Overall Wider Benefits for the Economy At the request of Members, officers would look to analyse the overall wider benefits for the economy from the projects supported by the Growth Fund.	David Rowe / David Christie	March 2025	Completed. Information is provided as part of the paper on Network Development and Third-Party Pipeline Programme on the agenda for this meeting.
12/02/24	Network Development and Third-Party Pipeline Programme: Options Paper Members discussed whether the Committee should review the potential options, before a preferred option was selected for development, rather than only seeing the recommendation. Officers would consider this, taking into account the timing of when it would be best to bring the options and proposal to the Committee.	David Rowe / David Christie	December 2024	Completed. The Committee was provided with visibility of proposed option selection for Network Extension projects in the Network Development and Third Party Pipeline Programme, through an informal briefing held after the meeting of the Committee on 11 December 2024.

Date: 5 March 2025

Item: Use of Delegated Authority

This paper will be considered in public

1 Summary

- 1.1 The use of delegated authority 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 11 December 2024, there have been:
- (a) no uses of specific authority delegated by the Board, nor any use of Chair's Action;
 - (b) four approvals of Procurement Authority in relation to: Central Line Signalling Life Extension Call-Off; Piccadilly Line High Voltage Power Upgrade Works and London Underground Limited Network-wide High-Voltage Substation Works Call-Off and Power Package 2 Works; Leyton Station Upgrade Project; and Pan TfL – Supply of parts for Air and Braking Control Technology and the performance of related services; and
 - (c) no Mayoral Directions within the Committee's remit.
- 1.3 Similar papers are submitted to the Finance Committee and the Land and Property Committee in respect of the use of Chair's Action, Authorities granted by the Commissioner and the Chief Finance Officer and any relevant Mayoral Directions that fall within the remit of those Committees.

2 Recommendation

- 2.1 **The Committee is asked to note the paper.**

3 Use of Authority Delegated by the Board

- 3.1 There has been no use 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, the Deputy Chair and the Chairs of any Committee the exercise of any functions of TfL on its behalf, including the appointment of Members to Committees and Panels. If the Chair, the Deputy Chair or the Chair of a Committee is unable to exercise authority due to unavailability or a conflict of interests, that authority may be exercised by the Chair or Vice Chair of any Committee. Members will be informed as soon as practicable following any use of Chair's action using the authority of this standing order and it must be reported to the next ordinary meeting.
- 4.2 There has been no use of Chair's Action since the last meeting of the Committee.

5 Programme and Project Authority and Procurement 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.
- 5.4 Procurement Authority is the authority to make a binding or contractual commitment with a supplier for the purchase of goods, services, land or works or to receive income arising from TfL Group activities in the areas of goods, services, land or works.
- 5.5 There have been four approvals of Procurement Authority by the Commissioner since the last meeting.
- 5.6 Central Line Signalling Life Extension Call-Off: The Commissioner approved Procurement Authority of £10,800,000 for a variation that relates to the provision of settlement amounts for Compensation Events and additional works required under the Central Line Signal Life Extension Call-off contract.
- 5.7 Piccadilly Line High-Voltage Power Upgrade Works and London Underground Limited Network-wide High-Voltage Substation Works Call-

Off and Power Package 2 Works: The Commissioner approved Procurement Authority of £34,315,485 for the contract award to UK Power Network Services (Commercial) Limited. The scope of the contract covers the detailed design, supply and installation of high-voltage power system upgrades and enhancements at various locations.

- 5.8 Leyton Station Upgrade Project: The Commissioner approved Procurement Authority of £10,800,000 relating to the award of additional works under the contract for the delivery of step-free access and capacity upgrade works at Leyton station through the London Underground Civils and Tunnelling Framework Agreement.
- 5.9 Pan TfL – Supply of parts for Air and Braking Control Technology and the performance of related services: The Commissioner approved Procurement Authority of £54,574,555 to award the contract for a period of five years.

6 Financial Authority Approvals

- 6.1 Financial Authority is the authority to spend money, receive income, incur a financial liability or redistribute funds to relevant third parties in respect of their respective allocated budgets. Financial Authority is automatically granted to the extent that an activity or Programme or Project is 'budgeted'.
- 6.2 There has been one approval of unbudgeted Financial Authority by the Commissioner and Chief Finance Officer since the last meeting. In relation to the Taxi and Private Hire (TPH) relet programme the Commissioner approved £3,000,000 of unbudgeted Financial Authority to cover key project delivery activities for the system upgrades, resources and risk to the end of 2024/25 including go-live of the new system in February 2025.

7 Mayoral Directions to TfL

- 7.1 The Greater London Authority (GLA) Act 1999 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 often issued in relation to the implementation of matters in respect of which the Mayor delegates statutory powers to TfL.
- 7.2 Mayoral decision papers inviting the Mayor to issue a direction 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 relating to TfL are reported to the Board's Committees for information 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. There have been no Mayoral Directions to TfL within the Committee's remit since the last meeting.

List of appendices to this report:

None

List of Background Papers:

Greater London Authority Decision Making Database

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Programmes and Investment Committee



Date: 5 March 2025

Item: Investment Programme Report Quarter 3, 2024/25

This paper will be considered in public¹

1 Summary

- 1.1 This paper updates the Committee on the Capital Investment Programme 2024/25 Quarter (Q) 3 (15 September to 7 December 2024).
- 1.2 The aim of this report is to enable the Committee to understand the key progress and challenges of the delivery of projects across Transport for London (TfL) in a succinct format.
- 1.3 A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraphs 3 and 5 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or business affairs of TfL and information in respect of which a claim to legal professional privilege could be maintained in legal proceedings. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

2 Recommendation

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

3 Background

- 3.1 The scope of this report is to provide a progress update on the programmes that seek authority each year from the Committee. This includes programmes for renewals and enhancements to maintain reliability and support growth. The report covers Q3 of 2024/25 (Periods 7 to 9). For this report, exceptionally, financial data is shown from Period 6 to Period 9 (18 August to 7 December 2024), rather than from Period 7 (15 September 2024). In the Q2 report, we were unable to report on Period 6 financial data due to the cyber incident. We now have the data and have included it in this Q3 report for completeness. The programme commentary however states progress for Periods 7 to 9.
- 3.2 The Capital Investment Programme consists of 18 programmes grouped as follows:
 - (a) **Major projects:** This includes projects such as the Piccadilly line upgrade and Silvertown Tunnel;

¹ A correction was made to the date paragraph 7.3.6 (f), after the papers for the meeting were published.

- (b) **Rail and station enhancements:** This includes key enhancement programmes such as Elephant & Castle, East London line projects, Tram rolling stock replacement and Station enhancements;
- (c) **Safe and healthy streets:** This brings together programmes to create a single focus for investment in healthy streets, including Cycling infrastructure and walking, as well as Bus priority and safety;
- (d) **Environment:** This includes programmes such as the Ultra Low Emission Zone (ULEZ), Electric vehicle infrastructure delivery and Zero-emission bus fleet;
- (e) **Technology:** This comprises two programmes: Operations technology and Technology and data, with a small number of rail and sponsored services technology projects;
- (f) **Streets, bus and rail and sponsored services renewals:** This includes renewals of Streets, Buses, DLR and London Trams; and
- (g) **London Underground (LU) renewals:** This delivers critical renewals across multiple asset groups to form an integrated transport system.

3.3 This Q3 report does not include a Part 1 section for Four Lines Modernisation, DLR rolling stock and Bakerloo Line Upgrade, as a full update for these is provided under separate agenda items.

4 Safety Performance

4.1 The Safety, Health and Security Report for Q3 2024/25 was presented to the 12 February 2025 meeting of the Safety and Security Panel, and the TfL Corporate Environment Plan for Capital will be presented to the 13 March 2025 meeting of the Customer, Sustainability and Operations Panel. A summary of safety data for activities under the Chief Capital Officer, and maintenance activities under LU Asset Performance for Q3 is provided below.

4.2 The breakdown of safety performance for Q3 is as follows:

Item	Q2	Q3	Remarks – for Q3
Hours worked	1.44 million	1.6 million	
Injuries	16	19	All classed as “minor”. Eleven in track works, six in Built Environment/ Renewals.
Lost time injuries	3	7	Six in track works.
RIDDOR* reportable incidents	2	5	All were “over seven-day absence” injuries, four were in track works.

*RIDDOR: Reporting of Injuries, Diseases and Dangerous Occurrences Regulations

- 4.3 The nature of injuries reflects the more hazardous nature of works within a track environment. Work mostly takes place at night, on an uneven ballast/track bed, and where manual handling and use of hand tools is frequent. Of the total number of injuries, the majority were soft tissue damage due to sprains/strains or slips and trips. There were eight such injuries to hands and arms, and nine for ankle/foot/leg. Although there were only 1.12 million hours worked in Q3 last year, the total number of injuries last year was greater at 21, which indicates an improved performance against the corresponding Quarter in 2023/24.
- 4.4 Within Q3 the weather presented some challenges for safety, with instances of high winds, heavy rain, and ice.
- 4.5 The most serious issue faced by site teams is from the theft of equipment. Survey equipment is a key target for thieves, being of high value and easy to pick up. There have also been some instances of theft of plant. These criminal activities pose a risk of confrontation and aggression and constant vigilance is needed, with some survey teams working with a dedicated security guard as a more visible deterrent.
- 4.6 Our safety performance in our projects remains satisfactory. While the focus is often on our site-based teams, we were also pleased to recognise the Technical Services team within TfL Engineering and Asset Strategy. They carry out inspections and work in a variety of challenging locations (escalators, tunnels, underneath trains, in substations etc), and they have now had no Lost Time Injury for over eight years.
- 4.7 We are always seeking to maintain and improve upon safety performance, and positive initiatives have taken place in Q3. We launched our new and refreshed Construction, Design and Management e-learning courses for colleagues in Q3. These place an emphasis on getting safety right at the design and planning stages. For the first time there is now a specific module for senior leaders, recognising the important role and influence of those who have ultimate responsibility for our projects.
- 4.8 On 2 December 2024, the Capital team held a “Keeping in Touch” event with our suppliers. These are normally quarterly sessions where TfL can join with our suppliers to discuss themes of interest and share learning and good practice. This session featured the Capital Safety Health and Environment Strategy, and discussed how we could avoid complacency creeping in when our safety performance is relatively good. The participants also heard from TfL on the topic of zero-emission vehicles, and our supplier Morgan Sindall shared with everyone their initiative on “Healthy Hearts and Minds”.

5 Environmental Performance

- 5.1 There are several ongoing environmental initiatives across TfL. The main highlights include:
- (a) **Solar private wire:** This project aims to source zero-carbon electricity from decentralised sources. A tender was launched on 31 October 2024 to secure

a delivery partner for site identification, solar farm installation and power provision to the LU network. TfL received an encouraging number of responses we expect a contract to be awarded to a delivery partner by April 2026. Work would then start on developing specific project proposals for TfL to take a go / no go decision on sites;

- (b) **Buildings decarbonisation:** Emissions from our buildings represent around eight per cent of total TfL operational carbon emissions. This programme prioritises the removal of fossil-fuel heating systems and improving the thermal efficiency of our buildings. Feasibility studies identifying carbon reduction opportunities have been completed for 44 operational buildings across high-priority sites, with recommendations proposed for an optimal mix of energy conservation measures. Due to the complexity and associated cost of this ambitious programme, we are actively seeking external funding opportunities to mitigate the financial impact of decarbonising our estate. One such example is a recent bid for grant funding from the Public Sector Decarbonisation Scheme (PSDS) on 25 November 2024. Four separate applications were submitted, covering eight buildings. Successful applicants will be informed by May 2025. Three sites (at Therapia Lane, Neasden depot and Finchley Road) that previously secured £2.8m of PSDS grants are now in progress;
- (c) work to replace lighting at King's Cross Underground station has also been completed, with the installation of 6,000 LEDs in both public and staff areas. Along with a wider programme to replace thousands of additional light fixtures at large depots, this will cut around 50 per cent of electricity costs, save carbon and deliver ambience, safety and security benefits;
- (d) London's electric vehicle charging network continues to grow, with over 22,700 public charge points as of 31 January 2025, including over 1,350 rapid charge points. We continue to provide rapid and ultra-rapid charge points on our road network, in addition to the 300 rapid charge points we have already delivered. New sites are now operational in Sutton, Richmond, Lewisham, Lambeth and Bromley, and delivery continues at more sites in Richmond, Kingston and Islington;
- (e) Places for London recently announced Fastned as its joint venture partner for developing ultra-rapid charging hubs. The joint venture will deliver accessible, inclusive off-street urban charging hubs that can simultaneously charge at least six vehicles;
- (f) we are currently producing the London-wide ULEZ One-Year Report that will provide an even more comprehensive analysis of the air quality impact of the expansion, following on from the interim analysis presented in the Six-Month Report, published in July 2024. The report will be published in 2025 and will be supported by an independent advisory group of experts;
- (g) we are supporting London to tackle the impacts of flooding from surface water by installing Sustainable urban Drainage Systems (SuDS) across our network. These reduce flooding risk by slowing and reducing the amount of

rainwater that reaches the drainage networks, and can include rain gardens, permeable paving and green roofs. They are a key part of our Climate Change Adaptation Plan's aim to make our capital more resilient to the effects of extreme weather, while also supporting biodiversity. On 17 October 2024, we announced that the Marylebone Flyover rain gardens are now ready for rainfall after the final plants went into the ground. At the end of Q3, we have completed projects that have added 5,167 square metres of SuDS catchment across two projects: 3,547 square metres at Edgware Road and 1,629 square metres at Kingston bus station;

- (h) our carbon literacy training course, developed in partnership with, and accredited by, The Carbon Literacy Project, has now been completed by more than 5,800 colleagues;
- (i) there are now more than 1,800 zero-emission electric buses operating across the capital, making up around 20 per cent of the fleet; and
- (j) our Network Management and Resilience team has won the prize at the National Courier Awards for wildflower verges on our road network. We pledged last year to double the area of our wildflower verges, and taking the total to the equivalent of 37 football pitches, which is more than 260,000 metres squared.

6 Overall Programme Performance: Milestones

- 6.1 There are 26 strategic milestones set for the financial year 2024/25. Overall, the Programmes are performing well, with 88.6 per cent of the milestones either achieved or on time to date. A total of 11.4 per cent of milestones are currently running late.
- 6.2 The graph in Appendix 1 provides details of the 26 scheduled strategic milestones for 2024/25. The headlines are:
 - (a) of the 26 milestones set for the year, 14 have been achieved to date, eight are forecast to be delivered on time or early, three are forecast to be late and one is yet to be confirmed;
 - (b) in Q3, the milestones forecast to be late or to be confirmed are:
 - (i) **Four Lines Modernisation: Signalling system upgrade on the Metropolitan and Jubilee lines from Finchley Road to Preston Road and Neasden depot (Signalling Migration Area (SMA) 8):** The go live date has been delayed to allow completion of operational readiness activities, completion of pre-requisite activities to upgrade the previous signalling migration areas (SMAs 1-7) and identification of a suitable weekend for the required closure (planning around major events in London, particularly in the Wembley area). SMA8 is currently scheduled to go live in mid-2025;

(ii) **LU renewals: Northern line – Kentish Town Underground station re-opening following escalator replacement:** The condition of some structural elements of the station, which could not have been inspected prior to the start of the project, was assessed as beyond repair. The team had to increase the project scope to include the replacement of these parts. This came with additional design, manufacturing, installation and concrete-curing times that were critical to opening the station. As a result, the completion date was pushed back, and the forecast was revised to December 2024, based on the critical path activities. At the end of Q3 the milestone was showing as late, however it was achieved on 23 December 2024 and it will be shown as achieved in the Q4 report; and

(iii) **Silvertown Tunnel – Siebert Road Noise Barrier – Finish on site:** This milestone is running with a minor delay due to utility diversions, but it is expected that it will be achieved in Q4 as planned; and

(c) we have one milestone where the forecast date is yet to be confirmed: **DLR rolling stock: Supplying the capability to allow sufficient trains in service to provide the first capacity uplift.** The forecast date is subject to the confirmation of when the new trains will be introduced into passenger service. We are working to bring the new trains into service as quickly as possible, and before the end of 2025. We will provide a further update when we have more information.

6.3 Looking ahead to Q4, there are 12 milestones initially scheduled for delivery; one milestone has already been delivered in Q3, two milestones are running late, another has a forecast date to be confirmed (in the late milestone section above), and eight are shown as being on track for completion. The details of the Q4 milestones achieved or on time are as follows:

(a) one Q4 milestone has already been achieved: The start on site for Lambeth Bridge for the Safe and Healthy Streets Programme was initially planned for Q4, but was achieved earlier than planned in Q3;

(b) at the end of Q3, the two Q4 milestones below were shown as on time in the data, but have now been successfully delivered and will be shown in the Q4 report as achieved:

(i) Colindale station on the rail and station enhancements programme has now re-opened in a temporary state following a 27-week closure (achieved on 20 December 2024); and

(ii) Central Line Improvement Programme: A second Central line train came into service after full refurbishment, with modern reliable traction motors and improved accessibility (achieved on 20 December 2024); and

(c) the six remaining milestones scheduled for completion in Q4 are:

(i) Environment Programme: it is expected that all cars in the TfL support fleet will be zero-emission capable;

- (ii) Environment Programme: the installation of 6,000 energy-saving LED lights serving customers at King's Cross station is planned;
- (iii) Technology Programme: detailed design for the iBus2 solution;
- (iv) Technology Programme: an increase in the level of mobile phone coverage in underground areas of the network (LU, London Overground, Elizabeth line, DLR) to 225 locations for stations and tunnel roads;
- (v) LU Renewals Programme: scheduled to deliver 2.8km of new LU track, improving reliability and reducing noise; and
- (vi) Streets, Bus and Rail and Sponsored Services Programme: the completion of 12 bus driver welfare rooms.

7 Individual Programme Updates

The following pages provide updates on the bigger programmes across the TfL Capital Investment Programme:

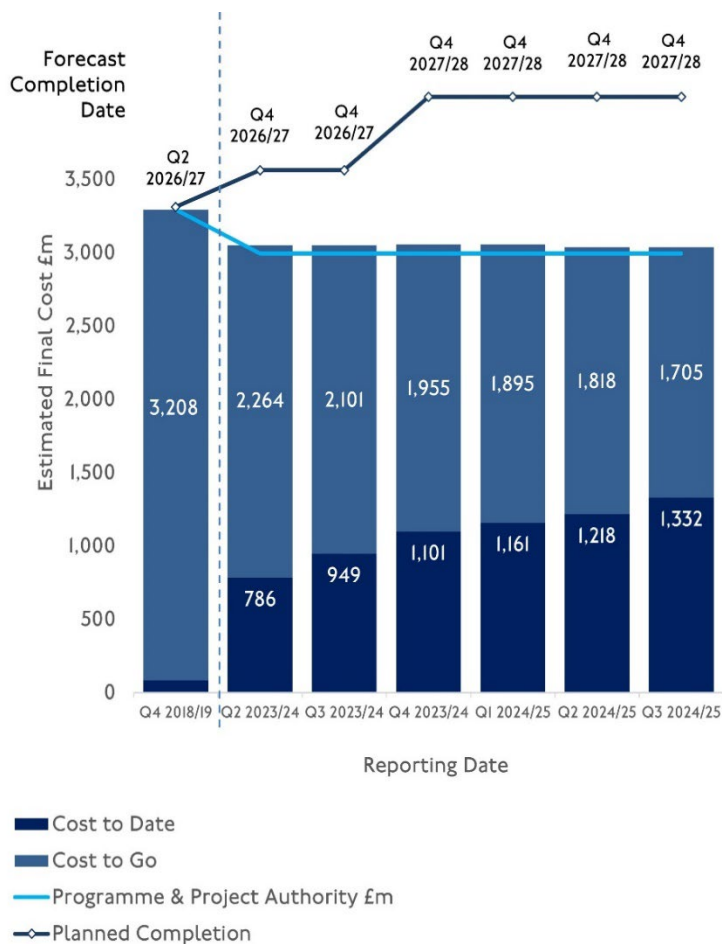
- 7.1 Piccadilly line upgrade;
- 7.2 Silvertown tunnel;
- 7.3 Rail and station enhancements;
- 7.4 Safe and healthy streets;
- 7.5 Environment;
- 7.6 Technology;
- 7.7 Streets, bus and rail and sponsored services renewals; and
- 7.8 London Underground renewals.

7.1 Piccadilly line upgrade

	Forecast completion	Cost to date (Gross) £m	Cost to go (Gross) £m	EFC (Gross) £m	Programme and Project Authority £m	Variance: EFC v Authority £m
Current period (P09 2024/25)	Q4 2027/28*	1,332	1,705	3,037	2,994	(43)
Change since P05 2024/25	No change	114	(113)	1	No change	

The labelling 'Gross' indicates that the figures in the table do not include income and third-party contributions.

*The forecast completion date reflects the achievement of all sponsor key benefit milestones for the programme: (1) first train into passenger service; (2) train replacement is complete, and (3) the peak timetable increase to 27 trains per hour.



7.1.1 In Quarter 3, the estimated final cost (EFC) increased by £1m, still above the Programme and Project Authority. We are not currently seeking an increase in

authority as we have a series of opportunities that give us confidence that the EFC can be further reduced to within the approved authority without compromising programme outcomes. We continue to review our risks and opportunities and aim to provide an update by mid-2025/26. These opportunities for cost reductions exist notably in relation to the design and build of the end-state depot facilities. We are working with our supply chain partners to identify opportunities to reduce delivery costs further.

- 7.1.2 The first of the new Piccadilly line trains arrived in London on 14 October 2024, and in mid-December we achieved power-up of the train on our infrastructure. The train will move from its current location to Northfields depot to commence systems integration testing, planned for Quarter 2 2025/26. The new state-of-the-art trains are planned to enter service by the end of 2025, delivering the benefits of walk-through carriages, wider doorways, digital customer information screens, CCTV cameras and, for the first time on a deep Tube train, air-conditioning. Trains will be more energy efficient, consuming 20 per cent less energy than the existing fleet and the nine-carriage trains will increase capacity by around 10 per cent.
- 7.1.3 Rolling stock production in both Vienna and Goole continues to increase, with a steady ramp-up in progress. Multiple cars are in manufacture across both sites: to date, Vienna has commissioned 57 cars, and Goole is commissioning four cars out of the 26 that have been delivered. Currently, five trains are at the Siemens testing facility in Germany.
- 7.1.4 Three new stabling and reversing sidings were commissioned into service in October 2024 at Northfields to facilitate the depot upgrades and train service enhancements. Major track replacement works in the Arnos Grove area were completed during an extended closure of the line between Wood Green and Cockfosters. Platform works were completed during this closure to optimise the platform-to-train interface for the new trains. In Q3, the programme successfully completed infringements works over two consecutive weekends between Northfields and Cockfosters.
- 7.1.5 Surveys and design work are nearing completion to provide additional high-voltage power system capacity at various sub-station locations, with construction now under way. Work to reposition all lineside signals is also progressing well at 50 per cent complete, with final commissioning planned in spring 2025. In Q3, we completed immunisation works in weeks 30 and 37 between Acton Town and Rayners Lane to support the completion of signalling scope.
- 7.1.6 Gauging works to ensure the railway is compatible with the new train design is progressing in line with the revised train delivery and testing schedule. This will enable the new trains to be transferred for stabling and allow the start of staff training. The first driving cab simulator for the new train is now in London and being used to develop the training programme for Piccadilly line train operators. A pilot training course has been completed and will provide a qualification for operators who will drive the train when it begins system testing on the network.

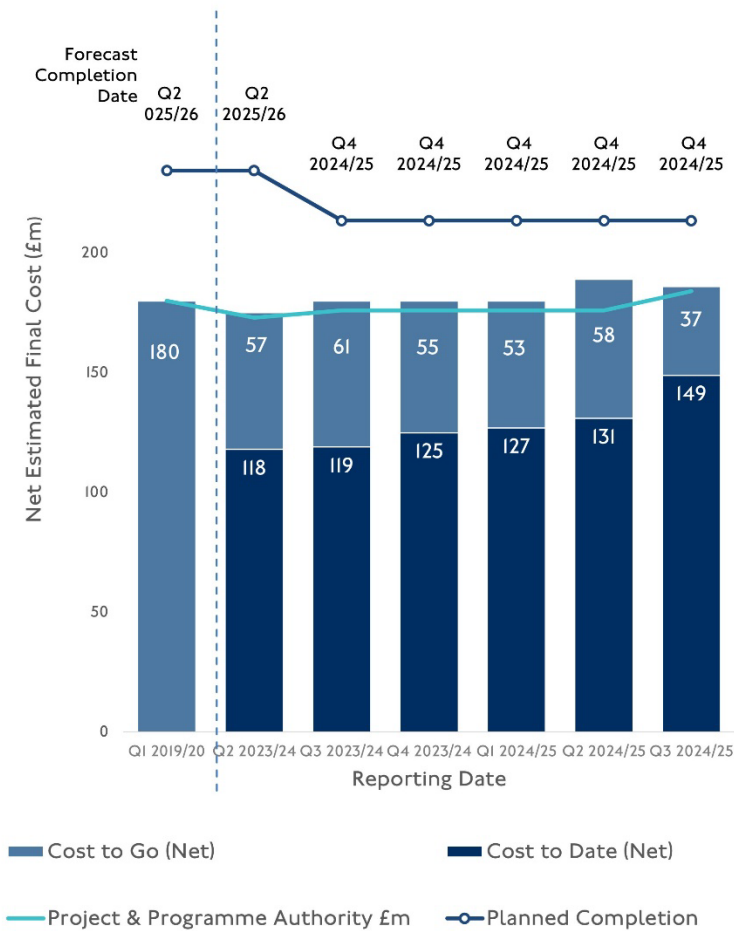
7.1.7 Modifications to provide initial facilities and equipment for the maintenance of the first new trains within the existing depots are nearing completion.

7.2 Silvertown Tunnel

	Forecast completion	Cost to date (Net) £m	Cost to go (Net) £m	EFC (Net) £m	Programme and Project Authority £m	Variance: EFC v Authority £m
Current period (P09 2024/25)	Q4 2024/25*	149	37	186	184	(2)
Change since P05 2024/25	No change	18	(21)	(3)	8	

The labelling ‘Net’ indicates that the figures in the table above include income and third-party contributions.

*Since the Q3 close, and in alignment with a recent press release, the forecast completion date is now Q1 2025/26. This will be updated in the Q4 2024/25 report as this shift has taken place in Q4.

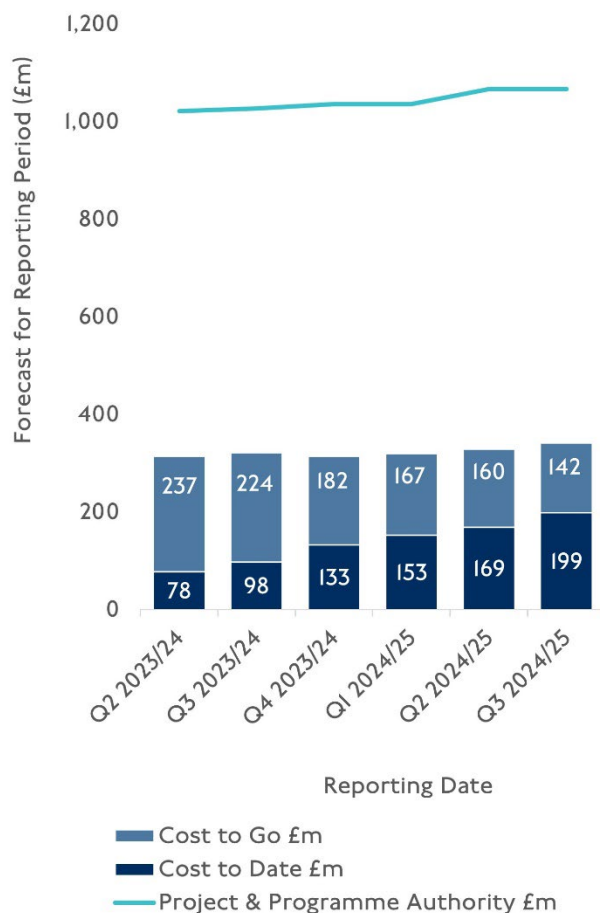


- 7.2.1 In Q3, the EFC was £2m over the Programme and Project Authority due to land-related claims. We have opportunities to bring the EFC in line with authority and it is expected that these will be realised in Q4. Programme and Project Authority was increased by £8m to reflect settlement of claims with land owners.
- 7.2.2 We are planning to open the new tunnel on 7 April 2025. Extensive technical assurance and operational readiness activities ahead of opening are now well under way. Preparation of the Silvertown Tunnel bus service continues. This will support an increase in the number of buses able to cross the river in this area, from six to 21 buses an hour in each direction at the busiest times, from 7am to 7pm, Monday to Friday. All the buses in the Silvertown Tunnel bus network will be zero-emission at the tailpipe, which marks a step change in bus accessibility in London, east of Tower Bridge. With construction work on the project now coming to a close, and operational readiness testing well underway ahead of the tunnel opening. Work is also focusing on installing the infrastructure that will support the new zero-emission bus routes serving Silvertown Tunnel, including the new cycle shuttle service under the Thames. For at least 12 months from 7 April 2025, the new cross-river bus routes serving Greenwich, Newham, and Tower Hamlets – including the new Superloop SL4 which runs from Grove Park to Canary Wharf – will be free.
- 7.2.3 At both Greenwich and Silvertown, landscaping work continues. Mechanical, electrical and power systems have been installed, and testing and commissioning of tunnel-associated highway equipment is under way. Permanent power supply is now established as planned in both Greenwich and Silvertown portal buildings. The walking and cycling routes at Tidal Basin are complete and the road realignment works on the A102 around the tunnel entrances are nearing completion.
- 7.2.4 We will also shortly begin to install the new shelters and cycle racks for the zero-emission cycle shuttle service, which will have a bespoke design to distinguish it from the regular bus network and will support people cycling. The service will operate every 12 minutes, seven days a week from 06:30 to 21:30.
- 7.2.5 Following public consultation in July 2024, and approval from the Board on 4 December regarding the package of discounts, exemptions and charges for the Silvertown and Blackwall Tunnels, final development and testing of the tunnel user charging systems is under way. Charging will start on both tunnels from 06:00 on 7 April. Marketing and communication activities began at the start of January and will ramp up with evolving messaging ahead of tunnel opening. Technical and operational readiness activities were carried out in advance of the pre-registration for tunnel user charge discounts, which began on 29 January 2025.

7.3 Rail and station enhancements

	Forecast period	Cost to date (Gross) £m	Cost to go (Gross) £m	Forecast cost (Gross) £m	Programme and Project Authority £m	Variance: Forecast cost v Authority £m
Current period (P09 2024/25)	2022/23 to 2025/26	199	142	341	1,067	726
Change since P05 2024/25	No change	30	(18)	12	No change	

The labelling 'Gross' indicates that the figures in the table above do not include income and third-party contributions.



7.3.1 The Programme and Project Authority of £1,067m reflects spend outside the forecast period, prior to 2022/23 and beyond 2025/26. It also reflects an increase of £31m approved by the Committee at its meeting on 26 June 2024. The forecast between 2022/23 and 2025/26 has increased by £12m due primarily to further investment of £12m in step-free access schemes to provide a reduction in journey time and improved accessibility across the Tube network by 2030. In addition, the Sustainable Housing Access fund has provided £3.5m of Programme and Project Authority for Phase 2 of the East London Line Housing Infrastructure Programme

to enable the progress of design activity to build a new station at Surrey Canal Road, with further cost increases across the programme. The increase has been partially offset by an £8.3m reduction on Elephant & Castle, which reflects rephasing of our estimate for the recently awarded new passenger tunnels contract. The programme is performing well. We have already achieved one milestone earlier than planned and are on target to meet our remaining key milestone for the year. Other increases in forecast reflect Colindale bus replacement and some changes in assumption across the portfolio.

- 7.3.2 **Elephant & Castle:** A new station entrance and Northern line ticket hall will support the creation of more than 10,000 new jobs and 5,000 new homes in the area around the station. The new entrance forms part of the second stage of works, for which funding has yet to be confirmed. This will significantly increase the station's capacity to meet both existing and new demand for Tube services and deliver vital step-free access to both Northern line platforms. The contract has been awarded for the new passenger tunnels between the station box and existing Northern line platforms. The pre-tunnelling ancillary works are complete, and high-voltage cables have been delivered to site. The works are known as Stage 1 and are fully third-party funded. Stage 2 (fit-out of the station box and tunnels and bringing the new station entrance into use) is currently concluding scope and estimates prior to submitting a request for Authorities to the Committee later this year for approval.
- 7.3.3 **Windrush line:** The benefit of the programme is to enable us to increase train frequencies and support growth and regeneration in the local area. These works are fully third-party funded. On the Windrush line, at Surrey Quays, the civils works are well progressed, with the timber roof and the external roof system installed on the new ticket hall on platform 2. On platform 1, we brought a new temporary secondary means of escape into service in August 2024 and works are progressing with the back of house structure. The power upgrade works were successfully delivered on target in November 2024. A key weekend possession was completed in January, where a prefabricated pedestrian bridge was safely lifted into position, linking the two sides of the station. The project remains on track to complete in Q2 2025/26, with further possessions for trackside work planned in Q4 2024/25 and signalling commissioning in late-February 2025.
- 7.3.4 **Tram rolling stock replacement programme:** The tender process to replace 24 new trams continues and bid return is set for spring 2025. Enabling works for the new trams at the depot and power sub-stations are in design and feasibility stages.
- 7.3.5 **The Royal Docks Programme:** The upgrade of Pontoon Dock DLR station will provide additional capacity at the station to help unlock thousands of new homes and jobs at Silvertown Quays. The scheme will include six new escalators, a mezzanine level, new landscaping and retail space. A contract is due to be awarded for the detailed design and build by March 2025. The project is 75 per cent third-party funded, with contributions secured in principle from the developer, Greater London Authority (GLA), and Homes England. The Homes England Grant Funding Agreement is due to be signed by the end of February 2025 to secure its £12m contribution. Working collaboratively with a potential delivery partner and

fundings, progress has been made on updating the feasibility study for the new DLR station at Thames Wharf. The review is expected to be finalised by April 2025.

