

Agenda

Meeting: Programmes and Investment Committee

Date: Wednesday 28 February 2024

Time: 10:00am

**Place: Conference Rooms 1 and 2,
Ground Floor, Palestra, 197
Blackfriars Road, London, SE1
8NJ**

Members

Dr Nelson Ogunshakin OBE (Chair)
Peter Strachan (Vice-Chair)
Seb Dance

Mark Phillips
Dr Lynn Sloman MBE

Government Observer

David Coles

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

This meeting will be open to the public and webcast live on [TfL YouTube channel](#), except for where exempt information is being discussed as noted on the agenda.

There is access for disabled people and induction loops are available. A guide for the press and public on attending and reporting meetings of local government bodies, including the use of film, photography, social media and other means is available on www.london.gov.uk/sites/default/files/Openness-in-Meetings.pdf.

Further Information

If you have questions, would like further information about the meeting or require special facilities please contact: Zoe Manzoor, Secretariat Officer;
Email: y_ZoeManzoor@tfl.gov.uk.

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

Andrea Clarke, Interim General Counsel
Tuesday 20 February 2024

**Agenda
Programmes and Investment Committee
Wednesday 28 February 2024**

1 Apologies for Absence and Chair's Announcements

2 Declarations of Interests

Interim 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 6 December 2023
(Pages 1 - 10)**

Interim General Counsel

The Committee is asked to approve the minutes of the meeting of the Committee held on 6 December 2023 and authorise the Chair to sign them.

4 Matters Arising and Actions List (Pages 11 - 14)

Interim General Counsel

The Committee is asked to note the updated actions list.

5 Use of Delegated Authority (Pages 15 - 20)

Interim General Counsel

The Committee is asked to note the paper.

6 Investment Programme Report Quarter 3: Periods 7, 8, and 9, 2023/24
(Pages 21 - 80)

Chief Capital Officer and Director of Investment Delivery 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 (Pages 81 - 84)

Interim 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 (Pages 85 - 88)

Interim General Counsel

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

9 Environment Programme (Pages 89 - 100)

Director of Investment Delivery 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 to support the ongoing delivery of the Environment Programme and approve additional Procurement Authority to continue activities in support of existing Road User Charging schemes.

10 Technology Programme (Pages 101 - 138)

Director of Investment Delivery Planning, Chief Technology Officer and Director, Information Technology

The Committee is asked to note the paper and the exempt supplementary information on Part 2 of the agenda and approve an increase in Programme and Project Authority for the Technology Programme.

11 The Growth Fund (Pages 139 - 160)

Director of Spatial Planning

The Committee is asked to note the paper.

12 Network Development and Third Party Pipeline Programme
(Pages 161 - 178)

Director of Investment Delivery Planning and Director of Spatial Planning

The Committee is asked to note the paper and approve Programme and Project Authority for the Thamesmead and Beckton Riverside programme, approve Programme and Project Authority from the Sustainable Housing and Accessibility Fund to deliver step-free access at Northolt station and concept designs for capacity upgrades and step-free access at North Acton and West Hampstead and, in relation to such sum, approve its removal from the Network Development and Third Party Pipeline Programme and an equivalent increase in the Programme and Project Authority of the Rail and Station Enhancements Programme.

13 Forthcoming Key Procurement Activities (Pages 179 - 182)

Chief Finance Officer

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

14 Members' Suggestions for Future Discussion Items (Pages 183 - 188)

Interim General Counsel

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

15 Any Other Business the Chair Considers Urgent

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

16 Date of Next Meeting

Wednesday 26 June 2024 at 10:00am (Provisional)

17 Exclusion of the Press and Public

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

Agenda Part 2

18 Investment Programme Report Quarter 3: Periods 7, 8, and 9, 2023/24 (Pages 189 - 212)

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

19 Independent Investment Programme Advisory Group Quarterly Report (Pages 213 - 220)

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

20 TfL Project Assurance Update (Pages 221 - 228)

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

21 Environment Programme (Pages 229 - 238)

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

22 Technology Programme (Pages 239 - 252)

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

23 Forthcoming Key Procurement Activities (Pages 253 - 258)

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

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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 6 December 2023**

Members

Dr Nelson Ogunshakin OBE (Chair) (up to Minute 80/12/23 inclusive)

Peter Strachan (Vice-Chair) (via Teams)

Seb Dance (in the Chair from Minute 81/12/23)

Mark Phillips

Dr Lynn Sloman MBE

Government Observer

David Coles

Executive Committee

Andy Lord Commissioner (from Minute 81/12/23)

Andrea Clarke Interim General Counsel

Stuart Harvey Chief Capital Officer (from Minute 74/12/23)

Staff

Rebecca Bissell Director of Information Technology (for Minute 78/12/23)

Louise Cheeseman Director of Buses (for Minute 78/12/23)

Isabel Coman Director TfL Engineering, Asset Strategy

Michael Cooper Director, Project Management Office

Justine Curry Interim Director of Legal

Shamus Kenny Head of Secretariat

Zoe Manzoor Senior Committee Officer

Peter McNaught Director of Operational Readiness

Robert Niven Head of Investment Delivery Planning, Major Projects

James Norris Head of Project Assurance

Penny Rees Head of Investment Delivery Planning, Healthy Streets (for Minute 79/12/23)

David Rowe Director of Investment Delivery Planning

Guy Taverner Senior Pipeline and Planning Manager (for Minute 73/12/23)

Independent Investment Programme Advisory Group (IIPAG)

Alison Munro Chair IIPAG

Simon Collins IIPAG Member

Joanne White IIPAG Member

68/12/23 Apologies for Absence and Chair's Announcements

There were no apologies for absence. Peter Strachan attended the meeting via Teams and was able to participate in the discussion but did not count towards the quorum. The meeting was quorate.

Andy Lord and Stuart Harvey had given apologies for lateness.

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 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.

69/12/23 Declarations of Interests

Members confirmed that their declarations of interests, as published on [tfl.gov.uk](https://www.tfl.gov.uk), were up to date.

Andrea Clarke reported that Dr Nelson Ogunshakin OBE's role as a Non-Executive Board member of High Speed 2 Limited, meant that he had a declarable interest in relation to the agenda items on the Elizabeth Line: Service Frequency Increase for High Speed 2 and the High Speed 2 Programme: TfL Resources. In accordance with TfL's robust practice in relation to potential conflicts of interest, he had not received the papers on Part 2 of the agenda for these items and he would leave the meeting during their discussion. The Committee appointed Seb Dance as its Chair for the discussion of these