7.3.6 LU enhancements and station developments: We continue to improve stations and deliver projects to increase and improve accessibility and relieve congestion. In Q3, good progress was made across the programme:

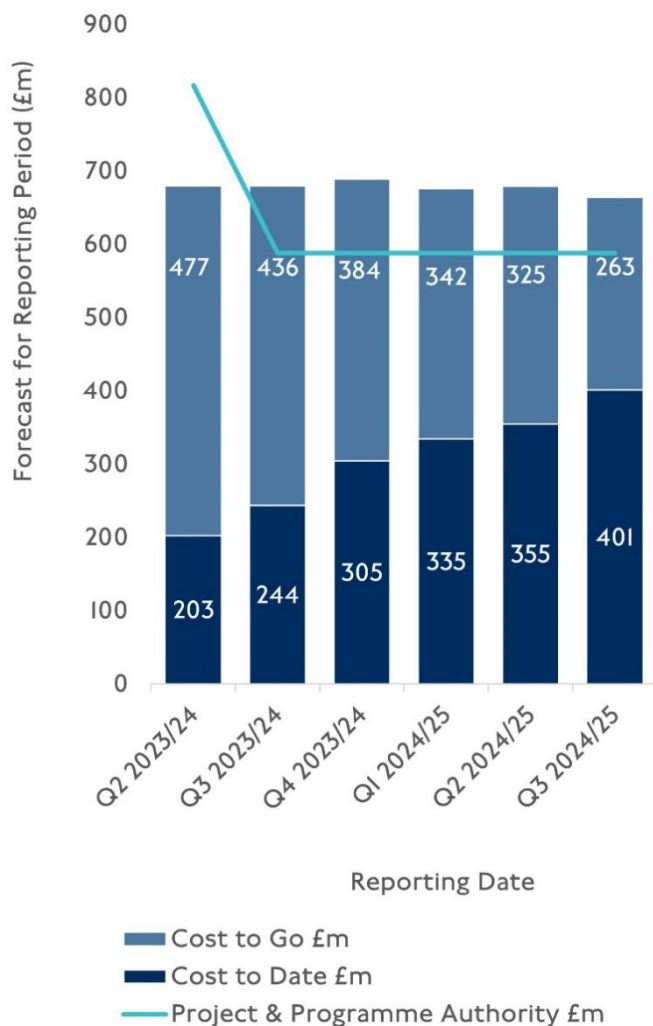
- (a) **Colindale:** On the step-free access and capacity enhancement scheme, the construction of the deck over the tracks to support the new ticket hall building was completed during a six-month closure. The station reopened to passengers in December 2024, in a temporary condition as planned, and a programme of works will continue throughout 2025 to complete the new station with step-free access;
- (b) **Leyton:** Detailed design for step-free access and capacity upgrade has been completed, and the construction contract was awarded in December 2024, with work starting in Q4 2024/25;
- (c) **Northolt:** The detailed design update for step-free access restarted and site work started at the beginning of February 2025 as planned;
- (d) **Step-free access:** Concept design work for step-free access continues at three stations – West Hampstead, Alperton and Arnos Grove – and is planned to start at Eastcote station in Q4 2024/25. Two further stations at the southern end of the Northern line, Colliers Wood and Tooting Broadway are progressing to a full feasibility study. We are also undertaking full feasibility studies at Croyley, East Finchley, Neasden, Northwood and Turnham Green stations;
- (e) **South Kensington:** We are working with our partners on the concept design for station enhancement and step-free access plans to the Circle and District line platforms. We plan to complete the design work by Q1 2025/26;
- (f) **Knightsbridge:** We are resolving power capacity issues for new lifts, with plans to open in Q4 2024/25²; and
- (g) **West Ham:** Construction of a new station entrance is to resume by mid-2025, opening in late 2026. Two new bridges linking the development site to Manor Road were completed in 2024, with the first residential units expected to open in mid-2025.

² The date was corrected after the publication of the papers for this meeting.

7.4 Safe and healthy streets

	Forecast period	Cost to date (Gross) £m	Cost to go (Gross) £m	Forecast cost (Gross) £m	Programme and Project Authority £m	Variance: Forecast cost v Authority £m
Current period (P09 2024/25)	2022/23 to 2025/26	401	263	664	588	(76)
Change since P05 2024/25	No change	46	(62)	(16)	No change	

The labelling 'Gross' indicates that the figures in the table above do not include income and third-party contributions.



7.4.1 The forecast for the period 2023-2026 has reduced by £16m, primarily due to slippage taking project spend beyond the forecast period for cycleway schemes (£11m), Nine Elms (£4m), Vauxhall Cross (£3m), road safety schemes (£5m) and

Safer Junctions (£8m), offset by increased costs on the A23 Streatham (£5m), Old Street Roundabout (£3m) and healthy streets local schemes (£6m).

7.4.2 Our targets for 2024/25 include delivery of 30km of new cycleways, 15 new signalised pedestrian crossings and 15km of new bus lanes. The programme is performing well, and we have achieved our key milestone set for the year, one quarter earlier than planned.

7.4.3 **Cycleways:** In October, we started a marketing campaign launching eight new cycleways, which helped deliver the milestone of 400km of cycleways in London. In November, we published consultation responses to the experimental Cycleway 50 scheme, which has been in operation on the A503 between Finsbury Park and Camden since early 2024. Work to improve the efficiency of junctions along the Park Lane Cycleway and widen some pedestrian and cycle crossings was completed on 10 October. Subject to final agreements with the London Borough of Hammersmith and Fulham, construction of the Wood Lane section of Cycleway 34 will start in mid-March 2025. We have also completed construction of cycling facilities at three major TfL Road Network junctions: the A23 at Atlantic Road, A24 at Voltaire Road and A10 at Sandringham Road. These projects resolve severance, connecting cycleways through neighbourhoods either side of these busy roads.

7.4.4 **Safer Junctions:** The consultation to improve junctions in Shoreditch launched on 16 December, marking the achievement of our Vision Zero commitment to consult on 10 further Safer Junction locations by the end of 2024. Construction started in November on the Battersea Bridge Safer Junction scheme and is due to complete in autumn 2025, delivering new pedestrian crossings, an additional bus lane and improvements for cyclists, including a section of segregated cycle lane and dedicated cycle signals at the junction at the north of the bridge. Subject to the outcome of traffic modelling approvals, consultation on safety improvements at Monument junction in the City of London is due to take place in spring 2025. On pedestrian safety, design work continues at more than 40 locations across London where there is an identified safety concern.. Works at A20 Amersham Road Junction with Parkfield Road in Lewisham were completed between 6 and 8 January 2025. The delivery of road safety schemes at Redcliffe Gardens in Kensington and Chelsea and King's Cross Road junction with Pentonville Road in Camden began on 13 January 2025.

7.4.5 **Transformational schemes:** Construction of the main works started at Lambeth Bridge in September 2024. Initial work is focusing on removing the southern roundabout, which was completed on 7 February 2025, before works begin on the bridge itself, which includes waterproofing and repairs to the bridge deck. All works are planned to complete by summer 2026. The scheme will transform the junctions either side of Lambeth Bridge, improving safety and providing dedicated cycling infrastructure. We also delivered safety improvements at Tulse Hill Gyratory in December 2024. This included footway buildouts, relocation of bollards, and road marking changes. We will continue to consider longer-term changes at this location. Final close-out and snagging works are due to complete in Q4 at Old Street. We have made good progress on securing additional third-

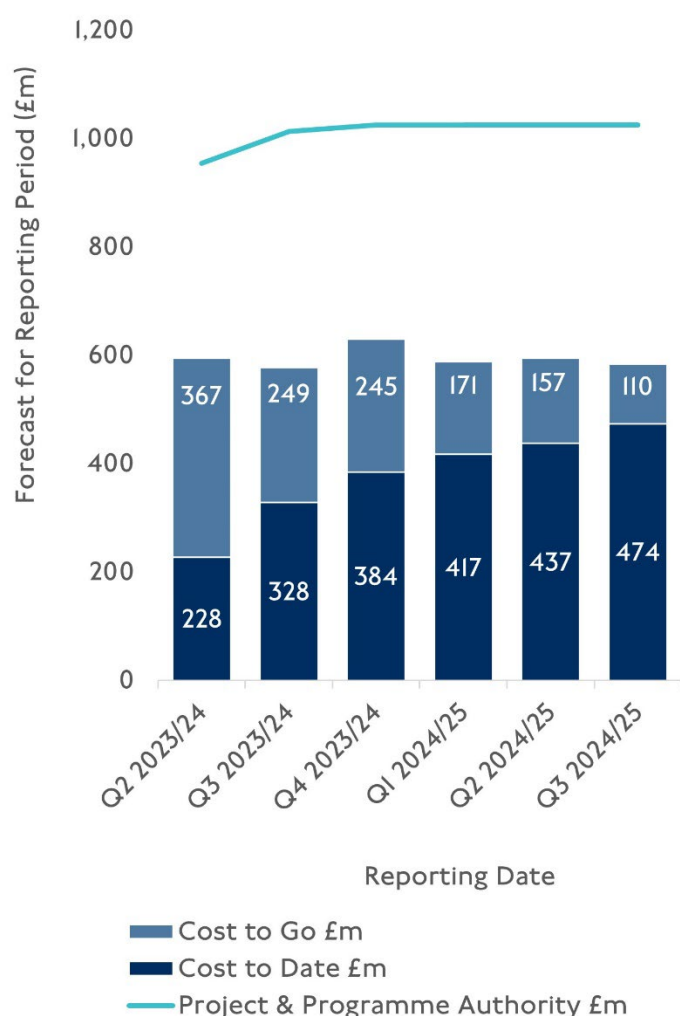
party funding, and are in process of agreeing a construction start date for the eastern section of the Nine Elms Healthy Streets project.

- 7.4.6 **Bus priority:** Since 2024, we have introduced an additional 1.1km of new bus lanes across five London boroughs: Brent, Ealing, Enfield, Hackney and Hounslow. The total remains at 11.72km as no new bus lanes have been completed in Q3. Public consultation reports have been published for the A297 St Helier Avenue in Merton and A20 Lee High Road in Lewisham. Of the 400 sites targeted for bus priority signal timing reviews this year, we have now completed 302 sites, saving more than 4,400 bus passenger hours. Construction works started on the A201 New Kent Road on 6 January 2025 to introduce a further 140m of bus lanes on this busy corridor. Designs for bus priority on the SL2, SL5 and SL7 Superloop routes are nearing completion. Proposals include rationalising parking and loading on the SL5 and SL7 routes in Croydon, Sutton and Hounslow, and a junction improvement at Royal Docks Road/Eric Clarke Lane in Newham to improve the SL2 service.
- 7.4.7. **Bus safety:** We have retrofitted more than 350 buses with new camera monitoring systems since Q1 2024/25, to improve drivers' visibility and reduce safety risks across the network. We have installed 780 intelligent speed assistance units across London in partnership with six bus operators to help reduce speed-related incidents across the network. Furthermore, more than 410 fatigue detection technology units have been installed across London to help improve the overall health of our bus drivers. The resulting data will identify the scale and profile of fatigue in bus operations. As of early October 2024, more than 1,600 buses are fully compliant with the Bus Safety Standard. Since the start of 2024/25, more than 4,000 different safety features have been fitted to increase the number of compliant buses on the network. Features include pedal cameras and acoustic vehicle alerting systems for electric buses, as part of our retrofit programme. This represents more than 73 per cent of buses within the scope of the standard, with more retrofits planned in future years. We are on track to meet our milestone set at the start of the year, namely, to achieve 80 per cent of our Bus action plan investment programme milestones for bus safety by March 2025. Ambitious targets for the rest of the year are under development.
- 7.4.8 **Bus customer action plan:** We have rolled out more than 300 new countdown signs at bus stops across London with enhanced live travel information. More than 400 bus shelters have been renewed and improved wayfinding information can be found on 6,900 bus shelters. We have delivered enhanced bus signage at 14 LU stations and 11 Elizabeth line stations to help customers navigate the network.

7.5 Environment

	Forecast period	Cost to date (Gross) £m	Cost to go (Gross) £m	Forecast cost (Gross) £m	Programme and Project Authority £m	Variance: Forecast cost v Authority £m
Current period (P09 2024/25)	2022/23 to 2025/26	474	110	584	1,025	441
Change since P05 2024/25	No change	37	(47)	(10)	No change	

The labelling 'Gross' indicates that the figures in the table above do not include income and third-party contributions.



7.5.1 We invested a further £37m in the programme during Quarter 3 related to work on the Silvertown and Blackwall Tunnel user-charging proposals, improving electric vehicle infrastructure, tender launch for the solar farms initiative and the internal build of our replacement road user charging system. There have also been some scope changes across the Programme that have led to a decrease of around £10m in the forecast cost. We are on track to meet three of our key milestones

this year. The Programme and Project Authority is above the forecast cost as it includes project forecasts beyond 2025/26.

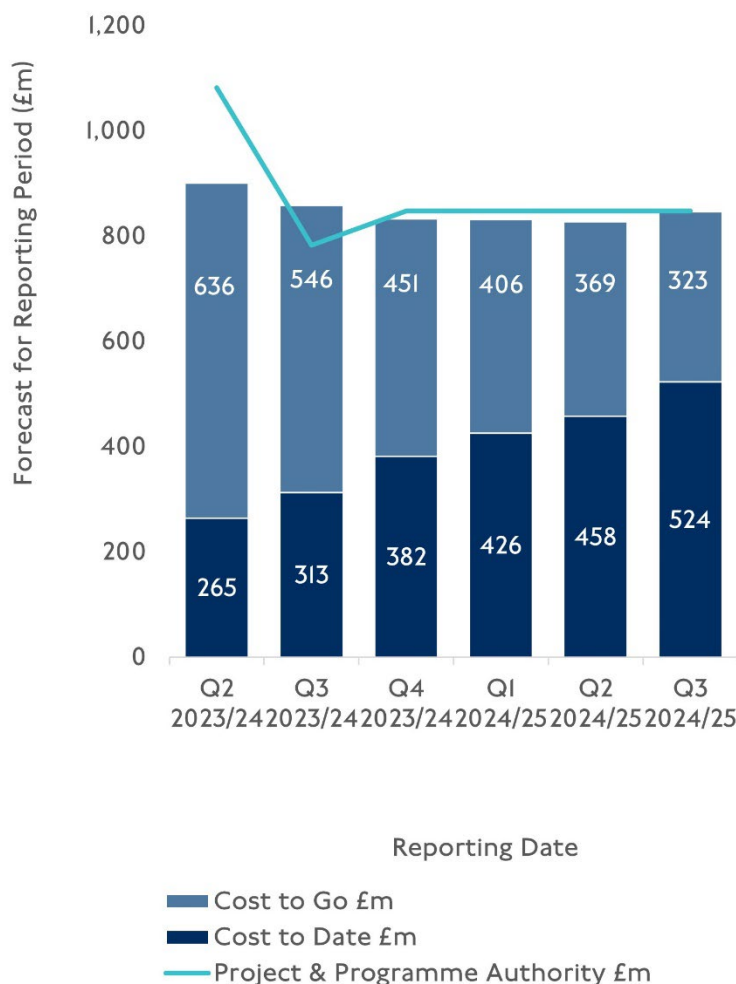
- 7.5.2 Road user charging (RUC):** Our RUC programme encompasses schemes such as the Congestion Charge, Ultra Low Emission Zone and Low Emission Zone, as well as projects to enable RUC operations. An example of this is the RUC Re-let project, which seeks to re-procure the contracts that underpin the RUC operating model when they expire. Tender documentation for these contracts is all under way, with competitive re-procurements forecast to begin later in 2025. Also within the RUC programme is the tunnel user charging project for the Blackwall and Silvertown Tunnels, which underwent final preparations ahead of the pre-registration period that opened on 27 January 2025. This will enable users to sign up for Autopay accounts and register for eligible discounts and exemptions ahead of the Silvertown Tunnel opening on 7 April 2025. Details of the user charges, discounts and exemptions were approved by the Board on 4 December 2024 and were informed by stakeholder consultation from 10 July-3 September 2024. The marketing and communications campaign launched in January 2025 to raise awareness of the charges, tunnel opening date and pre-registration period. Another project implemented using the RUC operating model, but focusing primarily on road safety benefits, is the Direct Vision Standard (DVS), the second phase of which successfully launched on 28 October 2024. This scheme contributes to the Mayor's Vision Zero strategy by improving heavy goods vehicle (HGV) driver visibility, thereby reducing the risks HGVs present to vulnerable road users. Since 28 October 2024, HGVs need to have at least a three-star rating for the DVS or fit additional safety measures known as the progressive safe system to secure an HGV safety permit and operate in London. The latest data indicates that the DVS continues to contribute to the Mayor's Vision Zero targets. Revised 2023 data shows there was a 49 per cent reduction in the number of fatal collisions involving an HGV, compared to the 2017-19 baseline.
- 7.5.3 Electric vehicle infrastructure delivery:** Improving electric vehicle infrastructure provision in London to encourage the use of electric vehicles contributes to the achievement of the Mayor's ambition for London to be net zero by 2030. London is expected to need between 40,000 and 60,000 public electric vehicle charging points by 2030, including up to 4,000 rapid chargers. The key commitment in our Electric vehicle infrastructure strategy is to unlock GLA Group land for electric vehicle charging. Following land assessments, we are aiming to provide an additional 100 rapid or ultra-rapid charging bays on our roads. The 4,000 needed will be delivered by a combination of public sector (TfL, Places for London and London boroughs) and private sector organisations. As at the end of December 2024, 12 charging bays had been installed, including six powered by 100 kilowatt chargers, the first chargers on TfL highways capable of more than 50 kilowatts. Since the first one was installed in August 2024, we have seen more than 900 hours of charging in six months, demonstrating the need to continue developing the public charging network for high-mileage road users.
- 7.5.4 Zero-emission support fleet and buses:** On 18 December 2024, we achieved the Mayor's Transport Strategy proposal requiring all cars in the support fleet to be zero-emission capable by Quarter 4 2024/25. There are more than 1,800 zero-emission buses operating across the capital, meaning around 20 per cent of the

bus fleet is zero emission, which includes hydrogen and electric buses. On 20 November 2024, we launched our first end-to-end electric bus 'opportunity charging' trial on route 358 in Bromley, one of the longest routes on the bus network. Pantograph charging infrastructure is built at either end of the route at Orpington and Crystal Palace to enable the brand-new electric tram-type buses to top up their charge at the end of each journey. The new single-deck buses have enhanced customer and safety features and are the first of their type to operate in London. This type of technology can assist buses with longer routes as buses receive a 'top-up' charge throughout the day. Performance data will be collected monthly from the bus operator and will provide a comparison with other solutions, such as hydrogen, for achieving zero-emission operations on London's longest bus routes.

7.6 Technology

	Forecast period	Cost to date (Gross) £m	Cost to go (Gross) £m	Forecast cost (Gross) £m	Programme and Project Authority £m	Variance: Forecast cost v Authority £m
Current period (P09 2024/25)	2022/23 to 2025/26	524	323	847	848	1
Change since P05 2024/25	No change	66	(46)	20	No change	

The labelling 'Gross' indicates that the figures in the table above do not include income and third-party contributions.



7.6.1 In February 2024, an increase to the Programme and Project Authority was approved by the Committee covering the period through to 2025/26. The programme was performing within its authority in Q3. The forecast cost has increased by £20m predominantly due to additional funding for technology as part of business planning prioritisation. The programmes with the main increase are payments, cyber security and technology services. One strategic milestone was

achieved in Q3, and the two remaining strategic milestones to be achieved in Q4 are experiencing delays.

7.6.2 The cyber security incident has impacted project delivery and milestones. This has been taken into consideration in business planning and prioritisation.

7.6.3 **Telecommunications commercial:** Work continues to extend 4G and 5G coverage on the Underground to further stations and tunnels, including the first Bakerloo line coverage (39 per cent of stations and 32 per cent of tunnels). With the launch of the final tunnels section in November 2024, the Elizabeth line now has full coverage in all stations and tunnels.

7.6.4 **Digital and TfL Go:** There were more than one million monthly active users of the TfL Go app, surpassing our nearest competitors in this space. The payments functionality is now live in the app. A phased roll-out started on 13 January and all TfL Go users have been able to access the app since 27 January 2025. This means that customers can pay for their journeys as well as plan them for the first time, giving them a seamless experience and providing us with valuable anonymous data around travel habits and mode selection. We completed the rebranding of the Overground lines, enabling TfL Go to show live and accurate data reflecting the new names and dissection of the lines, allowing for better disruption planning and guidance information. This was implemented across all digital channels, including the website and in-station screens.

7.6.5 **Network and public transport management:** We are delivering an innovative new road management system, known as Surface Transport Intelligent Systems, which will reduce delays, improve journey times and encourage a shift to more sustainable modes of transport. Further enhancements to the traffic management system are planned for 2025 to allow for a combination of the current real-time optimiser and the new FUSION system, which works to optimise signal timings to better manage traffic flows. Detailed design is also ongoing for the iBus 2 project to renew the system that operates our bus service, providing live bus information to our control centres, safety information, such as 'code red', to drivers, and supplying information for passenger displays at bus stops and online.

7.6.6 **Payments:** Oval Phase 1b will extend adult rate pay as you go using contactless payments to an additional 47 stations across south-east England. This was delayed by the cyber security incident but was launched on 2 February 2025, as agreed with the Department for Transport (DfT) and train operating companies. Our Oyster and contactless validation payment card reader is being renewed due to obsolescence. The new Hina card reader passed its Level 1 accreditation from the payments industry, showing the ability to detect contactless payment cards and devices as required. Due to prolongation in the software development, deployment has been delayed. We are working to establish the causes and any mitigations.

7.6.7 **Enforcement, compliance, safety and security:** Following the successful distribution of 353 emergency communication devices to colleagues, project closure is currently in progress and will be complete by March 2025. The strategic phase of the project was due to review the future of the devices, but this has been

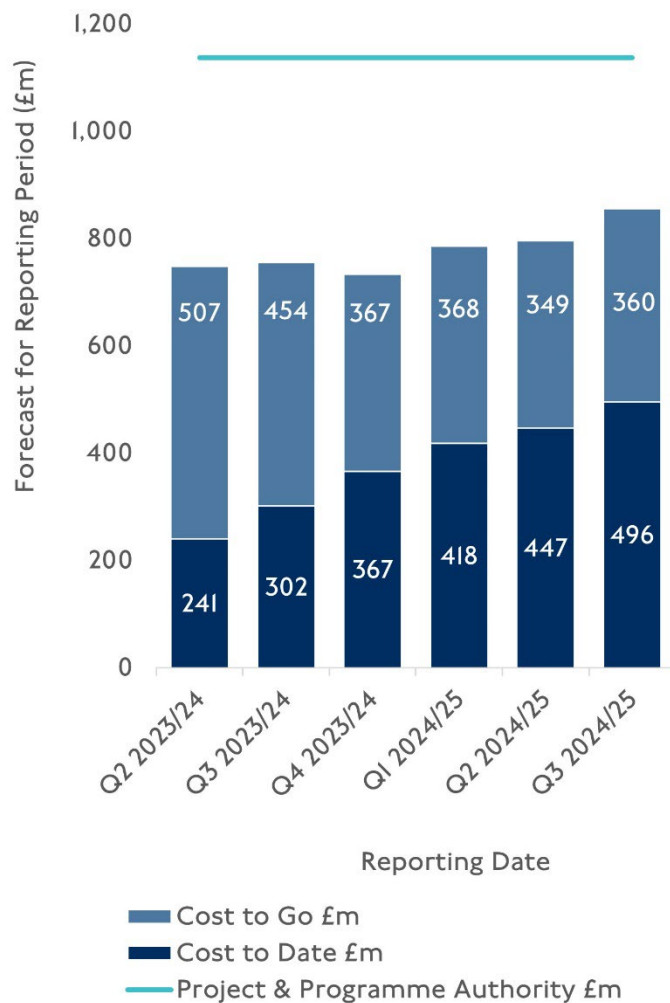
paused as it will require further development, to be considered as part of future prioritisation. Delivery of deployable enforcement cameras, which address customer safety by targeting road user non-compliance, has continued, with 210 cameras now live. Completion of the camera delivery project is planned for the end of the financial year.

- 7.6.8 **Santander Cycles Re-Let:** Procurement is ongoing for a new operating contract for the Santander Cycles scheme, with existing contracts expiring from August 2025. The Invitation to Submit Final Tender was issued in January 2025.

7.7 Streets, bus and rail and sponsored services renewals

	Forecast period	Cost to date (Gross) £m	Cost to go (Gross) £m	Forecast cost (Gross) £m	Programme and Project Authority £m	Variance: Forecast cost v Authority £m
Current period (P09 2024/25)	2022/23 to 2025/26	496	360	856	1,137	281
Change since P05 2024/25	No change	49	11	60	No change	

The labelling 'Gross' indicates that the figures in the table above do not include income and third-party contributions.



7.7.1 In Quarter 3, the forecast cost increased by £60m, which mostly relates to additional prioritised investment in streets, rail and sponsored services asset renewals identified during the 2025/26 annual planning cycle. In the main, the programme is performing well and is on target to achieve all our key milestones for this financial year, as shown in Appendix 1. Due to funding constraints, the level of investment has been up to 50 per cent lower than required on some asset types to remove the backlog of renewals and maintain service levels. Securing third-party funding through the DfT's Major Road Network (MRN) programme is essential to help mitigate risks. The Programme and Project Authority is above the forecast cost as it includes project forecasts beyond 2025/26.

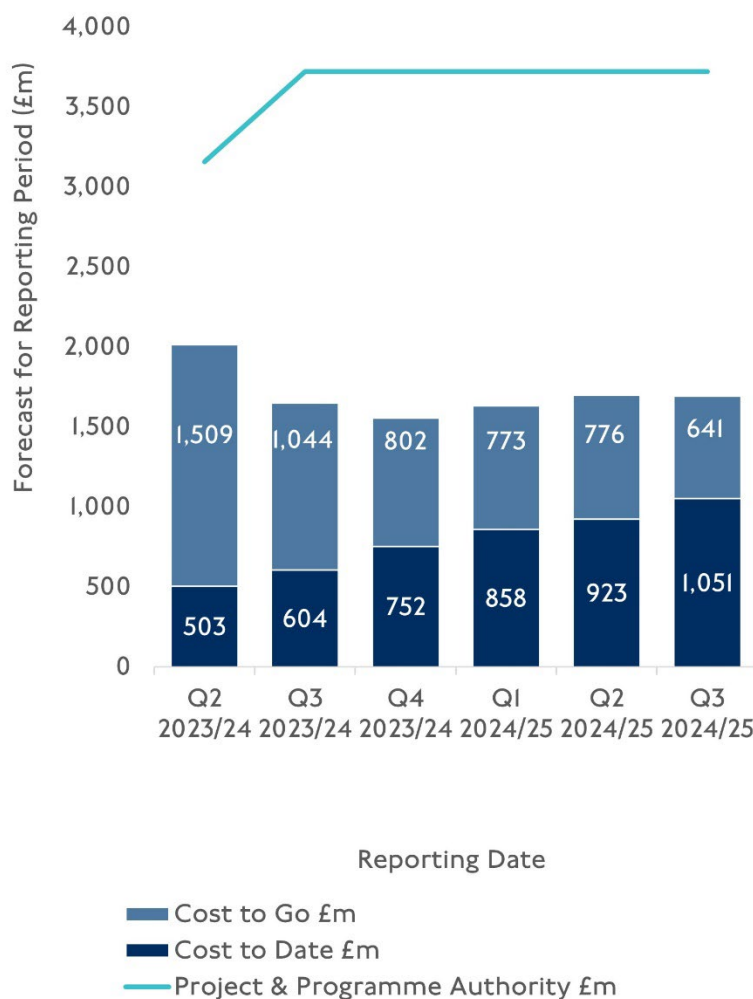
- 7.7.2 **A40 Westway:** This is one of London's key strategic routes and we are now delivering the next stage of the project scope. We awarded the contract for work on eight expansion joints, began delivery in July 2024 and plan to complete this stage of the project by June 2025. Further stages are planned for the rest of next financial year.
- 7.7.3 **Gallows Corner:** The contract for design and build for the refurbishment and strengthening of the flyover has now been awarded, and construction is due to start in spring 2025, subject to DfT approval of the MRN business case. The delivery stage of the project will include closures of the flyover and roads beneath.. Our teams are working closely with local stakeholders, and National Highways, to ensure mitigations are in place and a comprehensive Travel Demand Management campaign is implemented in advance of the works.
- 7.7.4 **Brent Cross:** The project scope includes the major renewal of 25 bridges and structures at this key location on the road network. Concept design work has been completed and detailed design is progressing. Planning for the implementation, including the traffic management methodology, is ongoing, with the delivery phase planned to begin in early 2026, subject to DfT approvals of the MRN business case. On 19 September 2024, Cooper Road, a slip road at the Brent Cross A41 – A406 junction, was partially closed (with a full closure implemented on 2 October) following issues identified through the project investigations. Propping works to re-open the road were completed on 17 December. These are short-term measures required ahead of the main project.
- 7.7.5 **Croydon Flyover:** The project scope is the major renewal of the flyover, including concrete repairs, waterproofing, expansion joint replacement and lighting. The strategic outline business case for the project was submitted to the DfT in May 2024 – a decision on the outcome is awaited. The project has completed concept design, with work progressing with local stakeholders and the supply chain to develop the delivery plans. The delivery phase of the project is currently planned for summer 2026, subject to DfT approvals.
- 7.7.6 **DLR renewals:** The long-line public address system work is now finished, and migration is ongoing to bring the new system into use. A replacement contract for signalling works has been awarded and the project passed its first design review gate in October 2024. High-voltage works at Beckton have been delayed due to power resilience issues. A contract has been awarded to replace eight transformer rectifier units to support the new trains project. West India Quay lighting renewal has been commissioned into service and Poplar low-voltage renewals are complete. Lifts at City Airport, King George, Limehouse, Star Lane and Westferry stations have all returned to service. Two escalators at Canary Wharf and two at East India station have also returned to service, while we continue mid-life refurbishment on the final two escalators at Canary Wharf. We have secured funding to replace the four escalators at Cutty Sark station and are working through plans that will restore a full escalator service at the station. Replacement data recorders are being installed on DLR rolling stock to improve reliability of the B2007 fleet. From 21-31 December 2024, more than 1,500m of track was replaced in and around the Bank DLR platforms, including the headshunt.

7.7.7 London Trams renewals: We have begun site surveys and design work for future track renewals. Barclays Curve renewal, to address deteriorating asset condition, was accelerated and the track renewal works were completed on 24 February 2025 as planned. Design and planning is under way to replace the Shirley Hills track road crossing in April 2025. Our fleet life extension projects are progressing, focusing on the CR4000 fleet project to replace the cab doors, roof cabling and flooring across all 23 trams. We awarded the contract for our first net zero carbon project at Therapia Lane trams depot and completed the first phase of work in November 2024. The second phase for the main works started on site on 10 February 2025 as planned, with completion currently forecast for summer 2025. The feasibility study for the tram control system renewal to replace critical life-expired components has completed, and we are now at concept design stage.

7.8 London Underground renewals

	Forecast completion	Cost to date (Gross) £m	Cost to go (Gross) £m	Forecast cost (Gross) £m	Programme and Project Authority £m	Variance: Forecast Cost v Authority £m
Current period (P09 2024/25)	2022/23 to 2025/26	1,051	641	1,692	3,721	2,029
Change since P05 2024/25	No change	128	(135)	(7)	No change	

The labelling 'Gross' indicates that the figures in the table above do not include income and third-party contributions.



7.8.1 In Q3, the forecast cost reduced by £7m as part of the latest asset prioritisation on project outcomes. Project delivery during the quarter mainly covered the

Central line improvement programme (£40m), fleet overhauls (£72m) and track (£79m), with the balance delivered across the remaining asset categories. Overall, the programme is performing well, and we are on track to achieve all key milestones set for the year. The Programme and Project Authority is above the forecast cost as it includes project forecasts beyond 2025/26.

- 7.8.2 **Jubilee line:** We have completed 88 per cent of the programme lift works on the Jubilee line trains. We have also received the conceptual design and are conducting design reviews to repair underframe cracking issues. Two more escalators are back in service: Canning Town escalator 3 and London Bridge escalator 20.
- 7.8.3 **Bakerloo line:** In December 2024, the first train to be fully compliant with the Rail Vehicle Accessibility Regulations (RVAR) was introduced on the Bakerloo line. Fifty per cent of trains are now upgraded, with the project due to complete in July 2026. We have made good progress on decommissioning the old systems for the fit-out of the new Bakerloo line control room.
- 7.8.4 **Central line improvement programme:** We completed the refurbishment of the second train, and the first train has now been commissioned. Applications for RVAR exemptions for the non-refurbished trains have been submitted to the DfT. Liverpool Street escalators 7, 8 and 9 have been replaced and are now in passenger service. Bank escalator 8 is also back in service. The Central line signalling life extension and control and information projects continue to make progress, with key assets being replaced. By December 2024, we had commissioned seven sites in close collaboration with Siemens, bringing the total number to 38 of 92.
- 7.8.5 **Track programme:** Since April 2024, more than 2.8km of new track has been delivered, improving reliability and reducing noise. This key strategic milestone for ballasted track renewal was completed nearly two months ahead of target. In Q3, we converted 1,558 metres of bullhead rail to modern flat-bottom form and completed 399 metres of deep Tube renewal. We aim to achieve the full forecast for flat-bottom conversion and deep Tube renewal by the end of the year. Additionally, 410 metres of track were renewed between South Kensington and Barons Court on the District line, and 285 metres between Alperton and Sudbury Hill on the Piccadilly line.
- 7.8.6 **Engineering vehicle overhauls:** The first battery locomotive due to begin overhaul has been stripped down, with delivery starting in November 2024. We expect work to complete in July 2025.
- 7.8.7 **Welfare facility renewals:** In Q3, we brought 25 rooms into use. Works have been completed at three sub-stations and have started on site at four new locations: Embankment station, High Barnet station, Rickmansworth (track accommodation) and Lambeth North (track and signals accommodation). We are mobilising a further three packages of the next sites to receive welfare renewals.
- 7.8.8 **Northern line:** Kentish Town station has reopened following the completion of the remedial floor and ceiling civil works, two new escalators, tiling and painting of the

platforms and corridors. We also completed staff welfare facilities and reconfigured the ticket hall. Works are ongoing to reinstate the ticket machine services in Q4 2024/25. We completed the detailed design for the Northern line incremental signalling upgrade, including the replacement of the first pair of central computers.

7.8.9 Piccadilly line: At Hounslow East, we completed installation of lift 2, which is now in service. At Holloway Road, lift 2 was returned into service in February 2025.

7.8.10 Elizabeth line renewals: We successfully delivered eight 108-metre rail segments as part of the five-year track renewal plan, proving a cost-effective method that avoids the need for a specialised rail train. We renewed three sets of half-points at Stepney Green, where the routes to Abbey Wood and Shenfield separate, improving reliability of the line.

List of appendices to this report:

Appendix 1: Details of the 26 strategic milestones for the financial year 2024/25

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

List of background papers:











None

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Appendix 1 – Strategic Milestones

Programme	Milestone	Planned Delivery	Forecast/ Actual Completion	Status
Major Projects				
Four Lines Modernisation	Signalling system upgrade complete on Metropolitan and Jubilee lines from Finchley Road to Preston Road and Neasden Depot (Signalling Migration Area 08)	Q4 2024/25	Q1 2025/26	
DLR rolling stock replacement	Sufficient trains in service to provide first capacity uplift - key output one - full length trains on Bank to Lewisham Branch* (1)	Q4 2024/25	TBC*	
Piccadilly line upgrade	The first 24 Tube stock train is delivered to London	Q3 2024/25	Q3 2024/25	
Silvertown Tunnel	Silvertown Tunnel - Siebert Road Noise Barrier - Finish on Sites* (2)	Q4 2024/25	Q4 2024/25	
Rail and station enhancements				
London Underground	Colindale station - Existing station is available to re-open in a temporary state following 27-week closure* (3)	Q4 2024/25	Q4 2024/25	
Trams	Release of Invitation to Tender for new Trams Rolling Stock	Q3 2024/25	Q2 2024/25	
Safe and healthy streets				
Transformational schemes	Lambeth Bridge - Start on site* (4)	Q4 2024/25	Q3 2024/25	
Environment				
Zero-emission bus fleet	All cars in TfL Support Fleet zero-emission capable	Q4 2024/25	Q4 2024/25	
Direct Vision Standard	Phase 2 go live	Q3 2024/25	Q3 2024/25	
Therapia Lane - decarbonisation	Therapia Lane – Start on Site	Q3 2024/25	Q2 2024/25	

Data at Quarter 3 close: 7 December 2024





Footnotes to milestones:

(1) *DLR Rolling stock replacement: Forecast date subject to confirmation of when the new trains are introduced into service. Further update will be provided when we have more information.

(2) *Silvertown Tunnel - Siebert Road Noise Barrier: Milestone running with minor delay but is forecast to be achieved in Quarter 4 as planned.










(3) *Colindale station: Since Quarter 3 close, this milestone was achieved in Quarter 4 on 20 December 2024 – this will show as achieved in the Quarter 4 report.

Key:

	Achieved
	On time/early
	1 to 89 days late
	> = 90 days late





Appendix 1 – Strategic Milestones

(4) *Lambeth Bridge: Quarter 4 milestone achieved earlier than planned in Quarter 3.








Programme	Milestone	Planned Delivery	Forecast/ Actual Completion	Status
Technology				
Technology and data	Increase the level of mobile phone coverage in underground areas of the network (London Underground, London Overground, Elizabeth line or DLR) to cover a total of 225 locations being made up of stations and tunnel roads	Q4 2024/25	Q4 2024/25	
Technology and data	Completion of the Detailed Design for the iBus2 Solution	Q4 2024/25	Q4 2024/25	
Technology and data	Bidders invited to submit their stage 1 tender submission for evaluation	Q2 2024/25	Q2 2024/25	
Street, bus and rail and sponsored service renewals				
Buses	12 Bus Drivers Welfare Rooms completed in 2024/25	Q4 2024/25	Q4 2024/25	
London Overground	Line names in use on London Overground	Q3 2024/25	Q3 2024/25	
Buses	Kingston bus station - All works completed on site and bus station back in use to the travelling public	Q3 2024/25	Q3 2024/25	
River Services	Begin construction of upgraded maintenance facility to support essential work to the Woolwich Ferry leading to increased availability for customers and cost saving	Q3 2024/25	Q2 2024/25	
Streets	A40 Westway – Work package 2a – Start on Site	Q3 2024/25	Q2 2024/25	
Trams	Completion of trams track renewal	Q1 2024/25	Q1 2024/25	

Data at Quarter 3 close: 7 December 2024

Key:

	Achieved
	On time/early
	1 to 89 days late
	> = 90 days late

Appendix 1 – Strategic Milestones





Programme	Milestone	Planned Delivery	Forecast/ Actual Completion	Status
London Underground renewals				
Central line	Second Central line train into service after full refurbishment, with modern, reliable traction motors and improved accessibility* (5)	Q4 2024/25	Q4 2024/25	
Northern line	Kentish Town LU station re-opening following Escalator replacement* (6)	Q3 2024/25	Q4 2024/25	
Jubilee line	75 per cent of fleet overhauled for key components	Q2 2024/25	Q3 2024/25	
Track programme	Deliver 2.8km of new LU track, improving reliability and reducing noise	Q4 2024/25	Q4 2024/25	
LED lighting	Installation of six thousand energy-saving LED lights serving customers and staff at King's Cross station	Q4 2024/25	Q4 2024/25	
Welfare facilities	Completion of staff welfare renewal works to 25 rooms	Q3 2024/25	Q3 2024/25	
Crossrail				
Elizabeth line	Completion and commissioning of critical system upgrades to the Elizabeth line Signalling system	Q1 2024/25	Q1 2024/25	

Data at Quarter 3 close: 7 December 2024

Footnotes to milestones:

- (5) *Second Central line train into service: Since Quarter 3 close, this milestone was achieved in Quarter 4 on 20 December 2024 - this will show as achieved in the Quarter 4 report.
- (6) *Kentish town: Since Quarter 3 close, this milestone was achieved in Quarter 4 on 20 December 2024 - this will show as achieved in the Quarter 4 report.

Key:

	Achieved
	On time/early
	1 to 89 days late
	> = 90 days late

Date: 5 March 2025

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's (IIPAG) quarterly report for March 2025. It describes the work undertaken since the last report presented to the Committee in December 2024.
- 1.2. A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or 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 Recommendation

- 2.1 **The Committee is asked to note the Independent Investment Programme Advisory Group's quarterly report 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 March 2025 is included as Appendix 1 to this paper.

4 Management Response to Common Themes

Resources

- 4.1 We recognise that it can be challenging to ensure that all projects and programmes have access to the staff resources they need and the risks to delivery when that is not possible. There are known capacity constraints in some disciplines. To manage this effectively we have regular resource reporting in place across the capital programme, with monitoring through Director level governance. Most programmes and projects make use of SmartCore, a dedicated resource and capability tool for resource planning and management, supported by the Programme Management Office (PMO) resource and capability management team. Resource planning and reporting processes are in place at programme and project level with escalation routes for identified resource issues. These are discussed at periodic reporting forums.

- 4.2 We operate an established recruitment process with timelines that are generally well understood by business areas, and these are usually factored into resource plans. We continuously look for opportunities to improve the recruitment process and this includes timelines and monitoring typical timescales to onboard new members of staff. A number of frameworks are in place across the business to provide specialist, short-term or immediate support where necessary. The recruitment backlog which did exist, and created significant delay to onboarding, has now been largely addressed.

Governance

- 4.3 We recognise the need to continually review and improve governance to support effective investment decision making. This forms part of a current workstream which aims to deliver efficiencies and consistency for all approvals and ensure that decision making takes place at the right level of governance and in a timely manner. Progress on this work has been shared with IIPAG and a detailed briefing is scheduled to take place to discuss the current position, and we look forward to their input.
- 4.4 The PMO is also working on improvements to project gate processes to support effective investment decision making. A significant contributor to that workstream has been the cross cutting review that IIPAG undertook in 2024 considering the effectiveness of Pathway for projects. We support the forthcoming work that IIPAG are planning regarding the use of Pathway at the programme level.
- 4.5 The use of a Senior Responsible Officer (SRO) is considered where appropriate and has been used in a number of cases, and we have accepted the recent IIPAG recommendation suggesting the appointment of an SRO for a programme of work.

Project and programme delays

- 4.6 Schedule performance is reviewed in detail on a periodic basis through the established governance processes that are in place both at a project and a programme level. Where projects have been delayed the reasons are reviewed and mitigations considered where possible.
- 4.7 Where systemic issues have led to delay these are reported to and considered at various senior level forums both to seek senior level support to resolve or mitigate them and to ensure wider visibility. In addition to this, formal lessons learnt are regularly completed on projects and programmes, and where projects have been subject to delays these are explored in detail to understand the reasons. This learning is available to other projects and specifically shared where appropriate.
- 4.8 Annual submission papers to the Committee provide a review of delivery since the previous submission with details of where delays occurred with an explanation for them along with the impact on planned delivery. Where there are ongoing or systemic issues causing delay within a programme their submission papers include how those issues are being mitigated to minimise delivery impact in the coming year.

5 Cross Cutting Reviews

- 5.1 We welcome the work IIPAG has undertaken on cross cutting reviews and look forward to the outputs from the ongoing reviews for which we will provide the necessary management responses to the recommendations made.

List of appendices to this report:

Appendix 1: Independent Investment Programme Advisory Group - Quarterly Report
March 2025

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

List of Background Papers:

None

Contact Officer: Andrea Clarke, General Counsel
Email: AndreaClarke@tfl.gov.uk

Independent Investment Programme Advisory Group – Quarterly Report January 2025

1. Introduction

- 1.1. This report to the Committee describes the Independent Investment Programme Advisory Group (IIPAG) activities in December 2024 – January 2025. We have made no new strategic recommendations.

2. IIPAG Activity

- 2.1. We have undertaken the following programme reviews for the March 2025 meeting of the Committee:
- (i) Environment
 - (ii) Network Development and Third Party Pipeline
 - (iii) Technology
 - (iv) Bakerloo Line Upgrade
 - (v) DLR Rolling Stock Replacement
 - (vi) Four Lines Modernisation
- 2.2. We have also undertaken a targeted review on the Piccadilly Line Upgrade (PLU) programme.

3. Common Themes

Resources

- 3.1. One of the programmes that we reviewed had seen significant delays which were attributed in large part to resource shortages. Looking ahead, at least three of the programmes we reviewed will need a significant ramp up in resources if they are to deliver to current ambitions. This increase will be needed across several disciplines including delivery, engineering and procurement and commercial (P&C). Comprehensive resource planning needs to be undertaken, based on robust forward schedules – an issue which we have raised in previous IIPAG reports. As importantly, the plans need to be turned into reality in a timely fashion. We heard that one challenge to this is the recruitment process itself, which is seen as long and complex, introducing additional delay and uncertainty into the always difficult task of getting the right people into the business.

Governance

- 3.2. Several reviews have raised issues around governance. One aspect of this is decision making, including the need to have a clear and consistent approach across TfL on where prioritisation and investment decisions are taken, depending on the value, complexity and risk of the project or programme. Related to this, we

also heard concerns that decision making can be too slow, with the need for multiple approvals. Another recurring aspect of governance is the need for greater clarity on roles, accountabilities, and responsibilities between different parts of the business or different disciplines. In one more complex case we recommended the appointment of a Senior Responsible Owner to provide clear leadership and accountability. We are aware of work in hand in the business to develop governance and decision making, and we will be reviewing the outcome of this work over the coming months.

Project and Programme Delays

- 3.3. We have observed several projects and programmes suffering delays over the past year. Some of this is down to lack of robust forecasting and resource shortages, as previously noted; and the cyber security incident was also a factor in some cases. It is important that teams understand why delays have occurred and their impacts, so that lessons can be learnt for the future. We have encouraged teams to include an account of delivery against plan, and the reasons for any divergence, in their submissions to the Committee.

4. Cross Cutting Reviews

- 4.1. We are currently writing up our findings on two cross-cutting reviews:
- A review of how TfL takes account in the investment programme of targets to reduce carbon emissions.
 - Our second piece of work on renewals (following our earlier review of the Delivery of Renewals). This second review is looking at the earlier stages of prioritisation and workbanks.
- 4.2. We are also considering TfL's progress in implementing the recommendations of IIPAG's reviews of asset information and the improvement programme for P&C.
- 4.3. We will shortly commence the second part of our review of the Pathway process, this time focusing on the process for programmes rather than projects.

5. Resources

- 5.1. We have welcomed two new IIPAG members, Sarah Johnson and Kenny Laird (who has previously been an IIPAG member). Phil Threlfall left IIPAG in December at the end of his term. We now have one vacancy, which we hope to fill with someone with commercial expertise, for which recruitment will start shortly.

Alison Munro

Chair, IIPAG

January 2025

Programmes and Investment Committee

Date: 5 March 2025

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 (PA) work undertaken between 10 November 2024 and 1 February 2025 (Period 9 to Period 11 of 2024/25). Six programme reviews were undertaken during this time, with the Independent Investment Programme Advisory Group (IIPAG) involved in all six. In the same timeframe 10 project reviews were undertaken, with IIPAG involved in two of these.
- 1.2 These reviews gave rise to a total of 59 recommendations, of which eight were considered to be critical issues. Critical issues are those that the PA team or IIPAG believe should be addressed before projects proceed to the next stage.
- 1.3 A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or 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 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 This paper provides the Committee with a summary of the second line assurance, provided by TfL's PA team. It also gives an update on the status of assurance recommendations including those made as part of third line assurance, provided by IIPAG.

4 Summary of Project Assurance Activity

- 4.1 From the reviews undertaken, PA made 32 recommendations, of which three were critical issues. All of the recommendations have been agreed by the project teams concerned.
- 4.2 IIPAG made 27 recommendations, of which five were critical issues. The recommendations were all agreed with the respective project teams.

5 Status of IIPAG and Project Assurance Recommendations

- 5.1 The following graphs show the number of open recommendations, the number that are overdue, and the number closed as at the end of Period 5 2024/25 (ending 17 August 2024), end of Period 8 2024/25 (ending 9 November 2024) and end of Period 11 2024/25 (ending 1 February 2025).

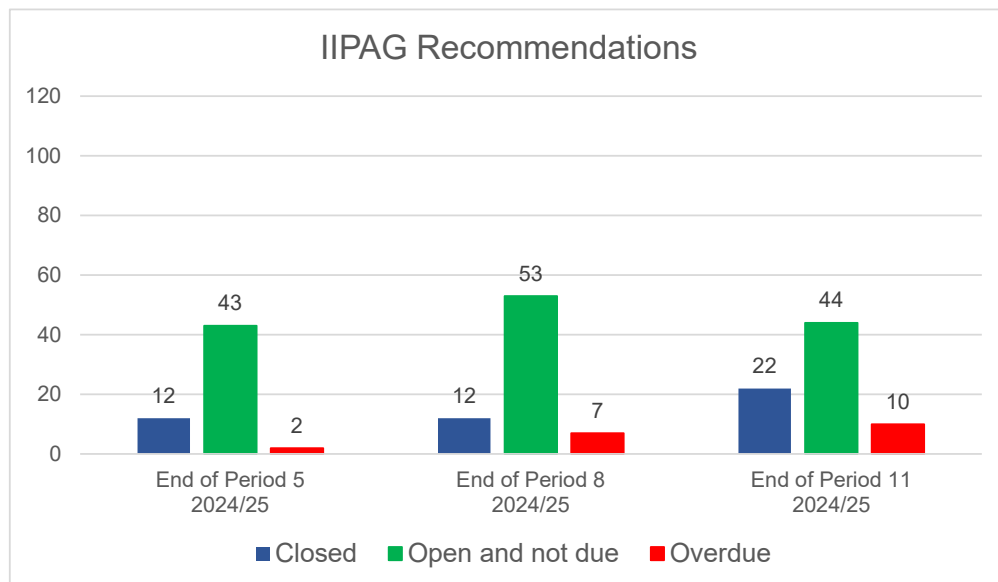


Figure 1: IIPAG Recommendations

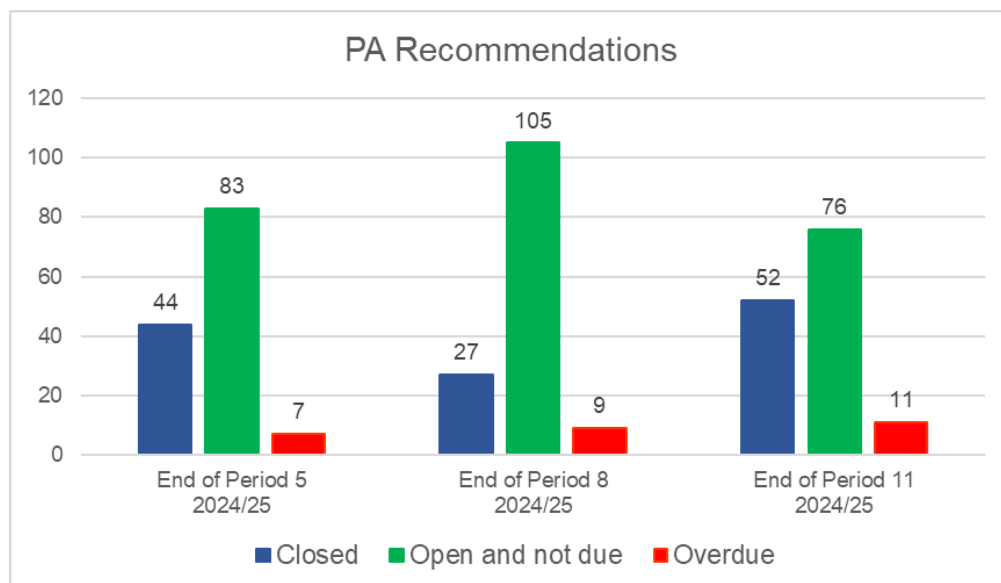


Figure 2: Project Assurance Recommendations

- 5.2 The following graphs show the length of time that the overdue PA and IIPAG recommendations have been overdue by, as at the end of Period 11, and the Chief Officer area responsible for addressing the recommendations.



Figure 3: Overdue IIPAG Recommendations

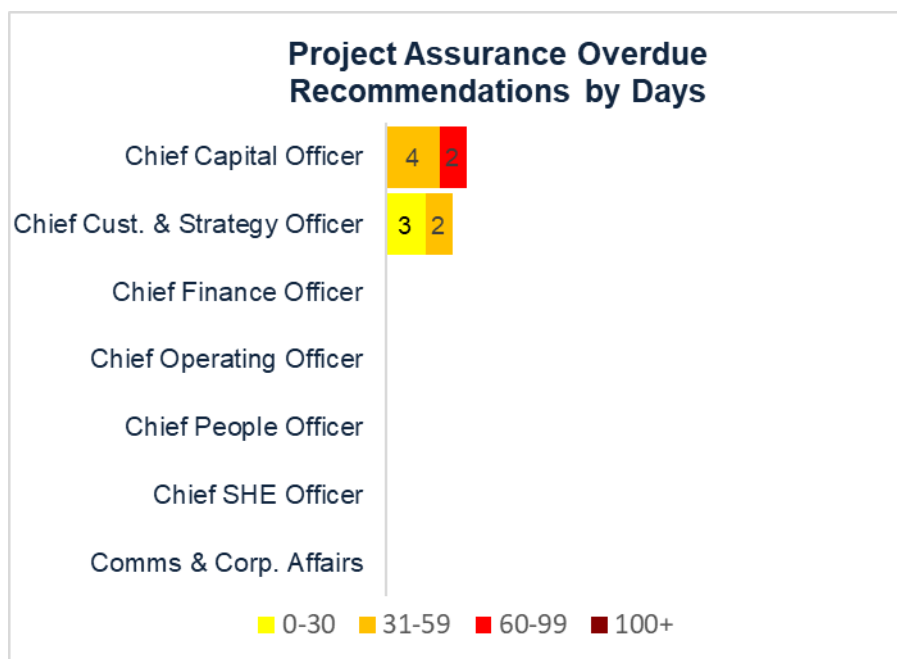


Figure 4: Overdue Project Assurance Recommendations

5.3 The following graph shows the number of recommendations made over the last four quarters grouped by recommendation topic. This is shown against the number of recommendations made over the preceding four quarters.

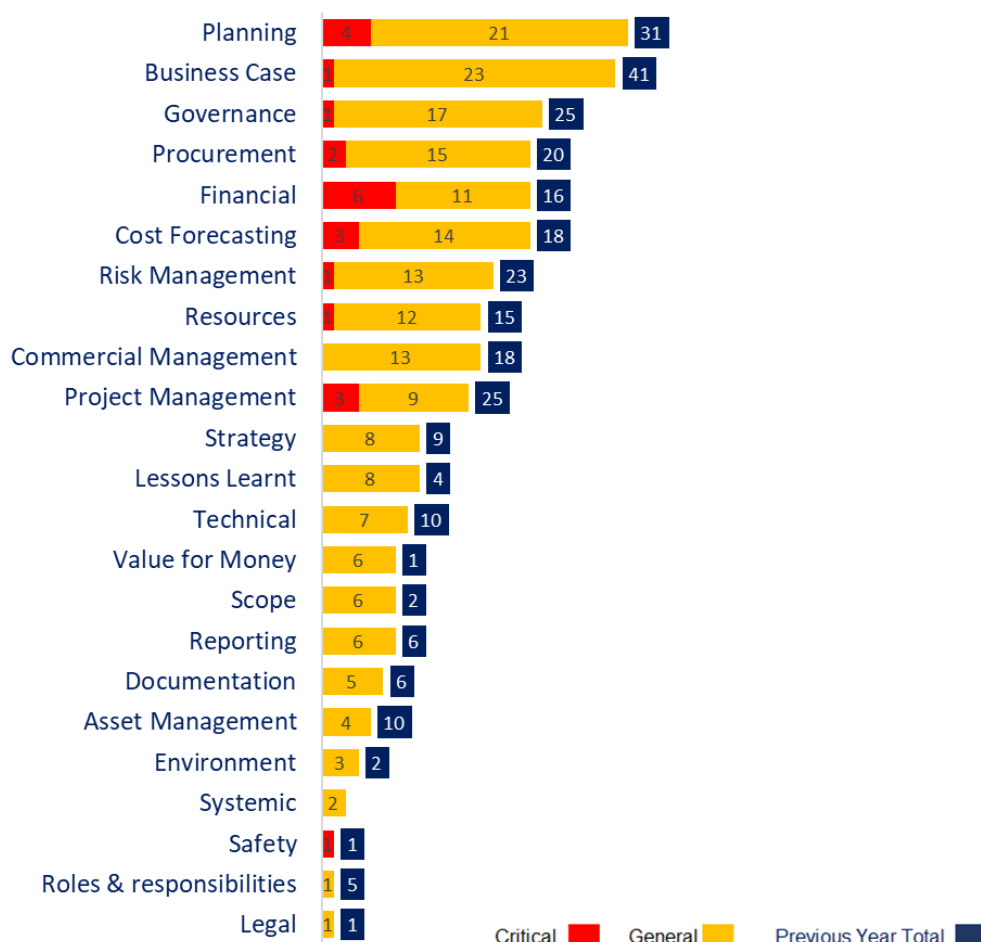


Figure 5: Project Assurance Recommendations by Topic
(Totals over last four quarters versus previous year)

List of appendices to this report:

None

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

List of Background Papers:

None

Contact Officer: Andrea Clarke, General Counsel
Email: AndreaClarke@tfl.gov.uk

Date: 5 March 2025

Item: London Underground Four Lines Modernisation Programme

This paper will be considered in public

1 Summary

- 1.1 This paper provides an update to the Committee on the delivery of the London Underground (LU) Four Lines Modernisation (4LM) Programme (the Programme) including progress since the last full update to the Committee in June 2024. It includes a request for additional authorities, reflecting the outcomes of a detailed review of the schedule and costs to complete the remaining Programme scope.
- 1.2 A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

2 Recommendations

- 2.1 **The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda and, subject to approval by the Board of the proposed Budget for 2025/26:**
 - (a) **approve additional Programme and Project Authority for the sum set out in the paper on Part 2 of the agenda;**
 - (b) **approve additional Procurement Authority for the Automatic Train Control signalling contract for the sum set out in the paper on Part 2 of the agenda; and**
 - (c) **note that the matters for which the above Authorities are sought extend in excess of and beyond the period of the draft 2025/26 Budget and 2024 Business Plan. Provision will, therefore, need to be made for them 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. Between them these four lines carry one million passengers per day, representing a quarter of overall LU ridership, and cover over a third of the LU network in terms of track kilometrage.
- 3.2 The 4LM Programme comprises the replacement of life expired rolling stock and signalling assets (and supporting infrastructure) on the SSR. The renewal of

these life-expired assets is essential to ensure we can continue to operate a safe and reliable service on these four lines. It also adds capacity (through longer trains and improved train frequency) and will make journeys faster and more reliable.

- 3.3 The 4LM Programme is the largest asset replacement scheme in the history of the network and one of the most ambitious signalling programmes in the world. 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 signalling elsewhere on the LU network, the scale and complexity of upgrading the four lines of the SSR in one programme is a global first and is transforming the overall experience for our customers.
- 3.4 The 4LM Programme is well advanced in its delivery with less than five per cent of Programme spend now left to go. With the full introduction of the 192 new modern, air-conditioned, walk-through “S Stock” trains in 2016 and the new signalling already in operation in the central and eastern areas most of the work is now complete, except for the remaining signalling works on parts of the Metropolitan and District lines.
- 3.5 As previously reported to the Committee in June 2024, while 4LM is a complex programme and we have continued to make good progress, a combination of factors (principally owing to challenges with software development, testing and commissioning and closure availability) have resulted in delays to completing the roll out of the new signalling. Since June 2024 extensive work has been undertaken to review the optimal delivery strategy for completing the remaining Programme scope including establishing a robust schedule and cost forecast, which has informed the requested additional authorities sought in this paper.

4 Project Progress and Challenges

Signalling Progress

- 4.1 In July 2015, a contract was awarded to Thales Ground Transportation Systems UK Limited to signal the SSR with an automatic modern Communication Based Train Control (CBTC) signalling system (on 31 May 2024 Hitachi Rail announced the acquisition of Thales' Ground Transportation Systems business). Given the scale of the Programme, the SSR has been split into sections (known as Signal Migration Areas or SMAs) for the purpose of introducing the new signalling system.
- 4.2 The new automated signalling system is already in operation across SMAs 1-7; an area that contains 62 stations and four complex junctions, including the full Circle and Hammersmith & City lines and the majority of the District line. For comparison purposes, the Jubilee line has 27 stations. This means that two of the four sub-surface lines (and around 57 per cent of the Tube network in total) now use an automatic train control signalling system. The 4LM SMA map is attached as Appendix 1 and shows the sections of the SSR now operating under the new automatic train control signalling system.
- 4.3 The remaining areas still to go live with the new signalling system include the Metropolitan line north of Finchley Road (SMAs 8, 9, 13 and 14) and small

sections of the west end of the District line from Barons Court to Stamford Brook (SMA10) and Fulham Broadway to East Putney (SMA12).

- 4.4 As reported to the Committee in July 2021, following a review assessing and challenging costs and schedules for the Programme, 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 also continue with works to improve the live customer information available on platforms in this area.
- 4.5 The Metropolitan line areas are the most technically complex in the Programme and present significant unique challenges associated with the integration of the new signalling system with the Jubilee line and Neasden depot train control software, along with the management of manually driven Chiltern trains and integration with the Piccadilly line.
- 4.6 There are also additional challenges arising from the restricted access opportunities (due to sporting and entertainment events at Wembley and the need for closures significantly impacting on a combination of the Metropolitan line, the Jubilee line, the Piccadilly line and Chiltern Railway operations) and the training requirements to support operation of the interoperable areas (which are significantly greater than for previous migration areas).
- 4.7 As reported to the Committee in June 2024, the design and installation of the remaining trackside signalling assets is substantially completed (a very small number of assets remain outstanding as they require a more complex installation method; these assets are due to be completed by the end of 2025).
- 4.8 With these trackside assets now in place, the 4LM Programme is principally focused on the development, implementation and testing of the signalling software to enable the go live of the new signalling system in the remaining signalling migration areas.

Signalling Software Development and Testing

- 4.9 In the past year significant progress has been made in developing and testing the signalling software in the next two areas to go live, SMA8 (Finchley Road to Preston Road) and SMA9 (the Harrow area), with positive progress in software development and successful site system testing being undertaken. This has increased our confidence in the maturity of the software for go live and enabled a better understanding of the challenges of these complex areas and therefore the schedule to complete.
- 4.10 The next SMA to be commissioned covers the Metropolitan line between Finchley Road and Preston Road (SMA8). This area is one of the most complex on the LU network. Metropolitan line trains share tracks with Jubilee line trains and the signalling system needs to enable trains from both lines to enter and exit the signalled depot at Neasden. In October 2024 we reached a very significant milestone when we successfully completed the final on-site system testing for this area during a weekend closure. This is a key step towards readiness for commissioning SMA8 later this year.

- 4.11 Beyond SMA8, further progress was made in September 2024 when we completed the third system test for SMA9 in the Harrow area. We carried out a significant proportion of the remaining testing for this area, with the system showing positive progress towards readiness for go live. The closure included testing of the interface between the Chiltern and LU control centres for the first time.

Revised Schedule for Signalling Go Live

- 4.12 While we have made positive progress in the signalling software development and testing over the last year, there have been ongoing challenges and pressures to the software schedule due to the technical complexity of the work and the substantial requirements for operational training.
- 4.13 Since the last update to the Committee in June 2024 our forecast commissioning dates for the remaining SMAs have been revised.
- 4.14 With the software development for SMA8 now well matured, the outstanding activities for go live include completion of a number of pre-requisite software updates to the previously commissioned SMAs (SMA1-7) and completion of operational readiness activities and training for around 900 staff. The go live date for SMA8 has been revised to mid-2025 to allow these activities to fully complete.
- 4.15 A detailed collaborative review with our signalling supplier has been undertaken to establish a robust schedule for roll out of the remaining SMAs beyond SMA8. Learning from our experience to date we have identified that additional time needs to be scheduled for software development, testing and completion of operational readiness activities for these remaining complex areas to ensure reliable operations once they are commissioned.
- 4.16 Closures are required to enable the installation, testing and commissioning of the new signalling and to familiarise Train Operators with the new system. We have had to carefully balance the use of closures to support the Programme while also keeping the railway open to customers and planning around major events in London.
- 4.17 As a result of this in-depth schedule review, we are now targeting the final section of signalling, SMA14 (Rayners Lane to Uxbridge) to go live in 2027, with Programme close out in 2028 (once required software optimisations have been completed). This has resulted in an increase in the estimated cost of the Programme which has informed the additional authorities requested in the related paper on Part 2 of the agenda.
- 4.18 We continue to work collaboratively with our signalling supplier to review opportunities and mitigate future risks associated with the delivery of the remaining signalling migration areas. This includes new proposed initiatives to ensure close controls and the realisation of potential efficiencies relating to resourcing across the joint delivery team and the wider signalling portfolio. We remain committed to achieve the earliest possible completion date and lowest possible outturn cost for the Programme.

Neasden Depot and Train Fitment

- 4.19 The 4LM Programme has already delivered upgrade works at Upminster and Ealing Common Depots providing maintenance facilities for the District, Hammersmith & City and Circle line trains.
- 4.20 Works on the planned upgrades to the 'heavy-lifting' shed at Neasden depot are now nearing completion with a focus on live testing and handover of the upgraded maintenance shed to the Operations team.
- 4.21 The detailed design for the new staff accommodation block is now close to completion. The design includes a number of sustainable technologies to minimise operational carbon and environmental impact including a solar panel system (with any excess electricity feeding back into the LU supply network), LED lighting and a new efficient intelligent heating and cooling system.
- 4.22 Once complete, these facilities will enable the planned overhaul of the Metropolitan line trains and provide much needed welfare facilities for the maintenance staff carrying out these activities.
- 4.23 We continue to progress with the fitment of signalling equipment to our fleet of Engineering Vehicles with all Battery Locomotives completed. Both Rail Adhesion Trains have been fitted and have undergone dynamic testing and we continue with the fitment of the signalling equipment to our two Tamper trains. Commissioning of the signalling on all our Engineering Vehicles is planned to be completed alongside the go live of the final SMA (SMA14).

5 Timetable Changes

- 5.1 New timetables were introduced on the SSR from 13 January 2025 as planned, taking advantage of the signalling upgrades that have already been completed on the eastern end of the Hammersmith & City and District lines between Stepney Green and Upminster. It means customers on this section are now benefitting from quicker journey times, up to three minutes faster when travelling to and from stations like Embankment.
- 5.2 This adds to journey time improvements of around five per cent on average on the Circle and District lines between Monument, Fulham Broadway, Barons Court and Paddington that were introduced in September 2022 and the journey time improvements of up to 10 per cent introduced on the north side of the Circle line through a timetable change in September 2021. Further timetable improvements providing journey time benefits for customers will be introduced as the new signalling continues to be rolled out in the remaining areas.
- 5.3 We continue to review the implementation dates for service frequency improvements based upon balancing passenger demand with operational costs, Network Rail timetable introduction dates, operational readiness and the dates at which capability becomes available (noting that further optimisation of the commissioned signalling software is required in certain areas). Based on our revised signalling software schedule and our latest demand forecasts we are currently targeting introducing the first service frequency uplift timetable to 30 trains per hour in the central area from 2027/28.

6 Benefits and Value

- 6.1 The introduction of the 192 new trains has delivered about 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, walk-through and carry more passengers;
 - (b) an improved customer experience with walk-through gangways, in-car CCTV, air conditioning, and improved Customer Information Systems; and
 - (c) the opportunity to recover energy through regenerative braking.
- 6.2 The introduction of the new signalling will deliver about 75 per cent of the Programme benefits, which include:
- (a) speed increases which reduce journey times between stations; and
 - (b) the ability to run trains closer together increasing service frequency up to 32 trains per hour in the central area.
- 6.3 Despite cost pressure on the Programme, there remains a high value for money case to complete the re-signalling of the remaining SMAs.
- 6.4 The existing signalling on the Metropolitan line is the oldest on the network dating from the 1940s and needs comprehensive renewal. Replacing this life-expired signalling is key to achieving cost effective management of our asset base.
- 6.5 As we have substantially completed the installation works for the new signalling, our opportunity to save costs by reducing scope are limited and outweighed by the ongoing renewal and maintenance costs of retaining the existing signalling.
- 6.6 Any immediate savings made by not re-signalling the Metropolitan line north of Finchley Road will result in higher spend in the longer term and will not achieve any customer benefits. The affordability of the Programme will however continue to be kept under review as it progresses.

7 Assurance

- 7.1 TfL's Project Assurance team and the Independent Investment Programme Advisory Group (IIPAG) have undertaken their review of the 4LM Programme through continuous assurance. They have received detailed briefings from the project team and are fully aware of the issues and challenges on the 4LM Programme. In addition, TfL Project Assurance and IIPAG have undertaken a targeted review to support this submission to the Committee. All recommendations are being addressed, as detailed in the management response.

List of appendices to this report:

Appendix 1: 4LM Signal Migration Area map

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

List of background papers:

Independent Investment Programme Advisory Group Report

TfL Project Assurance Report

Management response to TfL Project Assurance Report

Programmes and Investment Committee papers:

London Underground Four Lines Modernisation Programme June 2024

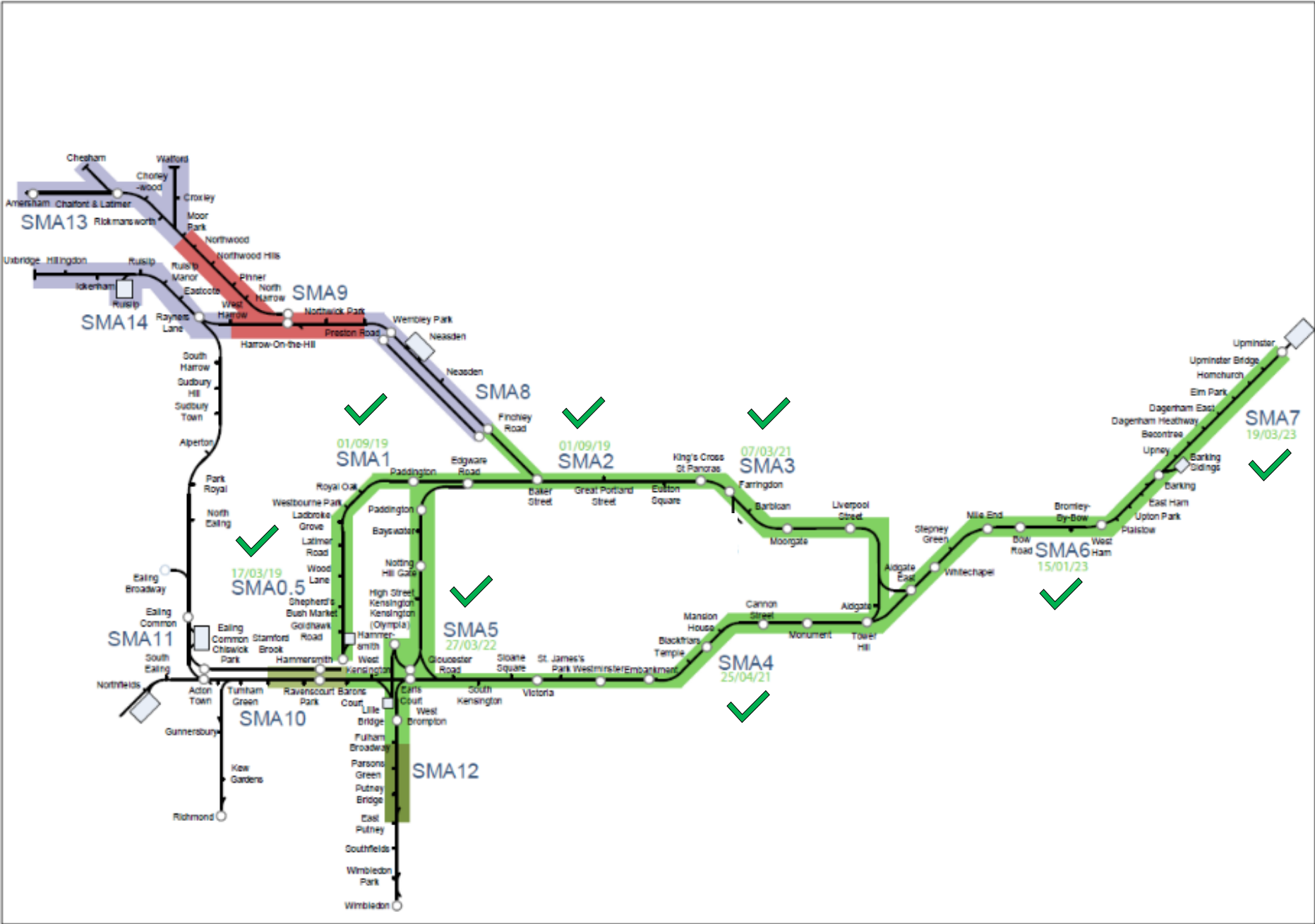
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Appendix 1: 4LM Signal Migration Area (SMA) map



Item 10

Programmes and Investment Committee



Date: 5 March 2025

Title: Docklands Light Railway Rolling Stock Replacement Programme

This paper will be considered in public

1 Summary

DLR Rolling Stock Replacement Programme	Value at last submission	Change since last submission	Current Value	Value Requested**	Total after approval
Estimated Final Cost					
Total cost	£942.0m	£0.0m	£942.0m*		
Total income	-£264.5m	£0.0m	-£264.5m		
Net Cost to TfL	£677.5m	£0.0m	£677.5m		
Financial Authority					
Total cost	£877.5m	£0.0m	£877.5m		
Total income	-£351.1m	£0.0m	-£351.1m		
Net Cost to TfL	£526.4m	£0.0m	£526.4m		
Programme and Project Authority					
Total cost	£882.2m	£0.0m	£882.2m		
Total income	-£244.7m	£0.0m	-£244.7m		
Net Cost to TfL	£637.5m	£0.0m	£637.5m		
<p>* The Estimated Final Cost (EFC) reported here remains unchanged from the last update to the Committee in December 2024. Our EFC is likely to increase; further pressures are covered in the related paper on Part 2 of the agenda.</p> <p>**The additional authorities requested are set out in the related paper on Part 2 of the agenda.</p> <p>*** Financial Authority is required above the allowance within latest approved Budget and Business Plan and provision will, therefore, need to be made for those commitments in future budgets and business plans.</p>					

- 1.1 This paper provides an update on the Docklands Light Railway (DLR) Rolling Stock Replacement Programme (the Programme), including progress since the last update to the Committee in December 2024. We committed to providing regular updates to the Committee on this Programme given significant challenges in key areas, including an issue identified with the current DLR signalling system,

train testing, and commercial discussions to address the impact of the Buckingham Group Contracting Limited insolvency in September 2023.

- 1.2 This update builds on the December 2024 update to provide greater certainty on our EFC for the Programme in light of those challenges. The EFC however remains subject to ongoing commercial discussions with suppliers, and so is reported in the related paper on Part 2 of the agenda.
- 1.3 This paper requests Programme and Project Authority and Procurement Authority to align with our latest EFC, including for vital activities required to rectify the legacy DLR signalling issues.
- 1.4 A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraphs 3 and 5 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or business affairs of TfL and information in respect of which a claim for legal professional privilege could be maintained in legal proceedings. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

2 Recommendations

- 2.1 **The Committee is asked to note the paper and exempt supplementary information on Part 2 of the agenda and, subject to approval by the Board of the proposed Budget for 2025/26:**
 - (a) **approve Programme and Project Authority, and Procurement Authority for the amounts set out in the paper on Part 2 of the agenda in respect of the Programme and other activities related to addressing legacy signalling issues on the DLR; and**
 - (b) **note that the matters for which authorities are sought above include commitments that extend beyond the period of the current Budget and Business Plan and provision will, therefore, need to be made for those commitments in future.**

3 Background and Case for the Scheme

- 3.1 A significant portion of the existing DLR fleet, the B90/92 stock, has reached the end of its design life. This presents significant challenges to sustaining reliable service performance for our customers, with the Mean Distance Between Service Affecting Failures continuing to reduce. While options were explored to “patch and repair” or “life-extend” these trains, the Programme’s Business Case demonstrates the significant whole-life cost savings, revenue generation and customer benefits that we expect to deliver through a fleet replacement.
- 3.2 The DLR saw stronger recovery from the coronavirus pandemic than the wider rail network and average weekly customer numbers now exceed 80 per cent of pre-coronavirus pandemic levels. This has been further strengthened by our optimisation of DLR timetables alongside the introduction of the Elizabeth line.

- 3.3 Beyond the effects of the Elizabeth line, growth continues to exceed expectations on the DLR network. The DLR also runs through areas expected to accommodate significant growth in housing and employment in the coming years, including major Opportunity Areas in the Isle of Dogs, Olympic Legacy and the Royal Docks. We therefore need to plan for continued customer growth across the DLR, and we forecast demand will grow by 40 per cent above today's levels by 2031.
- 3.4 The Programme is key to planning for this growth and will deliver a new fleet of trains and associated infrastructure improvements, including expansion of the existing Beckton depot. The new walk-through, air-conditioned trains will improve reliability, provide greater capacity, and offer an improved customer experience. We will also expand the fleet, replacing the equivalent of 32 life-expired trains with a total of 54 new trains, allowing significant capacity uplifts and more frequent services across the network.
- 3.5 Recognising the contribution of the scheme in supporting housing growth, the Ministry of Housing, Communities and Local Government, through the Greater London Authority, is funding 11 of the trains and associated infrastructure from its Housing Infrastructure Fund.

4 Progress Updates since December 2024

- 4.1 We have now confirmed our plan with suppliers to rectify the DLR signalling issues reported to the Committee in 2024. This will see multiple phases of work to address the speed restrictions introduced on the DLR network and improve the performance of the railway for the benefit of our customers.
- 4.2 Alongside this plan, train testing has now recommenced, and we are working to introduce the first new trains into customer service as soon as possible, and before the end of 2025. Our plan for this has been agreed and the project team and our suppliers are focussed on delivering to that plan. More than 40 trains have now been manufactured and we remain ready to accelerate new train delivery and deployment once the depot capacity, signalling fixes and testing allow this.
- 4.3 Across the rest of the Programme, activities are progressing as planned to support introduction of the new trains. Key achievements since the last update in December include:
- (a) bringing the new Beckton Depot Southern Sidings into use over Christmas 2024;
 - (b) opening the secondary station access at Blackwall station in February 2025;
 - (c) awarding the contract to design and build the Beckton Depot Southern Expansion to Balfour Beatty Rail Limited, and commencing design activities; and
 - (d) completion of the first stage of power resilience works on all DLR routes.

- 4.4 We have now also mobilised the work required to address the DLR legacy signalling issues that have been identified. This is being managed under the Programme, recognising the commonality of both the activities and resources required to rectify the legacy issues and introduce the new trains.

Costs, Funding and Value for Money

- 4.5 Our critical review of the EFC has continued and includes rectifying the DLR signalling issues, which are not directly attributable to the Programme but will be reported as part of these updates.
- 4.6 Notwithstanding the significant challenges faced in delivery, the Programme remains a vitally important investment offering high value for money with a Benefit: Cost Ratio of at least 3:1. Customers will soon see significant benefits from the new trains, with improved features, quicker journey times and more frequent services. This will support significant housing growth and economic activity around the DLR network. As well as the socio-economic benefits of the scheme, this Programme will also deliver reduced whole life costs and increased revenue growth compared to a scenario where the existing B92 fleet was life-extended.
- 4.7 We have now drawn down our entire grant funding of £257.5m from the Ministry of Housing, Communities and Local Government and our £300m loan from the National Wealth Fund, thereby reducing the impact of the immediate capital costs on TfL's finances.

5 Assurance

- 5.1 Assurance reviews have been carried out since the last update to the Committee in December 2024, and the outcomes of these are covered elsewhere on the agenda.
- 5.2 Two recommendations have been made relating to our commercial strategy with suppliers and updates to the Programme's business case. We accept and have plans in place to respond to these recommendations which are further discussed in the related paper on Part 2 of the agenda.

List of appendices to this report:

None

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

List of Background Papers:

DLR Rolling Stock Replacement Programme Update paper, Programmes and Investment Committee 11 December 2024

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

TfL Project Assurance and Management Response.

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Programmes and Investment Committee



Date: 5 March 2025

Item: Environment Programme

This paper will be considered in public

1 Summary

Environment	Value at last submission	Change since last submission	Current Value	Requested	Total after approval
Forecast*					
Total cost	£1,110.7m	£11.8m	£1,122.5m		£1,122.5m
Total income	-£14.7m	£5.1m	-£9.5m		-£9.5m
Net Cost to TfL	£1,096.0m	£16.9m	£1,112.9m	-	£1,112.9m
Financial Authority*					
Total cost	£1,179.0m	-£61.0m	£1,117.9m	£0m	£1,117.9m
Total income	-£5.3m	-£1.1m	-£6.5m	£0m	-£6.5m
Net Cost to TfL	£1,173.6m	-£62.2m	£1,111.5m	£0m	£1,111.5m
Programme and Project Authority					
Total cost	£1,077.0m	£43.5m	£1,120.6m	£1.9m	£1,122.5m
Total income	-£14.7m	£0m	-£14.7m	£5.1m	-£9.5m
Net Cost to TfL	£1,062.4m	£43.5m	£1,105.9m	£7.0m	£1,112.9m

*Current Financial Authority covers the period to the end of 2026/27. Value at last submission to Committee extended to Financial Year 2027/28. Financial Authority is required above the allowance within latest approved Budget and Business Plan and provision will, therefore, need to be made for those commitments in future budgets and business plans.

**Forecast and Programme and Project Authority covers the Environment Programme for the financial years 2017/18 to 2027/28, and some Road User Charging (RUC) from 2017/18 to late 2028/29.

- 1.1 This paper provides the Committee with an update on the progress of projects in the Environment Programme (the Programme) since March 2024, and planned delivery from April 2025. It also seeks additional Financial Authority, Programme and Project Authority, and Procurement Authority as set out in the paper on Part 2 of the agenda.
- 1.2 The Programme aims to deliver key outcomes in the Mayor's Transport Strategy (MTS), primarily to help tackle the triple challenges of air pollution, traffic congestion and the climate emergency. Benefits include improved air quality and less carbon emissions for London, and a reduction in operational carbon emissions to support TfL in becoming net zero by 2030. In addition, our investment in Direct Vision Standards (DVS) for heavy goods vehicles (HGVs) delivers safety benefits aligned with the Vision Zero statement. Appendix 1 sets out the sub-programme alignment to key outcomes.

- 1.3 A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraphs 3 and 5 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or business affairs of TfL and information in respect of which a claim to legal professional privilege could be maintained in legal proceedings. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

2 Recommendations

- 2.1 **The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda and, subject to approval by the Board of the proposed Budget for 2025/26:**
- (a) **approve additional Programme and Project Authority of £7.0m to support the ongoing delivery of the Environment Programme giving a total Programme and Project Authority of £1,112.9m;**
 - (b) **approve the additional Procurement Authority, in the sums requested in the exempt supplementary paper on Part 2 of the agenda, relating to the contracts with Capita Business Services Limited and Yunex Limited to continue activities in support of existing Road User Charging schemes;**
 - (c) **note that matters for which Procurement Authority are sought above include commitments that extend beyond the period of the 2024/25 Budget and the 2025 Business Plan. Provision will, therefore, need to be made for those commitments in future Budgets and Business Plans; and**
 - (d) **note that Procurement Authority for some matters referred to in this paper will be sought at Officer level in accordance with Standing Orders.**

3 Environment Programme Performance 2024/25

London-wide Ultra Low Emission Zone (ULEZ)

- 3.1 Following the successful launch of the London-wide ULEZ scheme on 29 August 2023, two monitoring reports on scheme performance after one and six months were published on 31 October 2023 and 25 July 2024 respectively. The six-month report showed that, in 2023, nitrogen oxides emissions from cars and vans in outer London are estimated to be 13 per cent and seven per cent lower compared to a scenario without the London-wide ULEZ. Particulate Matter (PM 2.5) exhaust emissions from cars and vans are estimated to be 20 per cent lower than if ULEZ has not been expanded. Cumulatively, London has seen a 23 per cent reduction in roadside nitrogen dioxide concentrations due to all ULEZ policies (the overall ULEZ package of measures from 2017 onwards when the Toxicity Charge was introduced) compared to a no ULEZ scenario. We are currently producing the London-wide ULEZ One-Year Report that will provide an even more comprehensive analysis of the air quality impact of the expansion, following on

from the interim analysis presented in the Six-Month Report, published in July 2024. The report will be published in 2025 and will be supported by an independent advisory group of experts.

- 3.2 Vandalism of ULEZ cameras has continued since the scheme went live. All incidents have been reported to the police and there have been seven convictions to date. We continue to work with our suppliers to maintain our enforcement capability.

Scrappage Scheme

- 3.3 In March 2024, the scrappage scheme changed to allow eligible applicants to donate their non-compliant vehicle to Ukraine to support humanitarian and medical needs due to the ongoing conflict there in return for the same level of grant payment as scrapping their vehicle. To date over 650 vehicles have been donated. The scrappage scheme closed to new applicants in September 2024. At that time, 54,716 applications had been approved and £189m of funds committed to scrap, donate, or retrofit vehicles that do not meet the ULEZ emissions standards. An evaluation report will be published in spring 2025.

Direct Vision Standard Phase 2 (DVS2)

- 3.4 Phase 2 of the scheme went live on 28 October 2024, increasing the minimum star rating for HGV driver visibility from one to three stars, achieving a key Mayoral commitment and TfL Scorecard milestone. Vehicles with a rating below three stars now need to install relevant safety equipment to meet requirements for a HGV safety permit, enabling them to operate in London. This supports Vision Zero by improving visibility between HGVs and vulnerable road users. DVS2 builds on the success of the original scheme, latest data from which indicates continuing contribution to the Mayor's Vision Zero targets; revised 2023 data shows there was a 49 per cent reduction in the number of fatal collisions involving an HGV, compared to the 2017-19 baseline.
- 3.5 Although the scheme go live was achieved on time, final stages of project delivery were impacted by the cyber incident which restricted access to critical systems and meant that key functionality for freight operators to apply for HGV safety permits was prioritised. The project is now reviewing options to complete key remaining development and testing activities, including back-office functions and additional user functionality that had been due for the October go live. Despite extended project timescales resulting from the cyber incident, the project is forecast to deliver within budget and realise savings/efficiency targets of approximately £1.6m. This has mainly been due to efficiencies in resource utilisation and phasing of development work.

Blackwall and Silvertown Tunnel User Charge (TUC)

- 3.6 On 27 January 2025 the pre-registration period opened for the TUC, enabling eligible users to register for discounts and exemptions ahead of the anticipated tunnel opening on 7 April 2025. Users can also continue signing up for Auto Pay accounts free of charge, which will automatically charge their RUC account when making a tunnel crossing at Silvertown or Blackwall, avoiding penalty charge

notices and benefitting from a lower off-peak rate. Details of the user charges, discounts and exemptions were approved by the Board on 4 December 2024 and were informed by public and stakeholder consultation undertaken between 10 July and 3 September 2024. The marketing and communications campaign launched in January 2025 to raise awareness of the charges, tunnel opening dates and pre-registration period.

- 3.7 Final preparations for tunnel opening and user charge go live aligned to the anticipated opening of the Silvertown tunnel on 7 April 2025 are underway, including testing of the enforcement cameras and readiness planning with the supply chain to ensure the website and call centre are prepared for forecast volumes of users. Although the cyber incident impacted development of system and website updates, pre-registration was able to open for users on time. Some remaining functionality, such as the inclusion of the universal vehicle checker, followed later, with customers provided with additional guidance on the TfL website to support their applications in the interim.
- 3.8 At go live, the system will be integrated into the standard RUC reporting cycles with specific information drawn to assess the project benefits. We will complete a review of the user charge and wider tunnel impacts no later than 15 months after the Silvertown Tunnel opens for public use.

RUC Re-Let

- 3.9 Tender documentation has continued to be developed for the re-procurement of the three contracts required to deliver the new RUC operating model: Detection and Enforcement Infrastructure (D&EI), Customer Management Services (CMS) and Enforcement Operations (EOps). Competitive tenders for all three contracts were due to start in 2024 but have been impacted by resource shortages, resulting in the original timescales to re-tender for 2026 becoming unviable. An options assessment was undertaken to consider the most suitable alternative delivery approach, which resulted in an extension of the schedule from 2026/27 to 2028/29.
- 3.10 The first contract now planned is for D&EI, with issue of tender documents forecast for spring 2025. Subject to successful completion of the procurement process, the contract is planned to be awarded in early 2026.
- 3.11 The procurement strategies for CMS and EOps are currently under review following changes to delivery of the Business Operations (BOps) system which have impacted the scope of the RUC Re-let project. Subject to completion and approval of a revised commercial approach, tender documents could be issued in late 2025 / early 2026 and contract/s awarded in 2027.

BOps In-House

- 3.12 Although the project had been progressing well during 2024, it was significantly impacted by the cyber incident in September 2024 which limited system access and therefore development work. Delivery timescales for the BOps system being built in-house had aligned with those for the RUC Re-let project, as critical activities for integration and testing of the system could only take place once the new suppliers were appointed.

- 3.13 Given the RUC Re-Let prolongation, the estimated cost to deliver the project increased substantially, which, considering TfL's wider financial context, resulted in a review of delivery options for the BOps system. Details of this review are outlined in the paper on Part 2 of the agenda and concluded with the decision in January 2025 to revert to an outsourced solution for provision of the BOps system.

Zero-Emission Support Fleet (ZEF)

- 3.14 The project aims to reduce our operational carbon emissions by 2,000 TCO₂e per annum once our fleet is fully transitioned to zero-emission, which is an order of magnitude equivalent to around 7,000 return flights from London to Edinburgh. The initial scope to electrify our support fleet was developed in 2020, which was early in the project life cycle. This was based on analysis, which set out key assumptions including the number of vehicles in our fleet, locations they operate in and the cost of installing a charging network using lessons from a previous project. Following a detailed re-evaluation of the scope and assumptions, the cost estimate to electrify our fleet has increased significantly. Therefore, while we now have greater confidence in the scope and costs, there are affordability challenges associated with fossil fuel removal from our operations.
- 3.15 We confirmed the criticality of transitioning our support fleet to zero-emission in October 2024. The basis for this position is the Government's commitment to the zero-emission vehicle transition, demonstrated by the zero-emission vehicle mandate and the associated ban on new sales of petrol and diesel cars by 2035. This national policy context presents an increasing operational risk of obsolete vehicles if a do-nothing approach is adopted. Following extensive business case assessment, and given the affordability challenges, our preferred delivery approach is a two phased fleet transition using new charge points installed on our estate while also relying on the growing public charging network. To this end, we have provided £400,000 for passive provision at Acton as part of the West London Depot Development programme. This will futureproof the installation of charge points at our largest operational depot pending confirmation of phase two funding which will form part of our future Business Plan considerations.

Electric Vehicle Infrastructure Delivery (EVID)

- 3.16 EVID is a commitment in London's Electric Vehicle Infrastructure Strategy to unlock Greater London Authority (GLA) group land to support the delivery of a network of rapid charge points. The first tranche released 126 charging bays to the market. However, we now expect to deliver 50 bays due to higher power connection costs and site-specific constraints. Positively, the carbon saving benefit will total 2,000 tonnes per annum. For context, roughly 2,000 acres of mature UK woodland would be required to absorb this carbon saving in one year. Our number of bays has reduced, nevertheless, our revenue is projected to be higher because the contracted revenue is higher than previously assumed. Revised delivery assumptions for the second delivery tranche, using lessons learnt to date, will result in over 100 charging bays being delivered.

Bus Opportunity Charging Trial

- 3.17 On 20 November 2024, the first fully electric buses started operating on Route 358 between Crystal Palace and Orpington. This is a major milestone towards a zero-emission bus fleet and an opportunity to test innovative charging technology on one of London's longest routes. This was delayed by five months due to challenges finalising lease agreements with private landowners and additional scope required for safe operations, including recommendations made by the London Fire Brigade. This has resulted in a £200,000 EFC increase since our last submission to the Committee – from £3.9m to £4.1m.
- 3.18 The service has been operating well since launch, with buses taking five minutes to charge at each end of the route as assumed. An initial observation has been that approximately 15 per cent more battery power is being used per trip than had been expected; in many cases this has been the result of colder weather conditions. The data demonstrates why charging infrastructure is required at both ends of the route to maintain reliable operations. We continue to explore ways to optimise battery usage and associated energy consumption. We will look to validate outputs using a larger sample of monthly performance data, which will enable performance benchmarking for buses using different power sources operating on London's longest bus routes. A lessons learnt review will take place to prevent similar cost and time escalations in future.

Waste Heat

- 3.19 The project was brought to a controlled stop in October 2024 because the proposed 'off-taker' for the first site in Southwark was unable to proceed at this time. This was primarily due to commercial viability – and linked to this, a preference to wait until the Government's National Heat Zoning Strategy is initiated, which will likely incentivise the scaling of Waste Heat, with significant private sector investment. Stopping the project saved £300,000 this year. TfL is feeding data into the National Heat Zoning Strategy, and the outcomes of this process, and wider investment prioritisation, will determine the future programme scope. Data will continue to be shared with interested parties to explore potential opportunities on a site-by-site basis.

Solar Private Wire

- 3.20 Solar Private Wire presents an opportunity to generate up to 64MW of renewable energy, which is the equivalent of five per cent of our annual energy load. The tender that will ultimately secure a single delivery partner tasked with identifying sites, installing solar farms, and providing power to the London Underground (LU) network was launched on 31 October 2024. This was five months later than the date previously reported to the Committee. The effect of this delay has been a change to the forecast date to shortlist prospective delivery partners, from March to July 2025. The tender has generated significant market interest, with bids received from a variety of suppliers by the deadline of December 2024. An initial evaluation of these bids has been completed, with applicants who have met our criteria invited to stage two of the tender process.

Building Decarbonisation – Heat Decarbonisation and Energy Efficiency

- 3.21 Based on current scope, the Programme is set to achieve an annual saving of 11,300 TCO²e compared to current levels through the removal of fossil fuel burning assets. This equates to the carbon emissions resulting from gas powered energy consumption of 5,000 households annually. Significant activity has been undertaken in the last year to strengthen the definition of the Programme. The programme scope, subject to baselining now includes 106 buildings that have fossil fuel burning assets across our operational estate of 2,500 buildings. Detailed analysis has highlighted 65 operational buildings will have life-expired fossil fuel heating systems by 2040, and a further 41 post-2040. The current TfL Business Plan includes £129m for this Programme up until 2032/33. This figure is based on analysis undertaken in 2022. Scope assumptions and cost estimates up to 2040 are maturing and we will assess full scope affordability through business planning, which goes beyond 2033. Positively, we have developed a prioritisation framework to ensure we are tackling the best opportunities with the available funding. While the replacement of fossil fuel assets with low carbon alternatives does not represent a strong return on investment in the short-term, it aligns with the top priority of the Corporate Environment Plan, to remove our 'scope 1 and 2' direct carbon emissions, namely our burning of fossil fuels and addresses the obsolescence risk resulting from the phasing out of such assets in the coming years.
- 3.22 Feasibility studies identifying carbon reduction opportunities have been completed for 44 operational buildings across high-priority sites. A strategic milestone to complete seven concept designs by March 2025 was delayed due to a variety of factors, including reprioritisation of constrained resources to focus on projects already in flight and the wider programme of feasibilities. All seven concept designs will now be completed by the end of 2025/26 (see Appendix 3 for estimated completion dates for each site).
- 3.23 We submitted applications for eight buildings to the Public Sector Decarbonisation Scheme (PSDS) on 25 November 2024. Our request is for £1.7m, supported by a contribution from TfL of £5.5m. Three sites (at Therapia Lane, Neasden and Finchley) that previously secured £2.8m from the PSDS are in-flight, and while progress has been made, each project has seen cost increases. At Therapia Lane, works are now forecast to be delivered by February 2026 as opposed to our 'green milestone' target of March 2025. This is primarily due to resourcing constraints and underestimating the scope of works required early in the lifecycle. The delivery of LEDs was accelerated as a separate activity.

Taxi Rapid Charging Project

- 3.24 The Office for Zero Emission Vehicles has granted us £4.5m to increase rapid charge points that are situated in attractive locations for zero-emission capable taxis in London. The project has been initiated with feasibility work in 2025/26 focusing on how best to assess and deploy the new charge points and determining the best commercial approach.

Bus Garage Power

- 3.25 On 3 December 2024, the Bus Garage Power project was initiated. It seeks to accelerate efforts to achieve a zero-emission bus fleet by overcoming time and cost barriers associated with converting garages to support electric buses. It is thought that some locations may take too long and could cost significantly more to secure power and install the necessary infrastructure if we rely on the 'business as usual' approach of installing power upgrades via the Distribution Network Operators. Instead, we are exploring whether the garages could source the required power directly from our private power network (i.e. LU), in the cases where it is deemed to represent better value for money and expedite the delivery of a zero-emission fleet. While initial activities are being funded by operational expenditure, capital funding will be sought within the Programme from 2025/26 until project completion.

4 Key Environment Programme Deliverables 2025/26

Zero-Emission Support Fleet

- 4.1 We will complete the first phase of delivery, which includes 11 charge points at Hainault depot and seven at Morden depot, enabling the electrification of 60 vehicles, building upon the 11 charge points delivered at Plumstead depot. This initial phase will provide valuable lessons to refine future delivery. For phase two, which covers the full remaining ZEF scope, we will continue to develop the feasibility, schedule, and costs with a view to commencing procurement in early 2026, though this is dependent on funding being secured beyond 2025/26.

Building Decarbonisation

- 4.2 The programme scope covering 106 buildings will be baselined in the first half of 2025/26. At this point we will have validated costs and assessed the delivery model and procurement options to determine the best framework within which to plan and undertake a rolling programme for removing direct carbon emissions. This will consider site prioritisation and our complex operational estate. We will also produce a high-level delivery plan and update the business case to provide a latest view on the affordability challenge and options to mitigate. This will all be informed by lessons learnt on our initial projects, including Therapia Lane. In parallel, we will set out indicative plans for 700 additional buildings that, while not having fossil fuel assets, would benefit from energy efficiency measures to drive down our operational carbon footprint. This would represent an expansion of scope and would be dependent upon funding being secured.
- 4.3 Our first "Net Zero depot" at Therapia Lane will be delivered by February 2026 and works at Finchley Central Signals Depot will start in 2026 following completion of design work. We will keep affordability under regular review on sites such as Neasden depot at appropriate points in the delivery cycle and in line with the definition of the wider programme. Concept designs will be completed for our initial phase of top priority sites throughout 2025/26, as detailed in Appendix 3. The outcome of our PSDS bid will also be confirmed by May 2025. If successful, this PSDS grant funding will help support the design and delivery of interventions at sites that have been prioritised based on their ageing fossil fuel heating assets and high carbon emissions.

Solar Private Wire

- 4.4 The procurement for a delivery partner will continue, with further shortlisting of suppliers, entering a dialogue phase and receipt of final tenders. We aim to award the contract in spring 2026, which is dependent upon meeting the revised milestone to shortlist delivery partners as set out in section 3.20. These timescales reflect the novel and complex nature of the Private Wire contract and includes sufficient time provision for dialogue with prospective suppliers.

Bus Garage Power

- 4.5 The scope for a preferred option to upgrade bus garage power via the LU power network will be completed by autumn 2025. Procurement and concept design activity will follow.

RUC Re-let

- 4.6 The D&EI contract is planned to be awarded in spring 2026, with go live from early 2027. Negotiations have started with the current D&EI supplier to agree the minimum necessary contract extension needed to cover the period of integration up to go live. We will recommence development of contracts and tender documentation for CMS and EOps once the revised commercial approach has been agreed, with invitation to tender releases forecast in late 2025/early 2026.

5 Challenges and Opportunities

- 5.1 **Funding:** The Government set out the importance of longer-term funding certainty for TfL to enable investment in critical upgrades and major capital projects in October 2024. We remain in positive discussions with Government about achieving a longer-term capital funding settlement as part of the Spending Review. However, our ability to achieve net zero is subject to major value and affordability challenges within current approved budgets. Relatedly, there have been a series of EFC increases following scope refinements (i.e. ZEF) which, although adding to this challenge, do provide greater certainty moving forward.
- 5.2 **Net Zero Capital Delivery Model:** Our investment includes projects and programmes of varying degrees of innovation, complexity, and scale. Our strategy is to adopt industry standard delivery models and explore all appropriate procurement routes with sufficient expertise and capability. Such procurement will include risk related to resource, capacity, and expertise constraints. This brings a need to employ a flexible delivery model and ensure access to a range of suppliers. Section 4.2 above notes how, in the first half of 2025/26, we will have validated costs and assessed the delivery model and procurement options to determine the best framework within which to plan and undertake a rolling programme for removing direct carbon emissions.
- 5.3 **Resourcing:** We continue to carefully plan and manage the allocation of finite resources to support our investment in operational net zero outcomes. To date, we have undertaken a resource gap analysis across all projects and produced an initial high-level forecast of the resources required to progress schemes currently in our pipeline. This will evolve as our pipeline matures, investment scales, and

the new delivery model is established. It is imperative we secure more commercial expertise to support the Programme to complement additional support we have secured from across the value chain in the last year (e.g. Programme Management Office).

6 Financial Implications

6.1 The Committee approved our request for Programme and Project Authority totalling £53m in February 2024. In addition, approval was given by way of Chair's Action for an additional £40m Programme and Project Authority for the scrappage scheme in January 2024, which was funded by the GLA, and £3.48m of Programme and Project Authority was transferred from the Silvertown Tunnel to TUC in October 2024 to implement additional system requirements for Business Discounts.

6.2 Table 1 below sets out our performance against the approved 2024/25 Budget.

£m's	TfL Budget	Current Forecast	Variance to TfL Budget
RUC	79.5	82.2	(2.7)
Scrappage	15.0	13.6	1.4
Environment	20.6	23.7	(3.1)
Total	115.1	119.6	(4.5)

Table 1: Summary of expected forecast spend at Year End against Budget

6.3 We are forecasting a £4.5m variance to TfL Budget for the Programme in 2024/25, which is being managed within TfL's overall budget tolerance. The reasons for this include the increases in vandalism costs associated with London-wide ULEZ, and the cost of additional necessary requirements and revision in forecast go live date for TUC. Further detail on notable EFC variances is included in the paper on Part 2 of the agenda.

6.4 Previous Programme and Project Authority approved by the Committee for schemes no longer being progressed will be reallocated to other budgeted projects within the Programme. As a result, the authority values being requested are in addition to existing approved authority.

6.5 Total expenditure (including income) for which Programme and Project Authority is being sought is set out in Table 2 below.

Activity Areas	Current Financial Authority to 2026/27	Current Programme and Project Authority	Additional Proposed Programme and Project Authority	Authority Request (£m)						
	£m	£m	£m	2017/18 to 2023/24	2024/25	2025/26	2026/27	2027/28	2028/29	2017/18 to 2028/29
Road User Charging	634.3	617.0	(28.6)	401.1	82.2	12.7	26.2	64.8	1.4	588.4
Environment	477.2	488.9	35.6	406.7	37.3	21.7	30.7	28.1	-	524.6
TOTAL	1,111.5	1,105.9	7.0	807.7	119.6	34.4	56.9	92.9	1.4	1,112.9

Table 2: Constituent activity areas and Programme and Project Authority requested (£m)

7 Equalities 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 such as the Mayor and TfL 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 quality 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 Compliance with the Public Sector Equality Duty is considered on an ongoing basis in all projects delivered as part of the Programme supported by Equality Impact Assessments as appropriate.

8 Assurance

- 8.1 The annual Integrated Assurance Review of the programme was finalised in December 2024 by TfL's Project Assurance team (PA) and the Independent Investment Programme Advisory Group (IIPAG). The reports concluded that RUC has faced challenges with prolonged decision-making, significant delays in RUC Re-let, and concerns about resource availability. An integrated schedule has been created but needs to reflect the current option and dependencies, with agreement from all teams. With the decision not to proceed with the BOps in-house project, the new commercial approach will need to be confirmed. Environment faces significant challenges around funding and delivery capability to deliver to the Net Zero 2030 target. There are ongoing issues with estimate robustness which has led to substantial EFC increases. In response, Capital delivery teams are working to provide early input to help address these challenges.
- 8.2 Both the IIPAG and PA assurance review concluded with 11 recommendations in total of which two are critical. PA has undertaken targeted assurance reviews throughout the year and highlighted the issues with the individual projects and will continue to ensure a rigorous assurance regime is in place given the current challenges with the component parts of the Programme.
- 8.3 The Integrated Assurance Plan was updated in January 2025 and outlines proposed assurance reviews for projects and programmes within the Programme over the next 12 months.

List of appendices to this report:

- Appendix 1: Programme contributions to key outcomes
- Appendix 2: An Overview of Forecast and Actual Deliverables (2024/25)
- Appendix 3: Environment Programme 2025/26 Deliverables

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

List of Background Papers:

Programmes and Investment Committee papers:

- Environment Programme, February 2024
- Chair's Action paper – scrappage scheme, January 2024

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

TfL Project Assurance and Management Response.

Contact Officer: David Rowe, Director of Investment Planning
Email: DavidRowe@TfL.gov.uk

Appendix 1: Programme contributions to key outcomes

	Customer					Safety and Security				Green					Colleague	
	Public Transport Service	Customer Experience	Active Travel	Accessibility	Growth and Connectivity	Colleague Safety	Customer Safety	Road Safety	Risk Of Crime	TfL's Carbon Emissions	London's Transport CO2	Climate Adaptation	Green Infra. & Biodiversity	Air Quality	Engagement	Representation
London-wide ULEZ	✓		✓		✓			✓			✓✓			✓✓		
Scrappage scheme	✓		✓					✓			✓✓			✓✓		
DVS 2			✓					✓✓								
Blackwall and Silvertown TUC	✓		✓		✓			✓			✓			✓		
RUC Re-let	✓		✓					✓			✓			✓		
Zero Emission Support Fleet										✓✓	✓				✓	
Bus opportunity charging trial	✓	✓								✓✓	✓					
Solar private wire										✓✓						
Building decarbonisation										✓✓					✓	
EV Rapid Chargers	~	✓	~								✓			✓✓		
Bus Garage Power										✓✓	✓			✓✓		

✓✓	Direct, positive impact
✓	Indirect positive impact
	No meaningful impact
~	Outcome balancing required

Appendix 2: An Overview of Forecast and Actual Deliverables (2024/25)

Forecast Deliverables 2024/25	Actual Deliverables	Reasons for Variance (by exception)
London-wide Ultra Low Emission Zone: <ul style="list-style-type: none"> Project handover and close (in 2024) Six and 12-month monitoring reports published 	<ul style="list-style-type: none"> Six-month monitoring report published on 25 July 2024 Project handover (October 2024) 	<ul style="list-style-type: none"> Camera vandalism delayed handover until October 2024 Camera supplier still to finalise commissioning documentation (prioritising Tunnel User Charge), which has delayed project closure (see paper on Part 2 of the agenda) 12-month report to be published by end of March 2025 (data validation issue)
Direct Vision Standard Phase 2: <ul style="list-style-type: none"> Scheme to go live in October 2024 Operators must be able to pre-register for permits three months before go live London Councils to consider duration of grace period post go live in June 2024 following industry engagement in early 2024 	<ul style="list-style-type: none"> Scheme go live achieved in October 2024 (key Mayoral commitment and TfL Scorecard milestone) Operator pre-registration achieved in June 2024 London Councils' approved grace period (July 2024) Marketing and engagement to raise industry awareness 	n/a
Silvertown and Blackwall Tunnel: <ul style="list-style-type: none"> Detection and enforcement infrastructure install (June 2024) Technical system go live (October 2024) to allow time for testing prior to full scheme go live Consult on proposed charges, discounts, exemptions (mid 2024) Statement of charges published no fewer than 56 days before tunnel opening 	<ul style="list-style-type: none"> Pre-registration opened on 27 January 2025, over 56 days in advance of tunnel opening on 7 April 2025 User charges, discounts and exemptions approved by the Board on 4 December 2024, informed by consultation between 10 July and 3 September 2024 Statement of charges published on 4 December, over 56 days in advance of anticipated tunnel opening on 7 April 2025 	<ul style="list-style-type: none"> Final stages of system development and testing impacted by the cyber incident in September 2024, delaying completion of milestone from October 2024 to January 2025 Final detection and enforcement infrastructure installation extended to February 2025 due to site access restrictions and coordination with lane closures on Blackwall Tunnel

Forecast Deliverables 2024/25	Actual Deliverables	Reasons for Variance (by exception)
<ul style="list-style-type: none"> Pre-registration opens for users to register for discounts and exemptions no fewer than 56 days before tunnel opening 	<ul style="list-style-type: none"> Marketing and comms launched in January 2025 to raise awareness of the charges, tunnel opening dates and pre-registration Detection and enforcement infrastructure install (February 2025) Technical system go live completed in January 2025 Final preparations for tunnel opening and user charge go live aligned to opening of the Silvertown Tunnel on 7 April 2025 are underway 	
Road User Charging (RUC) Re-let: <ul style="list-style-type: none"> RUC Re-let scope (Enforcement Operations (EOps), Customer Management Services (CMS), Detection and Enforcement Infrastructure (D&EI) scheduled to go to tender in 2024 and contracts planned to be awarded in spring 2025 Minimum 12-month mobilisation period ahead of handover for each element by September 2026 	<ul style="list-style-type: none"> Options assessment undertaken to revise recommended delivery approach Tender documentation underway for the D&EI contract, forecast to be issued in spring 2025 Commercial approach for CMS and EOps under review 	<ul style="list-style-type: none"> Competitive tenders for all three contracts were due to start in 2024 but have been impacted by resource shortages, resulting in the original timescales becoming unviable. An options assessment was undertaken to consider the most suitable alternative delivery approach, which now forecasts issue of tender documents for the D&EI contract in spring 2025
Business Operations (BOps) system: <ul style="list-style-type: none"> System design, build and integration continue with testing and system releases in 2024/25 Commencement of data migration testing and initial integration are also planned during 2024/25 	<ul style="list-style-type: none"> Continued close coordination with Re-let project and inclusion in options assessment work Delay to planned development releases due to cyber incident 	<ul style="list-style-type: none"> Business decision in January 2025 to revise delivery approach, procuring the BOps system externally and not proceeding with the in-house build

Forecast Deliverables 2024/25	Actual Deliverables	Reasons for Variance (by exception)
<ul style="list-style-type: none"> Management of integration with RUC Re-let 		
Electric Vehicle Infrastructure Delivery: <ul style="list-style-type: none"> Commence delivery of first tranche by spring 2024 with first 39 bays out of the 100-bay target by September 2024 and remaining by summer 2025 Issue first batch of second tranche to market by summer 2024 (50 bays) 	<ul style="list-style-type: none"> First tranche released 126 charging bays to the market with the aim of delivering 100 Expect to deliver 50 out of the 100 charging bays due to higher power connection costs and site-specific constraints 	<ul style="list-style-type: none"> Completion date changed to late 2025 due to delivery complexity. Delivery assumptions for the second tranche based on the lessons learnt to date, meaning delivery of a minimum of 100 charging bays in total across both tranches instead of targeting 200 bays
Bus Opportunity Charging: <ul style="list-style-type: none"> Introduction of electric buses and infrastructure by June 2024 and project closed 	<ul style="list-style-type: none"> Introduction of electric buses and infrastructure was achieved on 20 November 2024 	<ul style="list-style-type: none"> Delayed by five months due to challenges finalising lease agreements with private landowners and additional scope required for safe operations, including recommendations made by the London Fire Brigade
Waste Heat: <ul style="list-style-type: none"> A viability review for the first site in Southwark will be finalised by July 2024 	<ul style="list-style-type: none"> Project was brought to a controlled stop in October 2024 	<ul style="list-style-type: none"> Proposed off-taker deemed proposal not commercially viable and wanted to wait for Government's National Heat Zoning Strategy
Solar Private Wire: <ul style="list-style-type: none"> Tender to be launched in May 2024 and delivery partner appointed by December 2024 	<ul style="list-style-type: none"> Tender launched on 31 October 2024 	<ul style="list-style-type: none"> Tender delayed by five months Strategic milestone to shortlist prospective delivery partners delayed from March 2025 to July 2025
Zero-Emission Support Fleet: <ul style="list-style-type: none"> Develop baseline schedule, including specific work packages to ensure we achieve publicly committed targets The first of these targets is to have no petrol or diesel cars in the fleet by 2025 	<ul style="list-style-type: none"> MTS Target 1 (Strategic milestone): All cars in the TfL support fleet to be zero-emission capable by 2025 Funding totalling £800,000 allocated to 'quick wins' at Plumstead (delivery 2025/26) and Acton (delivery Phase 2) which aligns with our preferred approach 	<p>Please see Section 3.11 for detail. In summary:</p> <ul style="list-style-type: none"> Initial scope has been updated with more accurate assumptions Strategic direction from TfL's Executive Committee Sustainability sub-group in support of gradual transition of our fleets,

Forecast Deliverables 2024/25	Actual Deliverables	Reasons for Variance (by exception)
<ul style="list-style-type: none"> • A revised cost estimate will be produced once a schedule is approved by summer 2024 • Exploit opportunities to deliver quick wins at locations such as Acton 	<p>to gradually transition our fleet to fully electric</p>	<p>citing national policy context and operational risk of do nothing</p> <ul style="list-style-type: none"> • Business case assessment to determine preferred option • Criticality of securing long-term business plan support from 2026/27 with some sites being progressed in 2025/26 using existing budget • See paper on Part 2 of the agenda for Variance Summary
<p>Building Decarbonisation:</p> <ul style="list-style-type: none"> • Prioritisation of 10 sites to commence design in 2024/25 following receipt of 22 feasibility studies by June 2024 • Concept Design for seven prioritised sites complete (milestone) • Definition and phasing of delivery packages in summer 2024 (Prog. Gate B) • Completion of procurement and delivery strategy by autumn 2024 	<ul style="list-style-type: none"> • Significant activity has been undertaken in the last year to strengthen the definition of the programme. Detailed analysis has highlighted 65 operational buildings will have life-expired fossil fuel heating systems by 2040, and a further 41 post-2040. TfL Business Plan includes £129m up until 2032/33 • TfL Engineering has estimated costs for the full programme to be between £500m - £600m, based on the extrapolation of data from initial projects 	<ul style="list-style-type: none"> • Forecast delivery date for Therapia Lane by February 2026 will not achieve our green milestone target of March 2025. Trial project with lessons being learnt. • See paper on Part 2 of the agenda for Variance Summary

Appendix 3 – Environment Programme 2025/26 Deliverables

Level 0 Scope	Forecast Deliverables 2025/26
Road User Charging (RUC)	<p>Direct Vision Standard Phase 2:</p> <ul style="list-style-type: none"> • Delivery of residual technical elements delayed by the cyber incident in September 2024 • Commence Benefits Management activities, informing planned One Year-On Report (forecast publication in Quarter 3 2026/27) <p>Tunnel User Charge:</p> <ul style="list-style-type: none"> • Scheme go live from 7 April 2025 • System integration into the standard RUC reporting cycles • Benefits Management being managed by Silvertown Programme • Complete review of user charge and impacts no later than 15 months after Tunnel opens <p>RUC Re-let:</p> <ul style="list-style-type: none"> • Detection and Enforcement Infrastructure (D&EI) contract award (spring 2026) • Agree contract extension with current D&EI supplier for minimum period necessary for integration up to go live • Revised commercial approach for Customer Management Services and Enforcement Operations (EOps), with forecast invitation to tender late 2025/early 2026 • Agree contract extension with current Business Operations system/EOps supplier from September 2026 for minimum period necessary until the new contracts go live
Environment	<p>Bus Garage Power</p> <ul style="list-style-type: none"> • Complete scope for a preferred option to upgrade bus garage power via the London Underground power network by autumn 2025, subject to funding. Procurement and concept design activity will follow <p>Private Wire:</p> <ul style="list-style-type: none"> • Procurement for a delivery partner, with further shortlisting of suppliers, entering a dialogue phase and receipt of final tenders. We aim to award the contract in spring 2026 <p>Building Decarbonisation:</p> <ul style="list-style-type: none"> • Delivery of TfL's First Net Zero Carbon Depot (Therapia Lane) in February 2026

Level 0 Scope	Forecast Deliverables 2025/26
	<ul style="list-style-type: none"> • Delivery of concept designs: Finchley central signals (May 2025), Neasden depot (June 2025), Beckton depot main shed (March 2026), Woolwich ferry depot (March 2026), Rickmansworth track office (January 2026), West Ruislip Train Crew Accommodation (January 2026). Delivery assumptions are being challenged to identify opportunities for earlier milestone completion • Baseline scope at Pathway Stage B by middle of 2025/26 • Validation of costs and assessment of the delivery model and procurement options to determine best framework within which to plan and undertake a rolling programme for removing direct carbon emissions <p>Zero-Emission Support Fleet (ZEF):</p> <ul style="list-style-type: none"> • Finish first phase of delivery: 11 charge points at Hainault and seven at Morden, enabling the electrification of 60 vehicles (adding to 11 charge points delivered at Plumstead in 2024/25) • Identify and embed lessons learnt from first phase of delivery to refine future delivery • This initial phase will provide valuable lessons to refine future delivery • Phase 2 (full remaining ZEF scope): Continue to develop the feasibility, schedule, and costs with a view to commencing procurement in early 2026, (dependent on funding being secured beyond 2025/26) <p>Electric Vehicle Infrastructure Delivery (EVID):</p> <ul style="list-style-type: none"> • Complete delivery of tranche one (estimated 50 charging bays as part of batch 1) • Release second and third batch of charging bays to market and support a new supplier to mobilise towards hitting overall EVID target of 100 bays

Programmes and Investment Committee

Date: 5 March 2025

Title: Technology Programme



This paper will be considered in public

1 Summary

Technology Programme	Value at last submission	Change since last submission	Current Value	Requested	Total after approval
Estimated Final Cost					
Net Cost to TfL	£1,294.5m	£118.0m	£1,412.6m		£1,412.6m
Financial Authority					
Net Cost to TfL	£1,056.7m	-£200.6m	£856.1m	£0m	£856.1m
Programme and Project Authority					
Net Cost to TfL	£900.0m	-	£900.0m	£364.4m	£1,262.6m

1.1 This paper provides the Committee with:

- (a) a summary on progress of project delivery and successes of the Technology Programme (the Programme) since the previous submission to the Committee in March 2024;
- (b) a summary of the planned delivery for 2025/26 and 2026/27 as well as key challenges and opportunities for the year ahead;
- (c) an update on progress with the merger of the Technology & Data (T&D) and Operations Technology (OpsTech) Programmes; and
- (d) requests an additional £364.4m Programme and Project Authority for planned investment priorities in 2025/26 and 2026/27 as well as commitments that span into future years (from 2027/28) that need to be made before the next planned submission to the Committee in March 2026. See Table 4 and Appendix 1 for further information.

1.2 A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to

the financial or business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

2 Recommendations

- 2.1 **The Committee is asked to note the paper and the exempt supplementary paper on Part 2 of the agenda and:**
- (a) **subject to approval by the Board of the proposed Budget for 2025/26, approve an increase in Programme and Project Authority of £364.4m giving a total of £1,271.4m Programme and Project Authority for the Technology Programme;**
 - (b) **note that matters for which Programme and Project Authority is sought above include commitments that extend beyond the period of the 2025/26 Budget and 2025 Business Plan. Provision will, therefore, need to be made for those commitments in future Budgets and Business Plans; and**
 - (c) **note that Procurement Authority for the various initiatives will be sought at officer level in accordance with Standing Orders, or from the Finance Committee in the case of one routine matter described in the paper on Part 2 of the agenda.**

3 Background

- 3.1 This section describes the benefits delivered by the Programme and provides context around its performance over the last 12 months.
- 3.2 The Programme comprises hundreds of multi-year projects, categorised into 11 themes (see appendix 3), and returns annually to the Committee to renew and validate a rolling two-year approval. This ensures that approvals are aligned to the relevant scope of existing and new projects covered within the two-year period.

Technology is integral to operational stability and future business for TfL and the Greater London Authority (GLA)

- 3.3 The Programme delivers core Information Technology (IT) and Operational Technology (OT) services, maintains the modern digital workplace, ensures transport operations retain the technology capabilities required to operate safely and efficiently, and helps TfL become financially sustainable through the support of our payments systems. Many of the IT Services we deliver are also utilised by GLA, the Mayor's Office for Policing and Crime, the London Legacy Development Corporation and the Old Oak and Park Royal Development Corporation, allowing them to benefit from 24/7 support and greater technical and cyber security resilience. The Programme also delivers initiatives funded by other TfL programmes and third parties such as the Department for Transport.

The cyber security incident in September 2024 highlighted TfL's dependence on technology for its operational stability and reputation

- 3.4 In September 2024, our teams took active measures to secure our systems following a cyber security incident, diverting resources to the recovery effort. The incident reinforces the criticality of driving significant improvement in cyber security and there have been widespread impacts of the cyber incident on projects within the Programme. Impacts will likely extend into the next financial year as resources will still be needed to strengthen our systems. Appendix 2 provides further detail on the impacted projects.

The progress towards merging T&D and OpsTech Programmes into One Technology Programme is enabling greater oversight and flexibility in how we deliver value for TfL and invest in the future

- 3.5 In May 2023, the Committee approved the establishment of a single Technology Programme as part of a wider set of changes to improve how our investment is planned and delivered. This Programme combines investment for projects within the former T&D and OpsTech portfolios. The Programme is undergoing a change-led initiative focused on enabling greater oversight and flexibility in how we deliver value for our customers and colleagues. The changes we have executed this financial year align our strategic planning processes. Next financial year, our focus will be on aligning programme sponsorship and delivery.
- 3.6 The Programme comprises hundreds of projects which range in complexity and scale. To simplify how we report on progress and benefits delivered, these initiatives have been categorised into 11 themes, shown in Appendix 3.

4 Programme Delivery Performance During 2024/25

- 4.1 This section highlights the Programme's delivery performance over 2024/25 against what we set out to do in our 2024 submission to the Committee, further details of which are included in Appendix 3.

Our Delivery Performance and Key Achievements

- 4.2 Table 2 below highlights key achievements and benefits that have been realised in 2024/25 against planned activity.

Project	2024/25 Milestone	Performance
Laptop Refresh	Improve the digital maturity and productivity of our workforce.	We replaced 1,800 staff laptops with Windows 11-compliant devices to provide advanced security features such as built-in ransomware protection and enhanced malware defences, bolstering TfL's cyber security posture and safeguarding sensitive data.
TfL 'Devices for Schools'	Reduce the environmental impact of our technology.	This year, over 1,400 devices that were wiped and refreshed have been recycled through the TfL 'Devices for Schools' volunteer-led initiative supporting 63 schools across London.

Project	2024/25 Milestone	Performance
		We also repurposed older devices for operational use in 118 London Underground (LU) stations.
Surface Intelligent Transport System (SITS): Real Time Optimiser (RTO)	Enhance the automatic management of two thirds of London's traffic signals, utilising real time data.	We delivered new enabling technology which allows us to optimise signals across 6,000 junctions - improving journey times for our customers.
24/7 Security Operations Centre	Coordinate and support the management of cyber security risk pan-TfL.	We delivered an automated service which monitors the cyber security of our operations 24/7, ensuring we have a continuous first line of defence.
Access Planning System (RailSys)	Deliver a planning system for managing track and station maintenance work across the TfL network.	We delivered an application providing a single interface to coordinate engineering access planning requests and bookings, creating a safer environment for our colleagues and minimising disruptions.

Table 2: Performance in 2024/25 against Deliverables

4.3 Table 3 below highlights initiatives that faced significant delivery challenges this financial year:

Project	2024/25 Deliverables	Performance
Telecommunications Commercial Programme	Deliver connectivity to 225 venues (stations, tunnels, and Emergency Intervention Points) across LU in support of fully deploying a new below ground data network by the end of 2026.	We have delivered 4G/5G-ready mobile coverage to 43 per cent of below ground stations and 36 per cent of tunnels this financial year. Our delivery partner has recently stopped delivery to focus on design and assurance work. We are likely to deliver to all 225 venues by June 2025, providing customers with more access to mobile data services throughout their journeys.
Oval	Enable Pay-As-You-Go (PAYG) contactless payments to 224 National Rail (NR) stations in the south east by December 2024.	We successfully launched the first 53 stations across the south east. However, the project has incurred delays due to challenges encountered after completing a testing plan (further detail included in the paper on Part 2 of the agenda). As a result, the decision was taken to delay the launch of PAYG contactless payments. The Chiltern line went live on 30 June 2024 and the remaining 47 stations went live on 2 February 2025.
TfL Go	Deliver further improvements to real time travel information to support intelligent	Customers can now receive more relevant information in their TfL Go app such as live bus locations to support them during network disruption. We

Project	2024/25 Deliverables	Performance
	nudging towards sustainable transport modes.	have also integrated a mobile payments capability into the TfL Go App which will consolidate journey planning and payment features on one platform, protecting around £120m in annual revenues and streamlining the customer experience. Improvements to NR information, accessibility options, and bus experiences have been delayed into 2025 due to the cyber incident.
Deployable Enforcement Cameras (DEC)	Deliver 337 Deployable Enforcement Cameras in high priority locations by the end of 2024/25 to support the enforcement of bus lanes and banned manoeuvres to improve safety at junctions.	This financial year, we delivered 210 live cameras. Technical challenges affected successful installation and commissioning of some sites requiring them to be removed from scope; faults with delivered cameras affected performance in a larger number of cases than anticipated. Despite this, the return on investment remains positive and we have undertaken an assurance led lessons learnt review to inform any future investment in this type of technology for moving contraventions.
Enforcement and Compliance Operations System (ECOS)	Complete development and test of three (out of 13) new mobile application for on street enforcement and compliance colleagues by the end of 2024.	We have developed and delivered a new set of services that provide our Compliance, Policing, Operations and Security (CPOS) colleagues with the technology system and business processes for prosecutions and on street compliance functions across multiple modes within TfL. There have been challenges and delays with interdependent projects and conflicting priorities, but this year we delivered three replacement front end mobile applications for capturing enforcement activity on buses, at LU ticket gate lines and for Taxi and Private Hire.

Table 3: Performance and delivery challenges in 2024/25 against deliverables

Review of Financial Performance

- 4.4 In March 2024, the Committee approved £229.9m Programme and Project Authority for the Programme for financial year 2024/25 and we are forecasted to spend £204.9m by the end of the financial year. The factors driving this variance are covered in Appendix 3 and, in detail, in the paper on Part 2 of the agenda.
- 4.5 Last year, we outlined several delivery and financial forecasting challenges. We have now taken measures to improve forecast accuracy by applying lessons learnt from previous years and accounting for slippage and optimism bias in our

forecasts. We have periodic financial performance reviews to regularly assess actual spend against our forecast; we then, through our prioritisation process, identify opportunities to deliver new initiatives aligned to our strategic objectives. This has resulted in a 43 per cent reduction in financial variance compared to the previous financial year.

- 4.6 The financial variance can also be attributed to additional funding for renewals, advocated through this year's business planning and prioritisation process. Some project scope has been deferred into future years and notable cost reductions and efficiencies have been identified. Examples of these factors are included in the paper on Part 2 of the agenda.
- 4.7 Overprogramming accounts for over-optimistic project timelines, we assume lower expenditures than forecast and add overprogramming to the budget. This accommodates delays or accelerations, ensuring funds are fully spent within the financial period.
- 4.8 The Programme is responsible for delivering initiatives funded externally and by other TfL Investment Programmes such as Four Lines Modernisation and Safety, Health and Environment. To further improve financial accuracy and resource management, we continue to work on improving early involvement in technology requirements and investment across other TfL Investment Programmes.

5 Delivering Value for Money

- 5.1 The benefits that technology initiatives have can span all our customer, colleague, safety and security, green, and financial outcomes.
- 5.2 We have a mature and consistent approach to prioritisation, that incorporates a proportionate assessment of costs, risks, and benefits. Two challenges that we account for in our development, delivery and evaluation of technology projects are:
 - (a) greater uncertainty and the potential for shorter 'economic' lifetimes than some of our other investments. For example, while new structures on the Underground might last for 60 years or more, we need to consider that some of our technology investments might be superseded within 10 years; and
 - (b) the indirect, and difficult to quantify nature of some of the benefits. For example, the new app for our bus revenue inspectors has quantifiable benefits from significantly reduced Penalty Charge Notice processing time and associated revenue impacts, those using it tell us that it has also made them feel safer and reduced the potential for verbal or physical confrontation.
- 5.3 Initiative evaluation and feeding findings back to shape decision-making on the next generation of our technology investments is a crucial part of ensuring Value for Money. This encompasses both:
 - (a) more basic assessment of how outturn costs and outputs compare to forecasts – and if they differ understanding why. This is conducted across the Portfolio. An example of success here is Enterprise Resource Planning

(ERP) team's update of internal payment processes to save around £150,000 of costs per annum; and

- (b) more involved evaluation of how outputs influence outcomes. This is conducted on representative programmes and projects, such as the Bus Revenue Inspection) mobile application evaluation, which is the first of 13 different apps being introduced across the ECOS project.

6 Strategic Case for Investment

- 6.1 Our Technology Roadmap, designed with a deep understanding of emerging business needs, outlines our contribution to the goals set out in the Mayor's Transport Strategy (MTS) and TfL's strategic priorities; the Programme ensures safe and reliable journeys while making our transport network more attractive to customers.
- 6.2 Due to financial constraints, investment has primarily been focussed on renewals of key assets, to ensure the continued availability of critical services. Of this request, 62 per cent will be committed to asset renewal projects. Without this investment, TfL will experience several negative outcomes:
 - (a) degradation or loss of services due to their dependency on real time information and functionality enabled by the Programme. For example, our bus service will not run without the underlying technology assets we maintain;
 - (b) loss of colleagues' productivity due to deterioration of operational processes responsible for safety, reporting, and enforcement;
 - (c) potential security vulnerabilities and breaches due to inconsistent application of security patches and upgrades;
 - (d) loss of revenue due to increased failure of payment infrastructure critical to making our revenue collection systems operable into the future; and
 - (e) significant reputational damage for TfL.
- 6.3 Our enhancements are also essential to preventing a loss of capability. In recent years, however, TfL has been in a challenging financial position. As a result, spend on enhancements has reduced from 66 per cent of our total work bank in 2018/19 (pre-coronavirus pandemic) to 28 per cent in 2025/26 (the remaining 10 per cent is committed to capitalised operational expenditure). Many of these enhancements are non-discretionary and necessary to remain operationally compliant and secure.

Supporting TfL's vision to become the strong green heartbeat for London

- 6.4 It is the MTS vision that 80 per cent of Londoners' trips will be made on foot, by cycle, or using public transport by 2041 and the Programme will support this transition by:

(ERP) team's update of internal payment processes to save around £150,000 of costs per annum; and

- (b) more involved evaluation of how outputs influence outcomes. This is conducted on representative programmes and projects, such as the Bus Revenue Inspection) mobile application evaluation, which is the first of 13 different apps being introduced across the ECOS project.

6 Strategic Case for Investment

- 6.1 Our Technology Roadmap, designed with a deep understanding of emerging business needs, outlines our contribution to the goals set out in the Mayor's Transport Strategy (MTS) and TfL's strategic priorities; the Programme ensures safe and reliable journeys while making our transport network more attractive to customers.
- 6.2 Due to financial constraints, investment has primarily been focussed on renewals of key assets, to ensure the continued availability of critical services. Of this request, 62 per cent will be committed to asset renewal projects. Without this investment, TfL will experience several negative outcomes:
 - (a) degradation or loss of services due to their dependency on real time information and functionality enabled by the Programme. For example, our bus service will not run without the underlying technology assets we maintain;
 - (b) loss of colleagues' productivity due to deterioration of operational processes responsible for safety, reporting, and enforcement;
 - (c) potential security vulnerabilities and breaches due to inconsistent application of security patches and upgrades;
 - (d) loss of revenue due to increased failure of payment infrastructure critical to making our revenue collection systems operable into the future; and
 - (e) significant reputational damage for TfL.
- 6.3 Our enhancements are also essential to preventing a loss of capability. In recent years, however, TfL has been in a challenging financial position. As a result, spend on enhancements has reduced from 66 per cent of our total work bank in 2018/19 (pre-coronavirus pandemic) to 28 per cent in 2025/26 (the remaining 10 per cent is committed to capitalised operational expenditure). Many of these enhancements are non-discretionary and necessary to remain operationally compliant and secure.

Supporting TfL's vision to become the strong green heartbeat for London

- 6.4 It is the MTS vision that 80 per cent of Londoners' trips will be made on foot, by cycle, or using public transport by 2041 and the Programme will support this transition by:

- (a) ensuring the reliability and availability of TfL operations by improving asset management processes, future-proofing applications used by field colleagues, and guaranteeing the availability of mission critical services;
- (b) increasing the attractiveness of public transport by improving our digital offerings such as the TfL website and the TfL Go app, making it easier for customers to plan and pay for journeys;
- (c) reducing the environmental impact of TfL's technologies by executing our carbon reduction strategic milestones and roadmap (see Section 7 below); and
- (d) procuring more efficient hardware when it is necessary to replace end of life assets, reducing both maintenance requirements and our overall carbon footprint.

7 Investment Plan 2025/26 and 2026/27

- 7.1 Several budget scenarios, for both renewals and enhancements, were considered during the business planning process to achieve a “steady state” outcome, where the Programme can provide a consistent level of service and technology assets are no longer degrading. The funding envelope and available resource is insufficient to deliver all projects within our workbank. To manage this gap, detailed prioritisation of projects has taken place to ensure we deliver the projects delivering the highest benefit.

Scheme Prioritisation

- 7.2 To improve prioritisation, we are employing a common outcome framework by aligning our scoring criteria with TfL's Asset Management Objectives (AMO). This involves influencing AMO criteria to be more accommodating of the nuances found in Technology projects so that they can be compared to other asset areas. To support this, we worked cross-functionally to ensure that the descriptions of AMOs are inclusive of the unique outcomes delivered by Technology. This allows us to effectively communicate the value our projects deliver within pan-TfL forums.

Planned Expenditure

- 7.3 The forecast in Table 4 below shows planned expenditure for financial years 2025/26 to 2026/27 plus future commitments. This recognises that the existing budget constraints are forecast to continue for the next few years. Refinement of the forecast for the coming financial years will take place through the business planning process and be presented in future annual submissions to the Committee. The Technology Programme comprises several, disparate multi-year projects, therefore, changes to funding constraints would impact the number of projects we deliver. A proportion of future years spend is already or is planned to be contractually committed before we next return to the Committee, details of which are in the paper in Part 2 of the agenda.

Planned Expenditure	Total £m
Existing Programme and Project Authority	905.2
Prior Years Spend	400.5
Planned Expenditure 2025/26	259.4
Planned Expenditure 2026/27	273.3
Future Commitments (2027/28 and beyond)	338.2
Programme and Project Authority Requested	366.3
Total Programme and Project Authority	1,271.4

Table 4: Overview of Programme and Project Authority request

7.4 Anticipated outcomes in 2025/26 and 2026/27 are shown in Table 5 below and a more detailed list of expected outputs in 2025/26 can be found in Appendix 4.

Theme	Business outcomes to be delivered by end of Financial Year 2026/27
Our Customers	Deliver the Telecommunications Commercial Programme to fulfil the Mayor's commitment of providing 4G-5G coverage and improve connectivity in London.
	Push out near real time lift data to our customers enabled by the Station Management application, keeping them informed about service disruption/accessibility.
	Replacement of London's on-street Countdown signs at bus stops and mobilisation of the back of office system providing valuable information for our customers as well as operational efficiencies.
	Complete re-routing of emergency calls at the remaining 68 Passenger Help Point locations to help improve customer perception of safety.
Our Colleagues	Design and deliver a Future Desktop service (including the virtual environment) for all TfL colleagues to ensure all hardware is updated to Windows 11 and create a user-friendly, efficient desktop experience.
	Completion of Data Centre Network Refresh to ensure that our business and operational applications continue to be supported and protected.
	Deploy 200 low-power radios on assets along TfL's road network enhancing our colleagues' connectivity and safety.
	Continue rolling out network connectivity improvement at bus stations for operational staff. Enabling our colleagues, in CPOS, Bus and Revenue teams to use the new applications (i.e. Operational Workforce Management) and modernise ways of working.
	Replace end-of-life computing and storage hardware platforms, reducing the risk of mission critical system failure. These systems are responsible for the availability of our internet services, data storage, and operational applications.
	Deliver tools to enhance resource forecasting for LU stations and train operations. This will replace several unsupported applications and enable better forecasting of operational staff requirements as well as efficient scheduling.

Theme	Business outcomes to be delivered by end of Financial Year 2026/27
Our Finances	Complete hosting asset refresh for Payments' systems to enable a secure and reliable revenue collection.
	Award the contract for our Revenue Collection Contract safeguarding our around £5bn per annum revenue into the future.
	Complete Phase 2 of enabling PAYG payments at NR stations in the south east.
	Launch the pilot to deliver new card readers across our bus network protecting our revenue collection into the future.
	Implement a new system to meet the fast pace changing needs of TfL (and bus operators), developed to handle future data, with analytical capabilities to identify and mitigate bus performance issues. The system will allow us to replace an ageing tool and continue to pay the accurate performance incentivised payments to our bus operators.
Safety and Security	Replace and upgrade the legacy application used by TfL for situational awareness and to respond to incidents on the transport network effectively. This will ensure that incident response plans are kept safe and increase cyber security requirements. In parallel, we are working on developing the next generation applications, due for delivery in 2029/30, to ensure the continued management of our transport network.
	Upgrade our Security Operations Centre capability ensuring that we continue to meet the external benchmark and provide an automated service which monitors the security of TfL operations.
	Deliver a further suite of enforcement and compliance mobile applications enabling our on-street enforcement officers to carry out their roles more efficiently.
	Trialling innovative camera linked sensor technology to improve the way we identify illegal parking/vehicle activities to improve road user safety and increase the efficiency of our enforcement colleagues.
	Procuring a new solution to manage Traffic Order processes for TfL and the London boroughs. This will replacing two outdated tools, ensuring we continue to meet our legal obligations, enforce traffic orders, and keep road users safe and buses flowing safely.
Our Green Future	Rollout of automated persona-based provisioning of hardware and software for new starters which will ensure that we are deliberate in our purchasing of colleague equipment, helping to lower our operational carbon footprint.
	Continue to work with our suppliers to better understand Technology's scope 3 emissions and therefore our methodology to reduce our carbon footprint.
	Re-letting of the cycle hire scheme contract to continue enabling Londoners to travel sustainably and enjoy the benefits of cycling, from improved health to cleaner air.

Table 5: Business Outcomes to be delivered by the Programme

8 Risks and Opportunities

Key Risks

8.1 This section outlines the key risks the Programme faces while delivering against our investment plan, and the steps taken or planned to mitigate:

Risk No	Risk Description	Mitigation Actions
1	Resource Availability It remains challenging to attract and retain specialist roles such as Solution Architects, straining our ability to deliver outcomes in a complex environment.	We now prioritise the recruitment of permanent full-time colleagues over non-permanent labour (NPL). This has seen our reliance on NPL decrease by over 50 per cent. We are updating our service catalogue and adopting a dedicated demand forecasting tool, providing better visibility of pipeline activities, improving our ability to track resources, and allowing us to more accurately forecast demand. Our movement toward primary permanent resource is already saving money, and more savings are available, but this comes at a cost of experience and stability – importing short-term deliverability risk.
2	Funding Uncertainty We are facing uncertainty around future funding levels while prices continue to increase.	We undertake regular and detailed scenario planning, modelling investment against a range of potential funding outcomes. While we have an effective and proven process for dealing with major incidents, we are undertaking work to define our technical debt and mitigations.
3	Critical Asset Failure We have reduced costs by sweating assets beyond expected end-of-life. This has increased the risk of catastrophic failure of multiple mission critical services and cyber security vulnerabilities, forcing more reactive remediation work.	We are implementing a more agile, product-focused approach to investment planning, allowing us to rapidly respond to emerging business requirements and reprioritise our initiatives accordingly. Establish standards and an assurance regime around Service Resiliency (including Failover Testing), Disaster Recovery and Business Continuity arrangements.
4	Complex Operating Model There is a risk that benefits will not be achieved due to the difficulties associated with merging two highly complex sponsorship models.	We have established a Strategic Delivery Group with representatives from across the organisation to periodically review progress and identify improvements to the proposed new structure.

Table 6: Key risks and mitigations of the Programme

Key Opportunities

8.2 We have also identified a range of opportunities that we can exploit to deliver additional value to our customers and colleagues:

No	Opportunity Description	How can we take advantage of this
1	Pan-TfL Data Strategy	The strategy provides TfL with an action plan to establish data as a profession, upskill our people across TfL, and consider how we best govern and secure our data so that we are well placed to adapt to and harness the future.
2	Technology's Carbon Net Zero Strategy	Work is underway to understand Technology's carbon footprint to better formulate a plan to reach net zero in line with the Mayor's commitment for the GLA. With dedicated resource and structure, we could maximise on the carbon subject matter expertise within Technology. For example, by including carbon data in our product roadmaps, we can replace end of life assets with more carbon efficient options.
3	One Tech Operating Model	The merger of T&D and OpsTech into the Technology Programme aims to maximise the opportunities for efficiencies (within Sponsorship, Project Controls/Project Management Office, Technology Strategy, and Investment Strategy) and meet the demands of the organisation.
4	Technology Tooling	In the remediation after the cyber security incident it has been helpful to understand our infrastructure as we bring systems back online or not. With this perspective we have a better understanding of what tools we require and how we need them to operate now and into the future. Moreover, this has helped us to improve the scope of our in-progress tools like Technology Planning Tool for Enterprise Architecture.

Table 7: Key opportunities of the Programme

9 Assurance

- 9.1 An Assurance Review on the Programme was carried out in January 2025 by TfL's Project Assurance team and the Independent Investment Programme Advisory Group (IIPAG). One critical issue was raised by IIPAG. Nine further recommendations were raised, responses to which have been provided.
- 9.2 First line assurance is carried out on the Programme and its constituent projects. The next Programme level assurance review will be undertaken in advance of the next annual submission to the Committee.

List of appendices to this report:

Appendix 1: Summary of Technology Programme's Estimated Final Cost, Financial and Programme and Project Authorities

Appendix 2: Breakdown of 2024/25 forecast spend (P9) against forecast at previous submission by Technology theme and delivery since last Committee submission for notable projects by theme

Appendix 3: Expected output to next submission (2025/26) by Technology theme

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

List of Background Papers:

Programme and Investment Committee papers:

Technology Programme: March 2024

Independent Investment Programme Advisory Group Report and Management Response

TfL Project Assurance and Management Response

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**Appendix 1 – Summary of Technology Programme’s Estimated Final Cost, Financial and Programme and Project Authorities
(All figures in £m)**

Technology Programme	Value at last submission	Change since last submission	Current Value	Requested	Total after approval
EFC	<i>2022/23-2027/28</i>		<i>2023/24-2028/29</i>		
Total cost	£1,306.5m	£114.8m	£1,421.4m		£1,421.4m
Total income	-£12.0m	£3.2m	-£8.8m		-£8.8m
Net Cost to TfL	£1,294.5m	£118.0m	£1,412.6m		£1,412.6m
Financial Authority	<i>2022/23-2026/27</i>		<i>2023/24-2026/27</i>		
Total cost	£1,068.0m	-£206.8m	£861.2m		£861.2m
Total income	-£11.3m	£6.2m	-£5.1m		-£5.1m
Net Cost to TfL	£1,056.7m	-£200.6m	£856.1m		£856.1m
Programme and Project Authority	<i>2023/24-2025/26 + future commitments</i>				<i>2023/24-2026/27 + future commitments</i>
Total cost	£905.2m	-	£905.2m	£366.3m	£1,271.4m
Total income	-£5.2m	-	-£5.2m	-£1.9m	-£8.8m
Net Cost to TfL	£900.0m	-	£900.0m	£364.4m	£1,262.6m
<p>The Estimated Final Cost, Financial Authority, and Programme and Project Authority cover different time frames. The change in Estimated Final Cost is due to the removal of 2022/23, movements in forecast between 2023/24 to 2024/25 and the addition of 2028/29. The movement in Financial Authority is mainly due to the removal of 2022/23.</p>					

Appendix 2 – Breakdown of 2024/25 forecast spend (P9) against forecast at previous submission (£m) by Technology theme and delivery since last Committee submission for notable projects by theme

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
Payments	59.83	69.26	9.43
	Rollout PAYG with contactless to 53 NR stations by December 2024 (Project Oval)	Delayed: While completing a rigorous testing plan, some challenges were encountered, which require further work to fully address. As a result, the decision was taken to delay the launch of PAYG with contactless at all stations until spring 2025	
	Deliver a replacement Pin Entry Device into vanguard (pilot) in January 2024, mitigating the risk of depleted device spares	Achieved: Pilot launched and the project is on track to deliver the project earlier than expected and under budget for the year due to savings in commercial negotiations	
Infrastructure and Connectivity	55.79	42.72	(13.07)
Hosting	Deliver a cyber vault platform to secure critical data from Ransomware attacks	Achieved: Implemented a ransomware recovery platform which now protects data from 76 mission critical services	
	Transform and modernise T&D's monitoring capability to provide reliable, proactive and consistent monitoring of on-premise and cloud based T&D managed services	Achieved: New monitoring platform has been implemented. New Data Centre Information Management platform has been delivered that allows for the management of space, power, cooling, and connectivity within the two strategic data centres	
	Complete the Citrix Application Delivery Controller (ADC) Refresh by June 2024	Achieved: The Citrix ADC platform was refreshed on schedule	
	Modernise our core technical end user computing platforms such as remote access, identity, and virtual desktops	Achieved: New technical platform delivered to enable the Hosting of TfL applications and end user computing platforms	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	infrastructure to support our digital workforce		
Networks	Achieve ongoing reductions in total cost of ownership and increases in income. Deliver fit for purpose and secure capabilities and services. Ensure excellence in Service Operations Management	Delayed: There have been delays to projects helping us achieve these expected outputs such as Data Centre “A” Network Transformation and Network Quality of Service due to supplier delays, commercial variations, and resource availability after the cyber incident	
Telecommunications Commercial Programme	Deliver Emergency Services Network (ESN) services: Transition in London from Airwave to ESN from 2024 is dependent on the availability of ESN services on the LU by this date	Delayed: Home Office ESN project is delayed therefore coverage is not needed until financial year 2026/27. However, we achieved TfL ESN project and have now high-quality mobile coverage (4G/5G) on all underground areas of the Elizabeth line, this includes all station and tunnels. The remaining scope funded by TfL are the Northern Line Extension back of house areas and the Elizabeth line Emergency Intervention Points and expect to complete by March 2027. There is no change in EFC	
	Enable Commercial Mobile Services (CMS) Create revenue generating potential: Potential to monetise CMS and provide TfL an additional revenue stream	Achieved: 43 per cent of stations and 36 per cent of tunnels will have coverage by the end of the financial year enabling revenue generation through the extended coverage and potential CMS	
Connectivity	Bus and Coach Service Delivery Technology Improvement Programme (BCSD TIP): Continued delivery of high-speed broadband connectivity to the 36 bus and coach stations by autumn 2025	Delayed: Improved broadband connectivity was delivered at the five trial bus stations, for increased colleague efficiency. Further surveys were completed to inform cost estimates on the remaining sites. There have been delays while awaiting quotes and being unable to test following the cyber incident	
	Connect: Roll out of new radio handsets to the 295 base stations	Achieved: Over 2,200 replacement handheld radios have been issued across 295 locations to front line	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
		operational colleagues, which are essential for operational communications. The project is expected to close in March 2025	
	Connectivity Asset Renewal Programme: Migration of the incremental Circuit Migration across lines and connectivity of the Renewed Operational Network will be extended to stations and control centres as well as development of procurement strategy and initial market engagement	Partially achieved: To continue running LU safely and reliably, Renewed Operational Network was completed at 71 fibre locations; while the project connecting the network to the stations and control centres has been delayed and rescope to exclude installation works, due to cost and time pressures. Readiness activities for roll-out and providing cost certainty for future delivery has been completed. The procurement strategy has been delayed owing to resource availability and the complexity of renewing multiple network contracts simultaneously. Initial market engagement is now due in 2025	
Road and Transport Management	47.06	26.49	(20.58)
Transport Services (T&D LU and Surface)	Updating Trackernet to present new information and data on the Bakerloo and lines within the Four Lines Modernisation Programme: Both projects are replacing end of life hardware, reducing risks, and improving system resiliency	Achieved: The project delivered its scope by the end of the summer 2024. Due for completion in September 2025	
	Network Operations Centre Admin Project: Current completion planned in mid-2024, with improvements being made to system that publishes disruption-related information to customers	Delayed: Project was due to close in October 2024, but was paused due to cyber incident. Development and testing work complete, awaiting release for closure. Date for completion to be confirmed	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	Adiona 1.0 will be delivered mid-July 2024.	Paused: Final user acceptance testing until March 2025 due to cyber incident (lack of supplier resource and access to test environment)	
	Graphical Information System renewals to be complete by Quarter 4 of 2024	Delayed: Funding was not approved due to prioritisation, scheduled to recommence in 2025/26	
	Wave on Cloud Web dispatcher plug-in to be complete in Quarter 3 of 2024	Closed: Superseded	
Network & Public Transport Management	BCSD Financial and Commercial Detailed design to be undertaken	Paused: This project has been paused following prioritisation activities	
	Bus Business Intelligence Reporting: Contract variation in February 2024 to provide the interim solution. Proof of concept to be developed to work in parallel to provide transition from iBus to iBus2	Partially Achieved: Successful contract variation in February 2024. The contract was awarded in October 2024. Some further delay has been encountered due to the cyber incident with resource availability and access to systems to undertake the preliminary works	
	Countdown 3: Contract award recommendation to replace London's on street Countdown signs by July 2024 followed by mobilisation, detailed design, service readiness and operational commencement by the end of 2024	Delayed: Additional work was undertaken to investigate alternative sign technology on street. Trials were undertaken of the new sign technology, in parallel, the tenders were received during the cyber incident and the project was unable to access the system to start evaluation on the tenders. The contract is now forecast to be signed in March 2025 which is seven months later than forecasted	
	iBus 2: Supplier to be mobilised and detailed design and testing to be completed by November 2024 ahead of operational commencement in January 2026	Delayed: Contract finalised with suppliers in March 2024. Detailed Design has been undertaken at pace, with key documents such as the Rollout, Testing & Training Plans and Strategies completed. There is an extension in the design stage of the project to address the card reader mitigation issues	
	Future Bus Systems 2: Contract award by September 2024. After which, detailed	Delayed: Requirement gathering had taken longer than originally planned. The cyber incident has impacted on	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	design carried out with project go-live in December 2026	the project with the core business resources unavailable while they work on the business-as-usual systems following restoration of their service so that the bus operator payments can be processed. This has a considerable backlog and will pause the project until next financial year	
	Passenger Incident Management Systems: Continue requirements gathering and undertake market engagement ahead of tender process in 2025/26	Delayed: Requirements gathering has been delayed due to cyber incident	
	Surface Intelligent Transport System (SITS): <ul style="list-style-type: none"> - Real Time Optimiser (RTO) Migration to full live environment by May 2024. Commence RTO roadmap projects - Data Service Hub Complete data ingestion of several data sources to support the SITS systems in particular Common Operational View Incident Management System (COV IMS), improving situational awareness of the road conditions when responding to incidents - Video Analytics Procurement for video analytics solution and commence solution development - Data as a Service Re-Let Procurement of a new service for the real time journey time data that feeds into COV IMS - Data Roadmap Start Proof of Concept. 	Partially Achieved <ul style="list-style-type: none"> - RTO: FUSION the new optimising system was deployed in summer 2024 giving TfL the ability to prioritise signals by mode, allowing for better efficiencies on the road network and improvements in journey time. Staff training has commenced allowing TfL to migrate to FUSION and start achieving the multimodal benefits - Data Service Hub: Mid 2024 refresh of requirements for each workstream to inform further discussions on scope, benefits, and risks. Options paper for iBus data workstream is being reviewed prior to forum decision in spring 2025 with potential to make savings - Video Analytics: Internal Procurement activities have commenced in December 2024 - Data as a Service Re-Let: The procurement documents have been prepared and the process will formally commence in January 2025 - Data Roadmap: Work has not commenced due to resources availability 	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	- Predictive Procurement and start project delivery	- Predictive: Market Engagement activities commenced in August 2024	
	Tunnels Controls System: Continue preparation for tender of new system	Achieved: Early Market engagement has been undertaken and we are continuing tender preparation	
	Video Management System Preferred supplier Invitation to Submit Final Tender for acceptance by November 2024	Achieved: Procurement activities have commenced, and contract award is expected September 2025	
Enterprise Resource Planning (ERP) and Tools for Planning	32.14	20.13	(12.01)
ERP	Success Factors Phase 2: Employee Central and Recruitment & onboarding modules inflight to be completed by October 2024	Achieved: myJourney Success Factors Phase 2 delivered although delayed by two months due to inaccessible systems during the Cyber incident leading to delay in works	
	Operational Workforce Management Phase 1 Tranche 1: Completion forecasted for October 2024 – this will deliver workforce management, time & attendance for CPOS and BCSD business areas	Delayed: Due to system/environment availability issues caused by the cyber incident, go-live due in June 2025	
Tools for Planning, Automation and Staff	Access Planning System (RailSys): User acceptance testing planned for April 2024, with project go-live due for September 2024 followed by project close	Partially Delayed: Project Go-Live was delayed due to the cyber incident in late 2024. Go-Live is now scheduled for April 2025	
	Assisted Transport Services (ATS) Dial-a-Ride Booking and Scheduling: Delivery due to complete in April 2024 with project close in May 2024	Partially Achieved: Changes to scope to include phase 2 items and clarifying the escalation process for support topics	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	- Predictive Procurement and start project delivery	- Predictive: Market Engagement activities commenced in August 2024	
	Tunnels Controls System: Continue preparation for tender of new system	Achieved: Early Market engagement has been undertaken and we are continuing tender preparation	
	Video Management System Preferred supplier Invitation to Submit Final Tender for acceptance by November 2024	Achieved: Procurement activities have commenced, and contract award is expected September 2025	
Enterprise Resource Planning (ERP) and Tools for Planning	32.14	20.13	(12.01)
ERP	Success Factors Phase 2: Employee Central and Recruitment & onboarding modules inflight to be completed by October 2024	Achieved: myJourney Success Factors Phase 2 delivered although delayed by two months due to inaccessible systems during the Cyber incident leading to delay in works	
	Operational Workforce Management Phase 1 Tranche 1: Completion forecasted for October 2024 – this will deliver workforce management, time & attendance for CPOS and BCSD business areas	Delayed: Due to system/environment availability issues caused by the cyber incident, go-live due in June 2025	
Tools for Planning, Automation and Staff	Access Planning System (RailSys): User acceptance testing planned for April 2024, with project go-live due for September 2024 followed by project close	Partially Delayed: Project Go-Live was delayed due to the cyber incident in late 2024. Go-Live is now scheduled for April 2025	
	Assisted Transport Services (ATS) Dial-a-Ride Booking and Scheduling: Delivery due to complete in April 2024 with project close in May 2024	Partially Achieved: Changes to scope to include phase 2 items and clarifying the escalation process for support topics	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	BCSD TIP: Initiation of Workforce Implementation and Workforce Demand Planning projects under BCSD programme	Paused: This project has been paused following prioritisation activities	
	Planning Process Optimisation: Scope definition, agreement of delivery approach and undertaking procurement activities	Achieved: Project initiated, and feasibility study undertaken	
	SAFE 2: Delivery of updated software in summer 2024 and benefits realisation	Achieved: Contract variation signed early 2024/25, and development is now complete	
	Sentinel: Scope definition, agreement of delivery approach and procurement preparation	<p>Achieved: Sentinel is a safety management system procured by Network Rail and used across the rail industry to help ensure the safety and competence of rail workers. NR partners with various organisations, including TfL, to broaden the use of Sentinel and improve safety across the industry</p> <p>As NR's contract with the supplier of Sentinel approached expiry, our 'Sentinel' project was established to assess our options and develop a preferred approach should NR choose not to continue to use Sentinel, or transition to a version of Sentinel which no longer met our requirements. However, following engagement with NR it has been confirmed that it plans to continue to use Sentinel and planned version upgrades remain compatible with TfL's requirements. As such, this project is no longer needed and has been closed</p>	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
Enforcement, Compliance, Safety & Security	31.32	20.58	(10.74)
	Enforcement and Compliance Operations System: Complete development and in-sprint testing by October 2024	Achieved: Three mobile applications were delivered which increased efficiency for operational colleagues; with 94 per cent of Bus Revenue Inspection colleagues reporting an improvement	
	Operation Staff Safety: Pan-TfL Workplace Violence and Aggression Case Management and Reporting Contract award and implementation of the new Case Management system	Partially Achieved: Contract award, development and testing was complete by September 2024. Implementation was delayed until February 2025 owing to the cyber incident as new systems could not be commissioned and there were restrictions on data sharing	
	Operation Staff Safety: Emergency Communication Devices: early market engagement, procurement, and contract award for phase 2	Delayed: Phase 1: 353 devices were rolled out, and project closed in January 2025 Phase 2: The early market engagement was undertaken for Phase 2, and an options paper produced. The project was paused in November 2024 to re-evaluate functionality, whole life cost and requirements in line with the Workplace Violence and Aggression strategy and business objectives	
	DEC: Continuation of delivery of cameras within Phase 2	Achieved: Delivery of 218 DEC cameras to date, however due to significant challenges with delivery optimisation and camera performance, the original milestone of 337 cameras will not be met and a revised target has been proposed, subject to approval	
	Attended Parking Enforcement Cameras: Completion of 10 site trial and feasibility	Delayed: Supplier has been selected for the provision of sensors, base stations, and a licensed application.	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	report which looks specifically at parking enforcement to improve colleague efficiency	Engagement has commenced with principal contractors for on-street works. There have been delays owing to the cyber incident	
	BCSD TIP Station Security: Detailed design and commencement of delivery	Delayed: The project was temporarily paused in August 2024 to redefine scope and a new delivery strategy. An update was presented to business stakeholders in December 2024 and agreement was made to progress	
	Station Security Technology Integration Programme Delivery of Critical incident management network on Circle, District and Hammersmith and City lines including go-live and completion of CCTV elements including handover to maintenance	Delayed: Critical incident management design and installation has been completed at 26 stations, and 15 stations have remote CCTV. There have been delays owing to the cyber incident	
	Ending Violence Against Women and Girls Passenger Help Points: Re-routing emergency calls at a further 150 stations to improve customer safety	Partially achieved: Passenger Help Point emergency call re-routing has been delivered at 82 stations this year, bringing the total to 97	
	Traffic Order Management and Enforcement: Completion of contract and implementation of first phase of solution	Delayed: Key project documentation has been completed (including Business Case, Benefits and Procurement strategies) and procurement started in February 2025, however there were delays owing to complex procurement activities and commercial resource constraints	
	Taxi and Private Hire Re-Let: Transferred into the Technology Programme this year.	Transferred: Phase 1 was launched in February 2025, to ensure continuity of the Taxi and Private Hire regulations once the previous contract terminated. There were delays owing to clarification of scope and design requirements, and resource challenges	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
Data and Decision Support	20.49	12.59	(7.90)
Data & Analytics	CLEO Framework additional enhancements: Additional scope of the Oyster Clicks Model (OCM) payment product was identified, resulting in need for further development and tokenisation of data. Target completion is July 2024, with full platform modernisation to complete by December 2024	Partially achieved: Due to the cyber incident development activity was stopped and is yet to recommence (as of January 2025). However, as part of the recovery efforts and due to the criticality of the data we have loaded in all critical data and have got some reports working (Passenger Trace, Revenue Allocation, Revenue Inspection and Taps Network Demand)	
	Performance Data Warehouse: Requirements gathering, and high-level design are in progress with target completion of April 2024	Achieved: These were completed as planned for the first tranche of delivery	
Digital Asset Management	Asset Management Information System (AMIS) Complete delivery of AMIS migration and close the project	Achieved: Completed delivery of AMIS migration. Additional scope has been included in the project, which included data improvements and additional capabilities, with ongoing renewals investment in our Maximo deployments planned for future years as a new initiative	
	Digitising Asset Management Programme Contract award and begin implementation for a Decision Support tool, which will improve TfL's understand of asset data and investment decision-making	Partially Achieved: Contract has been awarded for the Decision Support Tool, but implementation of the system has been deferred to commence in April 2025 due to in year budget pressures	
	Remote Monitoring to Next Generation Remote Monitoring (RM to NGRM) Award contract for hardware purchase and connectivity rollout	Achieved: Contract award and Proof of Concept has successfully completed in November 2024. Full roll out is expected from early 2025	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
Cycling and Micro Mobility	10.30	6.71	(3.60)
	Cycle Hire Modernise: Complete delivery of remaining back-office upgrade, including General Data Protection Regulation (GDPR) compliance	Achieved: Back-office upgrades delivered enabling the deployment of additional e-bikes, including GDPR compliance. The system can now accept non-card contactless payments. The project has experienced significant supplier delays due to competing TfL projects	
	Cycle Hire additional e-bikes: Additional 450 e-bikes into service by July 2024 and additional 1,400 e-bikes into service by September 2024	Achieved: Project completed successfully, on time, and within budget. 1,400 additional e-bikes delivered and operational, along with ancillary equipment including depot upgrades	
	Micro-Mobility Rental Programme: Complete definition of the programme and define remaining work tranches. Specific project outputs include: - Cycle Hire Re-let; Contract award by November 2024 and commence supplier transition	Delayed: Cycle Hire Re-let procurement has commenced and two shortlisted bidders have been selected for further contract negotiations. Procurement dialogue has taken longer than planned, therefore Contract Award is delayed to early 2025/26. Non-Docked and the wider programme definition has been delayed due to uncertainty on future legislation for dockless micro-mobility. In the meantime, TfL is working with the boroughs, and on its own network, to create additional parking spaces for dockless rental bikes and e-scooters to enable more people to use the schemes safely and has updated its enforcement approach to tackle problematic parking	
Digital (Customer Facing)	8.93	7.39	(1.54)
	Continuous Improvement of TfL Go:	Delayed: From January 2025, customers will be able to get more relevant information in their app. These	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	Further improvements to real time travel information, including live bus locations, to support customers at times of network disruption. Delivery of an enhanced cycling experience that aligns with the physical network (Cycleways) and encourages more confident experimentation with cycle routes. A more personalised, data-driven app experience that supports intelligent nudging towards sustainable transport modes	updates and further core improvements to NR information, accessibility options and bus experiences have been delayed into 2025 due to the cyber incident as development processes were taken offline and were not accessible	
	Improve the TfL website: Enhanced website travel tools to support people using our network that complement rather than replicate functionality in TfL Go. Full integration of the new Content Management System and the migration of relevant website content to reduce support costs. Both to be delivered by Q4 2024	Achieved and Delayed: Resolved priority accessibility compliance issues, ensuring tfl.gov.uk is available to all customers. Developed a replacement status application for tfl.gov.uk. Release delayed into early 2025 due to the cyber incident and the reasoning above	
Digital Workplace	8.86	4.20	(4.67)
	Improve the digital maturity & productivity of our workforce. Embed a new desktop experience. Improved data management, protection, and governance. Maximise value, reduce costs and environmental impact. All to be delivered by Q1 2025	Partially achieved: Improved the digital maturity of our staff by delivering Windows 11 to 1,800 laptops and upgraded hardware in 118 LU stations. Recycled 1,400 devices through the TfL Devices for Schools initiative. Future Desktop will be delivered by end of 2025/26	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
Technology Service & Contact Centre Operation	8.35	5.69	(2.65)
Technology Services Operations (TSO)	Deliver IT Service Management (ITSM) Tooling Solution Procurement	Delayed: Bid evaluation and consensus on outcome is forecast to complete by end July 2025, with contract award by end September 2025. Timescales have been extended due to the focus of key personnel on the cyber incident recovery	
	Deliver TSO Process efficiencies and critical network initiatives including Firewall Management platform as well as contract retenders in future years	Partially achieved: Reseller Procurement Framework Phase 1 successfully went live on 1 November 2024	
Contact Centre Operations (CCO)	The moving to two new suppliers for Contactless Payment Card (CPC) contact handling, May 2024, to minimise dependency on the performance of a single supplier	Achieved: CPC contract and Interactive Voice Response (IVR) contract successfully placed in 2024. Both were delayed due to the cyber incident reprioritising resources and restricting access to systems. CPC was also delayed while the transfer of concessions management to Payments was ongoing	
	The retender of the IVR system and self-serve telephony is due to be completed July 2024	Achieved: CPC contract and IVR contract successfully placed in 2024. Both were delayed due to the cyber incident reprioritising resources and restricting access to systems. CPC was also delayed while the transfer of concessions management to Payments was ongoing	
	The concessions management system and associated contact handling retendered and contract awarded Q3 2024	Partially achieved: Concessions project was split with Payments now delivering the Concessions system and fulfilment	
Cyber Security	6.16	4.18	(1.97)
	Deliver or enhance elements of our pan-TfL cyber security improvement roadmap:	Partially achieved: We delivered and progressed several projects that helped us improve the management of cyber security risk pan-TfL like 24/7	

Theme / Programme	2024/25 forecast at last submission and expected output	P9 2024/25 Actual / Forecast and actual output	Difference
	Coordinate and support the management of cyber security risk pan-TfL, both for IT and OT	Security Operations Centre and Infrastructure Security Support. There have been delays due to the cyber incident as resources have been redirected to the remediation efforts	
	LU Cyber Security Improvements for Operational Systems: Improve LU compliance with cyber security regulation – specifically the Network and Information Systems 2018 legislation; to be completed in financial year 2024/25	Delayed: This project was delayed by a procurement issue	
Overprogramming	(59.37)	(15.05)	44.32
		Overprogramming: this agreed approach accounts for optimism bias and maximises available budget.	
Total Technology	229.85	204.89	(24.97)

Appendix 3 – Expected output to next submission (2025/26) by Technology theme

Programme / Theme	Expected Outputs in 2025/26	Target Completion Date
Payments	Deliver Oval Phase 2 – rollout contactless payments to all proposed stations	End of 2025/26
	Contract award for Proteus	End of 2025/26
	Complete the replacement of Pin Entry Devices on ticket machines	End of 2025/26
Infrastructure and Connectivity		
Hosting	Introduce artificial intelligence capabilities to detect and automate fault resolution	March 2026
	Complete hosting asset refresh for payments systems	May 2025
Networks	Deploy 200 low-power radios (small cells) on assets along the TfL Road Network	December 2025
	Commence Connect procurement early market engagement	July 2025
	Commence Wi-Fi Station main rollout	September 2025
Telecommunications Commercial Programme	70 per cent of below ground stations and 72 per cent of tunnels will have mobile live coverage (4G/5G)	End of 2025/26
Connectivity	Bus and Coach Service Delivery Technology Improvement Programme: Deliver connectivity upgrades at 10 of the 31 remaining staffed bus stations in 2025/26, with a remaining 21 sites in 2026/27	End of 2025/26
	Connectivity Asset Renewal Programme: Network equipment will be procured, installed, tested and commissioned for the 31 outstanding locations. Additionally, procurement will be launched following completion of Early Market Engagement, procurement documentation and a Supplier Questionnaire. NB: No activity is planned in 2025/26 for the Extended Reach project	End of 2025/26
Road and Transport Management		

Programme / Theme	Expected Outputs in 2025/26	Target Completion Date
Transport Services (T&D LU and Surface)	Self-reporting lifts: We will consume self-reported lift data in Station Management, meaning customers will receive disruption information in near real time	End of 2025/26
	Trackernet: Customers and colleagues will benefit from continued development in line with the continued Four Lines Modernisation Programme, as well as adding an updated and improved feed for the Bakerloo line	End of 2025/26
Network and Public Transport Management	Bus Business Intelligence Reporting: Further development and testing of the solution. Rollout is expected to be completed in spring 2026	Spring 2026
	Countdown3: Progress with Detailed Design and readiness testing, with Commencement of delivery in October 2025, and completed full rollout is planned for December 2026	October 2025
	iBus 2: Continuation of design, with delivery planned for 2026/27. An alternative mitigation is being planned which will deliver an interim solution to address the card reader interdependency issue	End of 2025/26
	Future Bus Systems 2: Procurement activities will take place, throughout financial year 2025/26, with Contract Award expected in summer 2026	End of 2025/26
	Passenger Incident Management Systems: Procurement activity will take place in 2025/26	End of 2025/26
	Surface Intelligent Transport System (SITS): <ul style="list-style-type: none"> - Real Time Optimiser: The project will finish the transition and commence any required enhancements (based on experience in live operation). Commence additional roadmap projects - FUSION will be rolled out across 100 bus sites along the bus route 131 to improve bus journey reliability along this route and maximise revenue income. This will be over the coming three to six months to be completed by summer 2025 - Data Service Hub: Continued work to complete the ingestion of the final data set that supports the Common Operational View Incident 	End of 2025/26

Programme / Theme	Expected Outputs in 2025/26	Target Completion Date
	Management System once the cyber incident impacts have been dealt with - Video Analytics: Procurement activity will take place in 2025/26, and the project will be delivered in mid-2028 - Data as a Service: Re-Let Procurement and implementation of new service anticipated to finish late 2025/26 - Data Roadmap: Start Proof of Concept subject to Resource availability - Predictive: Procurement activity will take place in 2025/26, and the project will be delivered in early 2031 - SITS functional changes: Initiation project.	
	Tunnels Controls System: Procurement is due to commence in May 2025, throughout 2025/26. Once a supplier is identified a delivery timeline can be confirmed	May 2025
	Video Management System: Complete procurement in 2025/26 and contract award	End of 2025/26
Enterprise Resource Planning (ERP) and Tools for Planning		
ERP	Phase 1 Technical Go Live of Operational Workforce Management	June 2025
	Recommendation for a Systems Integrator for the S4 Hana delivery	January 2026
Tools for Planning, Automation and Staff	Assisted Transport Services Dial-a-Ride Booking and Scheduling: Project is due to close in June 2025	June 2025
	Planning Process Optimisation: Requirements finalisation, Commencement of procurement activities and supplier selection	End of 2025/26
	SAFE 2: Enabling works to upgrade to SAFE version 7.1, changing authentication system, and reducing cyber security risks. Procurement activities, with new contract to commence in April 2026, enabling continued support and provision of SAFE system	End of 2025/26

Programme / Theme	Expected Outputs in 2025/26	Target Completion Date
Enforcement, Compliance, Safety and Security	Enforcement and Compliance Operations System: Project will continue to deliver the remaining 10 applications, including inspections for: DLR, Elizabeth line, London Overground, LU, and Freight compliance	End of 2025/26
	Operation Staff Safety Workplace Violence and Aggression Case Management and Reporting: Go live and training support is scheduled for April 2025, followed by project close in summer 2025.	Summer 2025
	Deployable Enforcement Cameras: Project is scheduled to close	December 2025
	Attended Parking Enforcement Cameras (APEC): Delivery of APEC cameras, sensors, application, and system integration. Followed by a 12-month trial period	End of 2025/26
	Bus and Coach Service Delivery (BCSD) Technology Improvement Programme Station Security: Delivery of an eLogbook and station security checks application for BCSD using existing LU technology. Completion of requirements gathering and potentially design work for incident reporting and access control workstreams	End of 2025/26
	Station Security Technology Integration Programme: Continued rollout of Critical incident management in up to 30 stations on the Bakerloo, Central, Victoria and Metropolitan lines	End of 2025/26
	Ending Violence Against Women and Girls Passenger Help Points: Complete re-routing of emergency calls at the remaining 68 locations	End of 2025/26
	Traffic Order Management and Enforcement: Ongoing procurement activity and negotiation; and contract award in 2025/26	End of 2025/26
	Taxi and Private Hire Re-Let: Design reviews, testing and delivery of the remaining elements	End of 2025/26
Data and Decision Support		
Data and Analytics	Migrate data off a General Data Protection Regulation non-compliant data warehouse	End of 2025/26
	Launch intra-day demand reports	End of 2025/26

Programme / Theme	Expected Outputs in 2025/26	Target Completion Date
Digital Asset Management	Asset Management Information System: Project closure and commence benefits realisation activities	End of 2025/26
	Digitising Asset Management Programme: Implementation of a Decision Support System tool to improve asset investment decision-making, through a more automated and consistent approach to optimising and prioritising investment scenarios	January 2026
	Remote Monitoring to Next Generation Remote Monitoring: Completion of rollout for 885 signal sites, and project closure	March 2026
Cycling and Micro Mobility	Cycle Hire Modernise: Project closure	Summer 2025
	Micro-Mobility Rental Programme: Cycle Hire Re-let Contract award by Quarter (Q) 2, and commencement of the 12 to 18 month transition period and asset refresh	Q2 2025/26
Digital (Customer Facing)	Near real time lift data to push service disruption/accessibility updates to customers	Q4 2025/26
	Enhance cycle journey planning to help customers become more confident cycling in London	Q1 2025/26
Digital Workplace	Delivery of Future Desktop (including Windows 11)	End of 2025/26
	Migration of end-user mobile devices (phones and tablets) from O2 to Vodafone	End of 2025/26
Technology Service and Contact Centre Operation		
Technology Services Operations	A viable multi-vendor firewall management tool will be selected and delivered into service	End of 2025/26
	Software Asset Management partner for Microsoft product will be selected following a proof of concept	End of 2025/26
	The contract for the IT product catalogue will be awarded via TfL's Reseller Framework	End of 2025/26

Programme / Theme	Expected Outputs in 2025/26	Target Completion Date
Contact Centre Operations	Re-tender of Oyster contact handling contract under the expanded supplier contact centre framework	End of 2025/26
	Re-tender of Concessions contact handling contract under the expanded supplier transition	End of 2025/26
	Retender of the Lost Property Customer Relationship Management and Property Matching contract	End of 2025/26
Cyber Security	Deliver Phase 3 of Operational Technology Detection Tooling expansion providing cyber security detection capability across TfL's critical operational systems	End of 2025/26

Programmes and Investment Committee



Date: 5 March 2025

Title: Bakerloo Line Upgrade Stage 1

This paper will be considered in public

1 Summary

Bakerloo line Upgrade Stage 1	Value at last submission	Change since last submission	Current value	Value Requested	Total after approval
Estimated Final Cost					
Net Cost to TfL	£1,898m	‑£0.6m*	£1,897.4m		£1,897.4m
Financial Authority					
Net Cost to TfL	£308.4m	-	£308.4m	£0.0m	£308.4m
Programme and Project Authority					
Net Cost to TfL	£9.1m	-	£9.1m	£15.4m	£24.5m

*Estimated Final Cost (EFC) reduced by £0.6m due to cost reduction/savings achieved in 2024/25 and rate card/corporate overhead reductions in 2025/26.

Authority Approval: The Committee is asked to approve additional Programme and Project Authority of £15.4m. This work is included in TfL's approved business plan and funded through the Government capital funding settlement for 2025/26.

Outputs and Schedule: The main purpose of this programme is to replace the life-expired fleet currently operating on the Bakerloo line and to undertake all associated infrastructure work to introduce a new fleet. This request covers all design progression and programme development work planned for 2025/26.

- 1.1 This paper follows an update provided to the Committee on 11 December 2024 and sets out the Programme and Project Authority request for work planned in 2025/26 on the Bakerloo line Upgrade (BLU) Programme (the Programme).
- 1.2 The Programme has progressed at pace over the two years since its establishment. The Programme successfully passed Programme Gate A (Identify Options) in September 2023 and has continued since then with feasibility design, requirements definition, development of a robust business case and identification of a preferred delivery strategy.
- 1.3 Due to the age of the current Bakerloo line fleet and issues related to its ongoing operation and maintenance, the Programme continues to move at pace into

further design development which will include procurement of infrastructure packages for depots, stabling and wayside works.

- 1.4 The Programme's estimated final cost is £1,897.4m which includes rolling stock, infrastructure works, risk and inflation. The Programme is seeking capital funding from Government as part of the Spending Review planned in summer 2025, and also through a BLU Outline Business Case which was submitted to the Department for Transport (DfT) in December 2024. Approval is sought to enable the Programme to continue, acknowledging that full funding is not secured and Programme and Project Authority is not sought for the full value of the Programme.
- 1.5 In 2025/26 the Programme's estimated spend is £15.4m which includes internal resource costs and supporting consultant costs as part of ongoing design development and preparation for procurement activities.

2 Recommendation

- 2.1 **The Committee is asked to note the paper and approve additional Programme and Project Authority of £15.4m, giving a total of £24.5m.**

3 Background

- 3.1 A paper was submitted to the meeting of the Committee on 11 December 2024 which outlined progress on feasibility and survey work and the Outline Business Case.

4 Current Progress

- 4.1 Since the update to the Committee in December 2024 there has been progress in several areas as outlined below.
- 4.2 The BLU Outline Business Case was submitted to the DfT on 20 December 2024 as planned. This was reviewed by the DfT's Centres of Excellence as part of their assurance and then submitted to the DfT's Investment Portfolio and Delivery Committee. BLU forms part of TfL's long term capital funding request through the Spending Review process this year.
- 4.3 A Programme Gate B (Define Tranches) was held on 30 January 2025, however the decision was taken not to pass the gate at this point. Further work is now being undertaken in response to feedback with a revised gate meeting anticipated in the coming months. Work is also being undertaken to establish the project level breakdown of the Programme which includes rolling stock, wayside projects and depots projects. The Programme will move into this structure once Gate B is passed.
- 4.4 Following decisions taken in 2024 and reported to the Committee in December 2024 BLU has now been stood up as a stand-alone Programme reporting directly to the Committee.

5 Benefits and Value

- 5.1 BLU offers a strong value for money proposition. The Programme's Outline Business Case sets out the detailed justification and benefits of the Programme. The business case includes an economic appraisal which shows a benefit-cost ratio of 4:1 (Very high value for money, based on 2024 prices and London values of time) relative to the Do Nothing scenario which would see continued service reductions on the line as fleet availability deteriorates, followed by eventual closure of the line.

6 Equalities Implications

- 6.1 An Equalities Impact Assessment (EqIA) has been produced at programme level setting out the Programme's impacts on people with protected characteristics. The end-state of the Programme is largely positive for all customers as it safeguards the future operation of the line and renews the rolling stock to modern standards and customer requirements.
- 6.2 The Programme level EqIA is supplemented by a further Customer EqIA and Workplace EqIA which focus on the impacts of the Programme during delivery. These EqIAs also set out early intentions for mitigation measures required to mitigate negative impacts during delivery.
- 6.3 These documents will evolve with the Programme and it is anticipated that more detail may need to be produced for the individual projects (once they are developed) and/or elements of the Programme.
- 6.4 TfL's Independent Disability Advisory Group (IDAG) was consulted in May 2024 as part of our early design and delivery considerations and provided initial feedback which has been taken on board in our proposals. Future engagement with IDAG, other stakeholders and customer groups will be undertaken as our proposals develop further.

7 Financial Implications

- 7.1 Due to the lack of long term capital funding in recent years, BLU has been seeking funding and authority on an annual basis. It is anticipated that securing long term capital funding as part of the Spending Review process will enable the Programme to plan over a longer horizon going forwards. This is particularly important for the Programme as we begin procurement activities with the supply chain and need to be able to give confidence in the future of the Programme. Furthermore, long term funding is required to enable TfL to be able to exercise the Bakerloo line option in the existing rolling stock contract with Siemens Mobility Limited. Long term funding will also enable a strategic view of planning and managing risks and opportunities on the Programme.
- 7.2 If the outcome of the Spending Review is not favourable for TfL then a strategic decision over the future of BLU will be required. If this were the case, the intention would be to complete the development activities planned within this request as it won't be abortive work and then pause work while we consider alternative approaches for the future of the Bakerloo line given the age of the existing fleet.

The work outlined within this request would not be abortive and could be restarted in future if required.

- 7.3 In 2025/26 work on the Programme will continue to accelerate in several key areas as described below, with a more detailed breakdown set out in Appendix 1. Approval of Programme and Project Authority of £15.4m is requested to undertake these activities which are critical for TfL to develop the depots and infrastructure elements of the Programme. This will ensure that we are ready and able to replace the life-expired fleet on the line which in turn contributes to TfL's strategic outcomes in terms of providing a safe, green and sustainable railway for our customers.
- 7.4 At this stage in the lifecycle we are still developing our plans, delivery schedule and strategy to undertake the works. As the Programme develops and our understanding of how we intend to deliver it matures we intend to engage affected stakeholders. This will include further engagement with stakeholders such as the DfT, Network Rail, Office of Rail and Road, as well as boroughs, businesses, passenger groups and residents along the route as required.
- 7.5 During 2025 further design development and surveys will be undertaken for specific discipline areas of the Programme. This includes line-wide surveys and feasibility studies including power, communications, and legacy signalling. More detailed design development is also planned for track layouts (for example at Queen's Park) and to continue the design of depot and stabling facilities.
- 7.6 Alongside ongoing design development, a key area of work over the coming year will be the preparation of Works Information to enable procurement activities to begin for infrastructure enabling works. The first of these procurements will be for London Road depot design and build which is anticipated to start in summer 2025. Further procurements are also planned for depots and stabling and for wayside works. Land and property discussions and planning submissions are also planned to support the land acquisition strategy for the Programme.
- 7.7 Further work will also be undertaken on the Programme's business case as the design develops further and more detail on contract values becomes known through procurement activities. This will conclude in the submission of a Full Business Case to the DfT, currently anticipated in 2026.

8 Assurance

- 8.1 Ahead of Programme Gate B and in support of this authority request a Programme Assurance Review was completed in January 2025. The assurance review followed submission of documentation and interview sessions with TfL's Project Assurance team and an External Expert review team.
- 8.2 The review concluded "the Programme appears to be well run with good governance, management and reporting in place". The review also identified eight general recommendations in relation to external stakeholder engagement, the interface and approvals required from Network Rail, the Programme's schedule and critical path, and engagement with Siemens.

8.3 Continuous assurance continues through regular meetings with TfL's Project Assurance team who also attend regular Programme meetings.

List of appendices to this report:

Appendix 1: Activity and Cost Breakdown for 2025/26

List of Background Papers:

Bakerloo Line Upgrade Stage 1 paper, Programmes and Investment Committee, 11 December 2024

Independent Investment Programme Advisory Group Report and Management Response.

TfL Project Assurance and Management Response

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Appendix 1 – Activity and Cost Breakdown for 2025/26

Resource Costs	£8,250,000
General Management and Engineering review	
Engineering support and Works Information	
Systems requirements and integration activities	
Business case development	
Fixed Activity Costs	£7,150,000
Property planning costs	
Infrastructure studies	
Network Rail assurance and interface activities	
Depot specific studies and enabling activities	
Pre-construction activities, surveys and planning	
Total	£15,400,000

Programmes and Investment Committee



Date: 5 March 2025

Title: Network Development and Third Party Pipeline Programme

This paper will be considered in public

1 Summary

DLR Thamesmead Extension £m	Value at last submission	Change since last submission	Current Value	Requested	Total after approval
Estimated Final Cost					
Total cost	£900m-£1.1bn	£0m*	£1bn		£1bn
Total income	£2.2m**	£0m*	£2.2m**		£2.2m**
Net Cost to TfL	£898m-£1.1bn**	£0m*	£997.8m* *		£997.8m* *
Financial Authority					
Total cost	£4.5m	£1.3m	£5.8m	£5m	£10.8m
Total income	£2.2m	£0m	£2.2m	£0m	£2.2m
Net Cost to TfL	£2.3m	£1.3m	£3.6m	£5m	£8.6m
Programme and Project Authority					
Total authority	£2.5m	£0m	£2.5m	£0m	£2.5m

* Potential changes to scope discussed in Section 4 are not included here as options are still being assessed.

**Additional income will be required from third parties to deliver the scheme. This is being sought from Government and developers but has not been included here as it is not yet confirmed.

The table above reflects only DLR Thamesmead as this is the only project within the portfolio that we are requesting Authority for. Programme and Project Authority is not required on the basis that this spend is on feasibility which does not require Authority.

Table 1: Summary of authority requests

Authority Approval: The Committee is asked to approve £5m unbudgeted Financial Authority for Docklands Light Railway (DLR) Thamesmead Extension project.

Outputs and Schedule: The Financial Authority being requested here would deliver feasibility design and planning work in 2025/26. A further £5m Financial Authority will be sought in the next TfL Business Plan to continue this work up to, and including, an application under the Transport and Works Act 1992 and public inquiry.

- 1.1 This paper provides the Committee with an update on progress of the Network Development and Third Party Pipeline Programme (the Programme). This Programme brings together schemes at early-stage development prior to their allocation to one of the other programmes within the remit of the Committee, or as a standalone major project following single option selection and confirmation of a delivery funding package for implementation.
- 1.2 This paper provides an overview of key achievements since the previous submission in February 2024 and a summary of key risks, issues and next steps for each of the projects within the Programme.
- 1.3 This paper also sets out the approach to the Thamesmead Bus Transit scheme, and the Sustainable Housing and Accessibility Fund (SHA Fund) budget for 2025/26, including details of an initial transfer of £5.95m to the Rail and Station Enhancements (R&SE) Programme and the process for future allocations.
- 1.4 A business case and funding request of £23m for design and implementation of Thamesmead Bus Transit is shortly going to the Homes England (HE) Brownfield Infrastructure and Land (BIL) Board. Once, and if, this is approved, Financial Authority and Programme and Project Authority will be requested separately.

2 Recommendation

- 2.1 **The Committee is asked to note the paper and approve £5m unbudgeted Financial Authority for the Docklands Light Railway Thamesmead Extension project.**

3 Background

- 3.1 The Programme was established through the changes to the structure of Programmes within the remit of the Committee in May 2023. This Programme brings together schemes at early-stage development prior to their allocation to one of the other Programmes within the remit of the Committee, or as a standalone major project following single option selection and confirmation of a delivery funding package for implementation. This provides the Committee with greater visibility and scrutiny of these projects early in the project lifecycle.
- 3.2 The Programme also manages funds such as the SHA Fund, identifies projects that could be eligible for borough and developer funding, and oversees larger scale section 106 developer planning contributions, as well as the wider Interchange Sub-Programme and business cases. It has also developed a Third-Party Funding Action Plan to help maximise and manage external funding opportunities, which is being embedded within TfL and we will be working with the Greater London Authority (GLA), London Councils and other partners to implement.
- 3.3 The Programme has the potential to deliver a step change on a range of strategic outcomes, both at a city-wide level or benefiting a more focused population in a specific area, while still significantly contributing to our strategic objectives. This pipeline of transformational schemes will play a critical role in achieving overarching Mayoral, local and national Government priorities. Unlike

our other Programmes, which are generally focused on a narrower range of specific outcomes, projects within this Programme typically deliver across multiple outcomes of strategic importance.

3.4 Image 1 below illustrates the importance of the Programme through the potential scale of its impacts and the strategic priorities it is contributing towards.



Image 1: Overview of key Programme outcomes and contribution to strategic goals

3.5 Supporting and unlocking housing delivery is a key outcome that the Programme has the potential to leverage significant third party funding for, due to the contribution it can make to the Government's Growth Mission. This Programme includes a range and scale of schemes that will help us contribute towards the Government's updated London's housing delivery requirement of around 880,000 homes over the next decade, as shown in Image 2 below. We will need to work closely with the private sector and local authorities on the case for growth schemes.

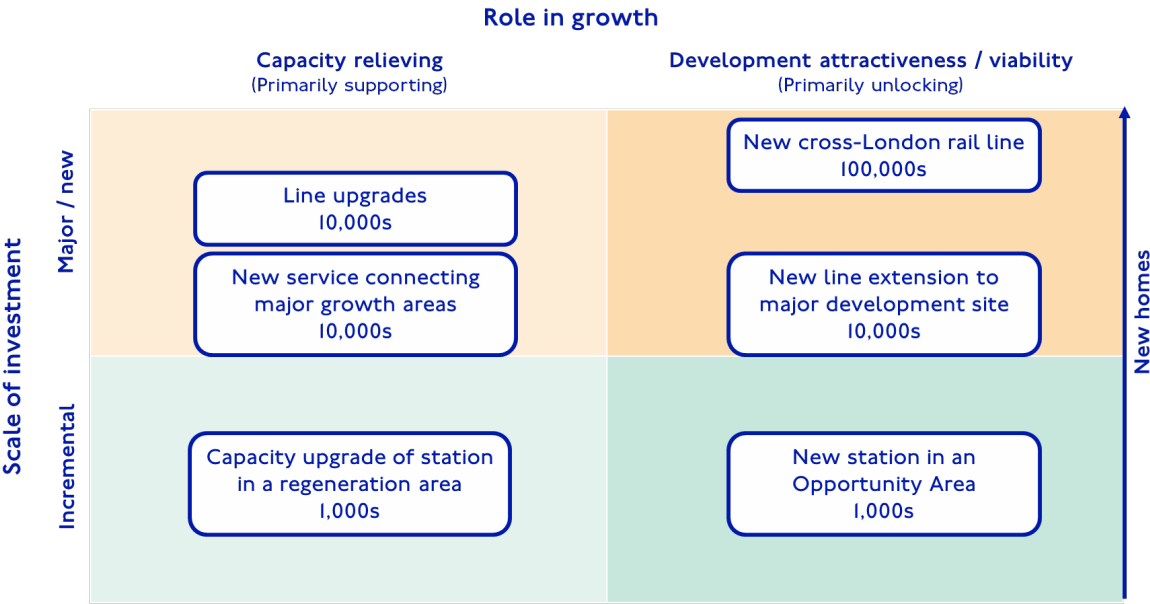


Image 2: Illustrative range of scheme typologies in the Programme and how they contribute to housing delivery

3.6 We have been working with the Department for Transport (DfT) and Office of Rail and Road to input into the Government's Spending Review, anticipated later this year. Through our submission we are seeking a multi-year settlement for an initial tranche of schemes which, subject to funding and consents, would include a contribution to scheme development costs for the Bakerloo Line Extension (BLE) and West London Orbital, as well as a contribution to the delivery of the DLR Thamesmead Extension. The schemes included in this submission and the number of homes they could unlock are shown in Image 3 below. Longer term schemes in the Programme like Crossrail 2 are also needed to achieve the ambitions of Government and as part of an updated London Plan. Any new schemes identified would sit within this Programme once initiated and would be fundamental to unlocking potential major developments.



Image 3: Projects from this Programme included in Spending Review submission

3.7 Progress on each of the key projects is summarised in Sections 4, 5, 6 and 7 below.

3.8 As reported to the Committee at the meeting in December 2024, the Bakerloo Line Upgrade has been stood as a major project and has exited the Network Development and Third Party Pipeline Programme. All previous Project and Programme Authority requests for the Bakerloo Line Upgrade have been made separately from this Programme as the budget did not and does not sit within this programme.

3.9 All projects within this Programme require consents and may require consultation and all proposals are made subject to them.

4 Network Extensions

DLR Thamesmead Extension

4.1 The DLR Thamesmead Extension project proposes a 3.5km extension of the DLR network from Gallions Reach to Thamesmead, and would include a new station at Beckton Riverside and cross river tunnel. We are continuing to work

with developers and boroughs to develop the design and make the case for the scheme, which would unlock the delivery of 25,000-30,000 new homes. The current EFC for the scheme is approximately £1bn (2023 prices) and, subject to funding, consents and other third party dependencies, could potentially open in 2032.

- 4.2 In February 2024 we ran a first public consultation on the principle of the scheme, which showed that 85 per cent of respondents supported or strongly supported the proposals.
- 4.3 The project is the Mayor's top-priority transformational housing-focused intervention and he has tasked us to accelerate the programme for gaining necessary consents and delivery. We are now working towards submitting an application for an order under the Transport and Works Act 1992 (TWA0) in autumn 2026. The project is also a priority in our discussions with Government and we are seeking a commitment of funding for delivery of the scheme, alongside local and private funding sources.
- 4.4 We are continuing work on the feasibility design, following which we will update our cost estimate and produce an Outline Business Case, which would support our request for delivery funding. Further commitment is also needed from developers to progress the housing opportunities that the scheme would unlock.
- 4.5 The Financial Authority requested would deliver the feasibility design and planning work in 2025/26. A further £5m Financial Authority will be sought in the next TfL Business Plan to continue this work up to, and including, an application under the Transport and Works Act 1992 and public inquiry. The total value of contracts to be let in 2025/26 will be greater than £5m as the work will be spread over two financial years, so break clauses will be added in case Financial Authority for 2026/27 is not secured through the Business Plan. No further Programme and Project Authority is being sought at this stage for the DLR Thamesmead Extension as the project remains in feasibility.

Thamesmead Bus Transit

- 4.6 The project would provide a high-quality bus service, walking and cycling improvements in Thamesmead, creating opportunities for active travel and enhanced connectivity throughout the area and in particular to and from the bus stops. The bus transit would support the delivery of up to 1,500 new homes. It would provide faster and more reliable journey times for passengers, including to the Elizabeth line.
- 4.7 In November 2023, the previous Government announced that, subject to business case approval, it would provide us with £23m capital funding from the BIL Fund to design and implement a bus transit between Thamesmead, Woolwich and Abbey Wood. A condition of this funding was that it had to be spent by the end of financial year 2025/26. The Ministry of Housing, Communities and Local Government has now agreed a programme extension to 2029.

- 4.8 The feasibility costs associated with the development of the Bus Transit scheme have been included in the draft TfL Budget for 2025/26. These costs do not require Programme and Project Authority. The capital costs associated with the scheme have not been included in the draft TfL 2025/26 Budget on the basis that funding from HE has not yet been confirmed and inclusion of this spend in the Budget could lead to TfL incurring significant cost at risk, i.e. before funding is confirmed.
- 4.9 Once funding from HE has been confirmed then we will seek Programme and Project Authority and Financial Authority at officer level, in accordance with Standing Orders. Procurement Authority will also be sought through separate requests at the time and in line with TfL Standing Orders.
- 4.10 During 2024, we have worked closely with HE to prepare the business case, which was submitted to the London BIL Board at the end of February 2025. In due course, TfL will work with HE to agree a funding agreement. We are currently spending on feasibility works at risk until this funding agreement is confirmed, because the feasibility work is required to determine the delivery costs for HE to incorporate into their business case and funding offer.
- 4.11 Feasibility design progressed last year, but delays were encountered due to the cyber security incident in September 2024. Access to key systems such as Computer Aided Design was limited, which put additional pressure on an already challenging programme, and is now due to complete in early 2025. The deadline extension is allowing more time to revisit the scope of the scheme and to deliver a more ambitious proposition.
- 4.12 Separate to the infrastructure improvements funded through the BIL Fund, we are proposing to introduce a Superloop service in Thamesmead, supporting the housing growth and regeneration aims in the area. A public consultation will be launched in March 2025 on the proposed service. A further public consultation is planned for autumn 2025 on the bus transit related infrastructure needed for the scheme.

West London Orbital

- 4.13 We continue to work jointly with the West London Alliance and west London boroughs on developing and making the case for this proposed new London Overground route, which would link Hendon and Hounslow via Old Oak Common. A major opportunity associated with the scheme is to help ensure that High Speed 2 (HS2) is successful at Old Oak Common, including integration with a potential new station on the Mildmay line. The current EFC for the scheme is approximately £800m (2023 prices) and, subject to funding and other third party dependencies, could potentially open in 2034.
- 4.14 We have completed the initial feasibility for the scheme and the best performing option currently emerging is for a new six trains per hour London Overground service between Hendon and Hounslow (four trains per hour end to end and two trains per hour Hendon to Old Oak Common Lane).

- 4.15 We are currently discussing funding for the next stage of scheme development with London boroughs. In parallel, we are focusing on further assessment of the transport modelling and economic case for the scheme, including developing the evidence base for how the scheme supports growth and prosperity, in line with Government missions. Further feasibility design work will be completed at the next stage to confirm a single preferred option, including for elements such as electrification and rolling stock. We would also hold a public consultation on the principle of the scheme and explain our option selection process to date.
- 4.16 Following completion of the next stage of work in summer 2026, we will need to make the decision to proceed with concept design and preparation of a TWAO application, which could be submitted in 2028.

Bakerloo Line Extension

- 4.17 The BLE would extend the Bakerloo line from Elephant & Castle, serving new step-free stations at Burgess Park, Old Kent Road, New Cross Gate and Lewisham alongside new platforms and interchange at Elephant & Castle. There is also the opportunity for a further extension beyond Lewisham to Hayes and Beckenham Junction that would utilise existing Network Rail tracks. The BLE would significantly improve transport connections, journey times and network capacity in south east London, driving a major increase in public transport journeys. This scheme would unlock at least 20,400 new homes. The current EFC of the scheme is between £5bn-£8bn (2023 prices), depending on options taken forward, and, subject to funding and other third party dependencies, could potentially open in the late 2030s.
- 4.18 We are continuing to develop and make the case for the scheme, along with our partners. This includes London Borough (LB) of Southwark, LB Lewisham and Central London Forward, who have been proactive in promoting the scheme as part of the 'Back the Bakerloo' campaign. The BLE is a key feature in the LB Lewisham Local Plan which went to Examination in Public in 2024 and the updated Old Kent Road Area Action Plan, which will be published for consultation in March 2025.
- 4.19 We are on track to identify a single preferred option for delivery of the extension by late 2025, with the final pieces of feasibility design work commissioned and ongoing. We plan to undertake a public consultation on the preferred option for the extension in early 2026.
- 4.20 The extension continues to be protected by statutory safeguarding directions as far as Lewisham.

Elizabeth Line Service Upgrade

- 4.21 In December 2023, the Committee approved Financial, Programme and Project and Procurement authority for the investment in higher frequency services on the Elizabeth line, subject to Government agreeing to provide the capital funding for the acquisition of additional rolling stock. The higher frequency will relieve wait times at stations, reduce on-train crowding and provide shorter journey

times for more customers using Old Oak Common station, while supporting growth in London and the South East.

- 4.22 The DfT confirmed £220.5m capital funding in June 2024 for 10 additional trains to make a combined fleet of 80 trains. An order was placed with Alstom UK in June 2024 for these new trains, to be assembled at their facilities in Derby. Unit assembly is planned to start in summer 2025, with expected delivery to start in spring 2026 with the start of enhanced services as soon after as possible.
- 4.23 We are now investigating deployment scenarios for the additional 10 trains which includes taking advantage of existing paths on the east; providing capacity in the central operating section; and increasing capacity on the west. This includes work to understand operational and infrastructure considerations, such as developing plans for improved turnaround arrangements at Paddington.
- 4.24 We are also investigating the feasibility of stabling opportunities in conjunction with Network Rail. The stabling works needs to be delivered by late 2026 to avoid the need for temporary storage.
- 4.25 The project is included in this Programme given the links between the outcomes of increased service levels and growth, however, budgetary responsibility and delivery reporting is through the Elizabeth Line Operations team.

Crossrail 2

- 4.26 Crossrail 2 has the potential to unlock 200,000 new homes and major regeneration across London and the south east of England. Between 2015-2020, TfL and DfT jointly funded £115m investment in scheme feasibility. However, the project has since been paused due to lack of certainty on funding. The last EFC for the scheme from 2021 was £30bn-£40bn. If funding could be found and work restarted, then the scheme could potentially be delivered by the mid-to-late 2040s.
- 4.27 We continue to manage existing safeguarding directions across the route. However, there is an increasing risk that conflicting development is built on land not safeguarded which is required to construct the scheme. Safeguarding was last updated in 2015. The Mayor is supportive of refreshing the safeguarding directions to ensure land is protected for its delivery at the right time in the future.
- 4.28 The DfT, under the then Government, indicated it will assist in updating the directions for the central section of the proposed route, subject to agreeing the matter of statutory blight payments and the necessary programme. Discussions are planned to take place with DfT to progress a safeguarding refresh in 2025/26.
- 4.29 Following the announcement that HS2 will go to Euston, we will continue to work with DfT, Network Rail and HS2 to ensure Crossrail 2 requirements are factored into the emerging station designs.

5 Interchanges

Interchange Sub-Programme

- 5.1 This work develops our future pipeline of interchange enhancement projects beyond those funded through the business plan. Key outcomes include enhanced capacity to support new homes and jobs, passenger experience and step-free accessibility.
- 5.2 Projects in scope are medium-scale station interventions (estimated at up to £50m per scheme) providing recognised interchange between different modes of public transport. Interchange projects have a track record of exploiting development related funding opportunities through integration with new development, planning applications and masterplans.
- 5.3 Work is now underway to prioritise stations for further feasibility studies. This is being done jointly with the R&SE Programme. Outside of this sub-Programme, work also continues with partners to develop schemes at major interchanges, including Victoria, Stratford and Liverpool Street.

6 Sustainable Housing and Accessibility Fund

- 6.1 The SHA Fund is a capital fund designed to match third party contributions. It unlocks thousands of sustainable new homes and contributes to the Mayor's Transport Strategy (MTS) target for more step-free stations. Third party funding is a key requirement allowing us to deliver more but agreements are complex and we need to manage overrun cost risk closely. A total of £140m is available for allocation to projects between 2025/26 and 2028/29.
- 6.2 This funding is a major way we are delivering step-free access but is not sufficient by itself to meet aspirations for half the London Underground network to be step-free by the 2030s. The outcomes of the long term funding discussions with Government to provide funding certainty and continuous exploration of third party funding opportunities with external parties will be crucial to meeting the MTS target.
- 6.3 Of the £8m SHA Fund funding for 2024/25, £6.56m has been transferred to projects, and a further £0.53m is still to be transferred. £0.91m has been offered up as savings in year. Projects which were allocated SHA Fund funding in 2024/25 are: Surrey Canal station, Northolt station, West Hampstead station, North Acton station, Hounslow West station, Alperton station, South Kensington station, Edgware Road station, Burnt Oak station and Stamford Hill station. A brief status update on these projects is included in Table 2 below.

Project	2024/25 SHA allocation (£m)	Current project stage
Surrey Canal station upgrade	0.65	Remobilisation of project team and continuation of concept design
Northolt station Step-Free Access (SFA)	3.00	Conclusion of detailed design, going into build
West Hampstead station SFA	1.30	Conclusion of concept design
North Acton station SFA	0.25	Do-minimum option development feasibility
Hounslow West station SFA	0.2	Single Option Selection
Alperton station SFA	0.91	Concept design
South Kensington station upgrade	0.2	Part of the Piccadilly line feasibility work
Edgware Road station	0.05	Pre-feasibility
Burnt Oak station SFA	0.25	Reassessing the existing design, costs and benefits of the scheme
Stamford Hill station partial SFA	0.28	Detailed design of the London Overground station, going into build. Funding still to be transferred

Table 2: Status of projects that received a SHA Fund allocation in 2024/25

- 6.4 The GLA budget includes £20m for SHA Fund in 2025/26. We have agreed a transfer of £5.95m to step-free access schemes in R&SE, towards the four projects shown in Table 3 below. This means the TfL Budget for 2025/26 SHA Fund will be £14.05m which will be allocated in line with SHA Fund prioritisation criteria by the SHA Fund Steering Group to projects from the Fund's longlist. Pontoon Dock, Thames Wharf, Surrey Quays, and the LU step-free programme.
- 6.5 For future years we have made some commitments to projects in delivery.
- 6.6 The Committee will receive a more comprehensive update on progress of these projects through the R&SE Programme submission in July 2025. Programme and Project Authority requests and other approvals will also be made through the R&SE Programme.

Growth Fund Review

- 6.7 An action from the previous submission to the Committee in February 2024 was to provide a summary of the benefits realised by the Growth Fund, which was a precursor to the SHA Fund. Overall, Growth Fund contributions of £131m to nine projects have unlocked wider investment of approximately £280m, enabling 41,750 homes and 1,250 jobs. The total monetised Net Present Value (NPV) of these projects exceeds £1.1bn based on business case documents of completed projects. Many of these projects would not have been able to

proceed without funding from the Growth Fund and these transport investments have been essential to several of London's most important regeneration projects. Further information is provided in Appendix 3.

7 Third-Party Funding Action Plan

- 7.1 Third party funding plays an important role in many of our enhancement programmes, including station and line upgrades to support new homes and jobs; leveraging opportunities to support the bus network; driving quality of place; and accessibility improvements. Working further with partners to grow and align these funding resources will be critical to meeting London's aspirations for growth.
- 7.2 The Third-Party Funding Action Plan was approved in November 2024 by TfL's Executive Committee. The actions within the plan grapple with some long-standing and complex issues such as risk management and will need to be actively tracked and managed to ensure they are delivered effectively and on time.
- 7.3 We will be working across the GLA Group and with London Councils, boroughs and other partners to look at how we optimise opportunities and work collaboratively to secure benefits across London. This will include enhancing governance, processes and strategic relationships to increase integration and our impact.
- 7.4 Success measures for the Third-Party Funding Action Plan in 2030 are:
 - (a) third party funding will play a central role in our financial plans in a way which reduces risks and delivers more;
 - (b) the Business Plan will be supported by tailored/integrated funding approaches for Safe and Healthy Streets, Buses, step-free access, Rail and other investment priorities;
 - (c) our own funding will be leveraged to deliver more for each pound spent across our capital plans by learning from best practice and lessons learnt;
 - (d) funding will be secured for transport schemes which unlock car-free development to promote mode shift and increase fare revenue for TfL;
 - (e) contributions will continue to be secured from developers and local authorities via planning obligations and infrastructure levies;
 - (f) attract new environmental funding sources such as for decarbonisation, biodiversity and climate adaptation, and exploring Green Finance; and
 - (g) consistent bidding, approvals and delivery processes and streamlined governance will be established through Third-Party Funding Working Group and the Programme.

8 Value For Money

- 8.1 Value for Money (VfM) is a fundamental consideration in the prioritisation of schemes within the Programme and for option decisions for individual projects. Given funding constraints and the need to maximise investment, we need to identify at this early stage which of our future pipeline of major schemes will be the most impactful. Prioritisation exercises undertaken this year have included the Major Projects review and SHA prioritisation.
- 8.2 While requiring significant capital investments, schemes in this Programme typically offer a transformative range and scale of benefits, including for society more widely. These projects generally represent at least medium value for money (benefits 1.5-2 times higher than costs), when measured in benefit to cost ratio terms. However, our commitment to VfM extends beyond aspects that can be monetised and seeks to maximise positive distributional impacts, such as providing accessibility improvements for those with barriers to travel, which can justify additional scope and cost. Business cases for these major schemes are subject to the highest level of internal and external scrutiny and are therefore, by necessity, suitably robust to the convince third party funding partners to invest jointly in our schemes.
- 8.3 We are actively monitoring our major investments to ensure that we are demonstrating VfM, maximising return on investment and learning important lessons from them to apply to our potential future investments from this Programme. The recently published 'Evidencing the value of the Elizabeth line'¹ is one such example of this. We are also learning and embedding delivery lessons from our last generation of comparable schemes to drive efficiencies. For example, lessons from Barking Riverside Extension are feeding into optioneering on the DLR Thamesmead Extension.

9 Financial Implications

- 9.1 Table 3 below outlines the likely spend profile for the DLR Thamesmead Extension scheme for the next two financial years. In total, the £10m will allow us to complete feasibility work, develop and submit a TWAO application, and complete an assumed public inquiry. Of this, the £5m in 2025/26 has been included in the GLA Budget and draft TfL Budget for 2025/26. The further £5m in 2026/27 will be sought through the next TfL Business Plan. We are seeking further income in future years from Government through the Spending Review.

(£m)	Prior years	2024/25	2025/26	2026/27	Total
Income	1.2	1.2	TBC	TBC	2.4
Expenditure	(2.0)	(2.2)	(5.0)	(5.0)	(14.2)

Table 3: Spend Profile for DLR Thamesmead Extension

¹ TfL, Evidencing the value of the Elizabeth line - An update on the outcomes of London's transformational railway May 2022 to May 2024, December 2024 (<https://content.tfl.gov.uk/evidencing-the-value-of-the-elizabeth-line.pdf>)

10 Equalities Implications

- 10.1 Compliance with the Public Sector Equality Duty is ensured within the Programme at a project level, with all schemes undertaking Equality Impact Assessments, as well as public consultations and Environmental Impact Assessments, as appropriate, to identify potential impacts. We also routinely engage with TfL's Independent Disability Advisory Group at early stages of our projects to help inform design requirements.
- 10.2 The Programme is delivering public transport accessibility by funding step-free station upgrades and major schemes that improve connections from deprived areas of London with employment and education opportunities.

11 Assurance

- 11.1 The annual Integrated Assurance Review of the Programme was finalised in December 2024 by TfL's Project Assurance (PA) team and the Independent Investment Programme Advisory Group (IIPAG). The reports concluded that Network Development and Third Party Pipeline is in the early stages of operating as a Committee Programme and is steadily maturing its approach to developing programmes for handover to delivery. The team has addressed recommendations from the last submission to the Committee on 28 February 2024 including the creation of an Operating Model that is now being used as a guide for other areas of the business. There will need to be an update on the role of the Programme Review meeting, guidance on the process for how projects enter and exit the Programme, a creation of a resource strategy and a review on the current delivery integration process.
- 11.2 The IIPAG and PA assurance review concluded with a combined seven general recommendations and a management response has been prepared with key actions provided.

List of appendices to this report:

Appendix 1: Review of Key Programme Deliverables (Highlighted in February 2024 Programmes and Investment Committee Paper)

Appendix 2: Key Programme Deliverables for 2025/26

Appendix 3: Growth Fund Benefits Review

List of Background Papers:

IIPAG and TfL Project Assurance Reports

Management response to IIPAG and TfL Project Assurance Reports

Programme and Investment Committee papers:

- Network Development and Third-Party Pipeline Programme, February 2024
- Programmes and Investments Committee Programmes Structure, May 2023
- Elizabeth Line: Service Frequency Increase for High Speed 2, December 2023

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Appendix 1: Review of Key Deliverables (Highlighted in February 2024 Programmes and Investment Committee Paper)

Programme	Deliverable	Status	Commentary
West London Orbital	Select Preferred Strategic Option	On track	Feasibility work is complete and preferred way forward emerging
Bakerloo Line Extension	Select Single Preferred Option	On track	
Bakerloo Line Upgrade	Preferred delivery strategy endorsed by Executive Committee	Complete	Project has now left the Programme
	Complete concept designs	On track	
Elizabeth Line Service Upgrade	Business case appraisal, operational feasibility and investment prioritisation	Complete	Government funding secured and train order placed
Crossrail 2	Refresh safeguarding (subject to Government/TfL agreement on blight risk)	Ongoing	Government will be engaged this year
DLR to Thamesmead	Publish public consultation report	Complete	Summer 2026
	Complete Outline Business Case	On track	
Thamesmead Bus Transit	Complete concept design	Extended timescale	Extension of delivery timescale to 2029 confirmed in principle by Homes England
Interchange Programme	Prioritised short list of schemes for further study	On track	On track to be identified in spring 2025
Sustainable Housing and Accessibility Fund	Northolt – construction contract award	Complete	

Appendix 2: Key Programme Deliverables for 2025/26

Programme	Deliverable	Indicative timescale	Key risk/challenges
West London Orbital	Launch public consultation	Winter 2025	Confirmation of funding for the next stage of design from all parties
Bakerloo Line Extension	Determine Single Preferred Option	January 2026	
Elizabeth Line Service Upgrade	Start of train assembly	Spring 2025	Delay with suppliers and sub-assemblies. Available time to deliver stabling capacity.
	Identify preferred stabling option	Summer 2025	Integration of train availability, stabling and route capacity into a reliable timetable.
	Develop service stages	Autumn 2025	
Crossrail 2	Refresh Safeguarding	2025/26	Subject to Government agreement and split of blight/property payment risk
DLR Thamesmead Extension	Further public consultation	May 2025	Ensuring housing delivery programme aligns with TfL's accelerated programme
	Preparation of Outline Business Case	June 2025	
Thamesmead Bus Transit	Launch public consultation	December 2025	Subject to Government approving business case to implement
Interchange Programme	Early feasibility work on priority locations, including establishment of appropriate governance to progress schemes through design phases	Summer-autumn 2025	Complex range of interfaces
	Updated review of longlist to allow response to emerging London Plan policy and other relevant factors	Autumn 2025-winter 2026	
Sustainable Housing and Accessibility (SHA) Fund	Update of the prioritisation criteria to effectively decide which projects move from the longlist to the shortlist for funding consideration	Spring 2025	Variance in the data quality of the metrics we want to include in the prioritisation criteria

Programme	Deliverable	Indicative timescale	Key risk/challenges
	Review of SHA Fund priorities for next tranche of step-free access feasibility studies	Summer 2025	Effectively balancing a range of stakeholder interests to derive the optimal list of projects
	Creation of a consolidated central databank of SHA Fund projects	Autumn 2025	Complex range of interfaces and updates which will require regular and robust management

Appendix 3: Growth Fund Benefits Review

Growth Fund projects monitoring

Executive summary

- 1.1 The Growth Fund was established in 2012 aiming to unlock housing and regeneration in London where a lack of suitable transport infrastructure hampers development. The current form of the Fund ended in April 2023. This paper is a follow up to the February 2024 update to the Committee in response to a request for further information on project value for money.
- 1.2 Overall, Growth Fund contributions of £130.75m to nine projects have unlocked wider investment of approximately £280m, enabling 41,750 homes and 17,250 jobs. The total monetised Net Present Value (NPV) of these projects exceeds £1.1bn based on business case documents of completed projects. Many of these projects would not have been able to proceed without funding from the Growth Fund and these transport investments have been essential to several of London's most important regeneration projects.

Growth Fund - overview

- 1.3 The Fund allocated £557.65m capital spending over 11 years for 35 projects, although only a proportion of these projects and associated funding was taken forward into delivery. As of November 2024, the Growth Fund completed nine projects utilising £137.35m of the original allocation, unlocking and supporting more than 41,750 new homes and 17,250 jobs. Completed projects also leveraged approximately £280m in third party funding from outside TfL and have supported other Mayor's Transport Strategy priorities including significant mode shift and carbon reduction.
- 1.4 The 2022 Business Plan concluded the Growth Fund and, in its place, we have established a new Sustainable Housing and Accessibility Fund (SHA Fund) which forms part of the Network Development and Third-Party Pipeline Programme and prioritises projects which unlock sustainable development, accessibility improvements and third party funding.

Value For Money

- 1.5 The Growth Fund had four main objectives:
 - (a) Support sustainable transport schemes that directly unlock homes and jobs in line with the principles of Good Growth
 - (b) Support transport outcomes that align with the new Mayor's Transport Strategy
 - (c) Provide funding confidence to help progress project development and leverage third party funding
 - (d) Support schemes that are deliverable within the current TfL Business Plan period

- 1.6 All the schemes listed in the Table 1 below align with these objectives closely. We have worked with project sponsors to assemble information at a Programme level which was not previously available. Table 1 below summarises information about the funding, costs, outcomes and, where available, Value for Money (VfM) for the nine completed projects. Of the seven projects for which we have received VfM information, five have a high or very high VfM and one falls in the medium category. Elephant & Castle has a poor VfM if only direct transport impacts are considered but that changes to very high when wider regeneration impacts are included in the analysis. The project business cases show a total NPV (2024 prices) of more than £1.1bn. Two thirds of these benefits are associated with the Barking Riverside Extension although the other schemes also produce significant benefits compared to the scale of investment.

Wider economic impacts summary

- 1.7 Housing benefits, including dealing with a constrained housing supply, and unlocking affordable housing in total will result in over 40,400 new homes. All projects unlock over a thousand homes each supporting regeneration and housing growth across London. The Stratford - Angel Road and Barking Riverside Extension in particular supports significant urban expansion programmes delivering new neighbourhoods anchored to the new public transport provision. The new homes associated with the Overground station at Barking Riverside may exceed what was expected in the business case as a new planning application to bring the total homes in the new development from 10,800 to 20,000 is currently under consideration.
- 1.8 The Growth Fund projects are together creating over 26,250 new jobs for London. These are the result of increased transport accessibility, the improvement to the built environment and boost to regeneration generated by schemes such as the Elephant & Castle Northern Roundabout and the Tolworth roundabout. The schemes also enhance jobs accessibility and bring communities across London closer to employment opportunities. For example, Woolwich Elizabeth line station has significantly reduced journey times to key employment hubs like Canary Wharf and central London.
- 1.9 Inclusive regeneration was a focus of the Fund. Many projects were delivered in communities ranked highly in Indices of Multiple Deprivation and supported locally led regeneration priorities. For instance, following the civil disturbances of August 2011, Tottenham was identified as a regeneration priority by the Mayor and as an area with considerable barriers to private sector investment. Both the Tottenham Hale station improvements programme and the White Hart Lane station improvements aim to support regeneration efforts and to facilitate investment in the area.

Next steps

- 1.10 The SHA Fund has £140m allocated over the financial years 2025/26 to 2028/29. We will include requirements for sponsors to report back on VfM and SHA Fund objectives through the Network Development and Third-Party Pipeline Programme which will improve our ability to compare projects and give the Committee sight of progress annually. We will monitor the economic and wider

outcomes of schemes funded by the SHA Fund and look to build in any lessons learned from monitoring and evaluation of projects such as Barking Riverside Extension.

Table 1: Growth Fund Completed Projects – Summary of Economic Impacts

Project	Final Outturn Cost unless specified (£m)	Growth Fund Allocation (£m) (and %)	Third Party Funding (£m)	Homes enabled	Jobs enabled	NPV (£m 2024 prices)	VfM category ² for TfL projects and commentary	Impact of the Growth Fund
Barking Riverside Extension	287	30 (10.5%)	182	10,800	2,200	788.67	HIGH NPV includes transport user benefits and wider impacts	Growth Fund was essential to establishing the project, leveraging £182m and unlocking major housing site with 10,800 homes. 2,900 homes had been delivered as of the end of 2023. A new planning application to increase the number of homes on site is now being assessed
Elephant & Castle Northern Roundabout	14,9	8.3 ³ (55.7%)	6.6 (with an additional £3.3m secured for future schemes)	4,000	5,000	-110.62	POOR NPV included transport user benefits only. Wider impact assessment showed Very High criteria	Match-funding made the project happen and catalysed multiple other projects – e.g. the redevelopment of the shopping centre. Improved safety and urban environment
Tottenham Hale Station Improvements	45	33.2 (74%)	17	5,000	4,000	64.83	HIGH NPV accounts for journey times	Enabled the project to happen. Delivered step-free access and improved interchange with National Rail and local buses. Was at the heart

² The VfM category is the key output of the appraisal approach developed by the DfT and defines six different VfM categories (from very poor to very high) based on the value of the project's BCR.

³ This is different from what was reported in the February 2024 paper which stated that £15m from the Growth Fund was allocated and spent for this project. Latest information received from the project sponsor revealed that the overall cost was £14.9m of which £8.3m was covered by TfL money.

Project	Final Outturn Cost unless specified (£m)	Growth Fund Allocation (£m) (and %)	Third Party Funding (£m)	Homes enabled	Jobs enabled	NPV (£m 2024 prices)	VfM category ² for TfL projects and commentary	Impact of the Growth Fund
							and ambience benefits	of area's regeneration. Increased station's capacity to accommodate thousands of new homes and jobs in the area
West Ham Station	Unknown	0.1 (0%)	Project is 100% third party funded	2,500	500	Developer funded and delivered		Growth Fund allocation initially secured developer contribution. We were ultimately able to reduce TfL funding so that project could become fully third party funded at no cost to TfL. Project is ongoing but has unlocked development opportunity for 2,500 homes on a site adjacent to the station which was otherwise inaccessible
White Hart Lane Station Enhancements	31	22 (71%)	9	3,500	8,000	29.5	MEDIUM NPV accounts for: journey time, ambience and impact on crime and anti-social behaviour	Enabled the project to happen. Encouraged more active travel and public transport by providing a safer, larger station with evenly distributed platform access, especially during stadium events. The project has also supported the construction of 3,000 new homes
Woolwich Elizabeth line station fit out	85.9 (estimated from original)	24 (28%)	55	3,500	Unconfirmed	323.93	HIGH	Growth Fund was used to unlock nearly £100.4m funding from developers to bring Elizabeth line to Woolwich

Project	Final Outturn Cost unless specified (£m)	Growth Fund Allocation (£m) (and %)	Third Party Funding (£m)	Homes enabled	Jobs enabled	NPV (£m 2024 prices)	VfM category ² for TfL projects and commentary	Impact of the Growth Fund
	business case)							
STAR	52.4	10 (19%)	Unconfirmed – non TfL business case	9,000	5,000	Network Rail business case		Complete funding package allowing the project to happen. Unlocked development of 9,000 new homes on strategic sites in an Opportunity Area
Ilford Station Southern Entrance	2.5 (Estimated cost from 2018 business case)	0.75 (30%)	1.75	1,000	800	11.9	VERY HIGH NPV only includes user benefits and not wider impacts	Completed funding package allowed the project to happen. Increased Elizabeth line station accessibility and support delivery of new homes
Tolworth Roundabout	7.3	1.125 (15%)	6.25	950	750	14.10	HIGH NPV includes user benefits and impact on physical activity	Growth Fund was used to cover risk and leverage third party funding which covered most of the scheme costs. Project supported a large-scale new development

Programmes and Investment Committee

Date: 5 March 2025

Item: Forthcoming Key Procurement Activities

This paper will be considered in public

1 Summary

- 1.1 This paper sets out a summary of the major new procurements or contract extensions planned over the next two years and those for which approvals are anticipated to be required from the Committee over the six-month period from 1 April 2025 to 30 September 2025 above £100m. It also highlights significant forthcoming procurements that require approval at officer level during that period.
- 1.2 A paper is included on Part 2 of the agenda which contains supplementary information that is exempt from publication by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial or 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 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 There is a recognised need to provide this Committee and other decision makers in TfL with a forward look on the pipeline of major procurements and those requiring decisions.
- 3.2 The Procurement and Commercial function within TfL continues working to improve its forward planning, including the consolidation of multiple data sources related to contract renewals and new procurements. This ongoing effort is enabling us to establish a pipeline of activities for the next two years.
- 3.3 Our ability to plan the necessary governance and approval timescales, in conjunction with meetings of relevant Committees where appropriate, is improving, and will continue to improve. This will not entirely remove the possible need for out of cycle approvals to be sought by way of Chair's Action, either because of the conclusion of a procurement which falls naturally in timing between meetings, or because of an urgent requirement.

- 3.4 This paper sets out the approvals anticipated to be required from the Committee over the next six months and highlights significant forthcoming procurements that require approval at officer level during that period.

4 Two Year Look Ahead

- 4.1 The two year look ahead is summarised below, including only those projects with an estimated value of £1m or over. The pipeline for strategy approvals and contract awards covers 330 contracts with an estimated total value of £22bn This is broken down as follows:

Commodity	No	Estimated Value £m
Construction	55	5,367
Corporate Services	21	3,326
Outsourced Transport Services	10	2,111
IT Services	20	1,787
Utilities	4	1,592
Facilities Management	15	1,522
IT Infrastructure	27	988
Lifts and Escalators	13	868
Rolling Stock	5	867
Road User Services	2	902
Rail Systems	7	762
Fleet	60	510
Power & Cooling	12	492
IT Software	33	453
Track	16	243
Signalling Installations	2	116
Signalling Maintenance	10	115
Rail Collaboration	9	113
Commercial Development	5	63
Buses	2	31
Streets and Traffic	1	2
Warehousing	1	1
Total	330	22,231

- 4.2 The table below displays the breakdown of the 330 contracts by value band. It also includes the 469 contracts with a value below £1m to provide a complete view of the pipeline of 799 contracts over the next two years.

Value Band £m	No of Entries	% of Entries	Estimated Value £m	% Estimated Value
Below 1	469	59%	133	1%
1 up to 25	232	29%	1,174	5%
25 up to 100	56	7%	2,054	12%
100m+	42	5%	19,004	82%
Total	799	100%	22,365	100%

5 Planned Procurement Approvals

- 5.1 In Capital and Technology, we are currently forecasting that two contract extensions will require approval from the Committee in the next six months. It is anticipated that approval for these contract extensions will be sought by way of Chair's Action before 30 September 2025.
- 5.2 Most decisions for contracts related to operational expenditure are routed through the Finance Committee rather than to this Committee, although all Members will receive the paper. We are currently forecasting that four contract awards will require approval from the Finance Committee in the next six months.
- 5.3 Further details of the forthcoming key procurement activities within the next six months are provided within the related paper on Part 2 of the agenda.

6 Procurement Act 2023

- 6.1 As introduced in the paper to the Finance Committee in July 2024, we are preparing for the introduction of the new Procurement Act 2023 (the Act) which was delayed from 26 October 2024 to 24 February 2025. Since the update, implementation activities have continued, including working closely with SAP Ariba to implement systems process changes, updating governance templates, and developing additional documents to guide our colleagues, and developing a supplier performance strategy to consider our approach to adopting the Act's requirements on publishing contract key performance indicators on supplier performance.
- 6.2 Readiness activities have focused on procurement activity which will need to be compliant from 24 February 2025, whereas contract management activities in relation to the Act will not be required until the first contract is awarded. A key area of focus has been the upskilling of Procurement and Commercial teams and building awareness in the wider business, to ensure TfL benefits from the opportunities the new legislation presents.

- 6.3 As part of the enhanced transparency obligations under the Act, we are required to publish an annual pipeline notice of projects over £2m to the market by 26 May 2025. Further information is expected from the Cabinet Office in April, and the Committee will be kept updated. As introduced in the Finance Committee paper in summer 2024, TfL is preparing for the introduction of the new Procurement Act 2023 which was delayed from 26 October 2024 to 24 February 2025. Since then, implementation activities have continued, including updates to systems, the upskilling of P&C teams and building awareness in the wider business, to ensure TfL benefits from the opportunities the new legislation presents.
- 6.4 As part of the enhanced transparency obligations under the Procurement Act 2023, TfL is required to publish an annual pipeline notice of projects over £2m to the market by 26 May 2025. Further information is expected from the Cabinet Office in April, and a fuller briefing can be included in the next Finance Committee paper.

List of appendices to this report:

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

List of background papers:

None

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Date: 5 March 2025

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.

2 Recommendation

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

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 reports. For this Committee this includes the quarterly Investment Programme Report, Project Assurance Update and the Independent Investment Programme Advisory Group Quarterly Report;
 - (b) programmes and projects at a level requiring Committee approval. These include the annual review of the sub-programmes in the Investment Programme and other approvals sought following advice from the operating businesses;
 - (c) annual updates on Enterprise Risks that fall within the remit of the Committee; and
 - (d) 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

List of Background Papers:

None

Contact Officer: Andrea Clarke, General Counsel
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Programmes and Investment Committee Forward Plan

Appendix 1

Membership: Peter Strachan (Chair), Arthur Kay, (Vice Chair), Seb Dance, Deborah Harris-Ugbomah, Mark Phillips, Omid Shiraji and Sara Turnbull

Government Special Observer: David Coles

Abbreviations: CCO (Chief Capital Officer), CCSO (Chief Customer and Strategy Officer), CFO (Chief Finance Officer), COO (Chief Operating Officer), D-IP (Director Investment Planning), CTO (Chief Technology Officer) D-EL (Director Elizabeth line)

Standing Items		
Use of Delegated Authority	General Counsel	Standing item
Forthcoming Key Procurement Activities	CFO	Standing item
Quarterly Investment Programme Report	CCO and D-IP	Standing item
Independent Investment Programme Advisory Group Quarterly Report	General Counsel	Standing item
TfL Project Assurance Update	General Counsel	Standing item
Regular programme annual reviews		

2 July 2025		
Streets, Bus and Rail and Sponsored Services Renewals Programme	D-IP	Annual
Elephant & Castle	CCO	Update
Rail and Station Enhancements Programme	D-IP	Annual
London Cycle Hire Scheme Re-Let Contract	CFO	Procurement Authority
London Underground Lifts and Escalator Contracts	D-IP	Programme and Project Authority
Innovative Escalator Modernisation Contract	D-IP	Programme and Project Authority
High Speed Rail 2	D-IP	Update

8 October 2025		
Silvertown Tunnel Annual Review	CCO	Annual
Piccadilly Line Upgrade	CCO	Annual
London Underground Renewals	D-IP	Annual
Capital Efficiencies Report	CCO	Annual

11 December 2025		
Enterprise Risk Update – Delivery of TfL Key Investment Programmes and Projects (ER08)	CCO	Annual
DLR Rolling Stock Replacement Programme Update	CCO and D-IP	Update
Safe and Healthy Streets Programme	D-IP	Annual
Bakerloo Line Upgrade Stage 1	CCO and D-IP	Annual

5 March 2026		
Environment Quality and Environment Programme – Air	D-IP	Annual
Technology Programme 2025/26 and 2026/27	D-IP and CTO	Annual
Network Development and Third-Party Pipeline Programme	D-IP	Update

Items to be scheduled:

- Lessons Learnt from Recently Completed Projects (CCO)
- Central Line Signalling Incremental Upgrade Work Package – Wayside East (D-IP)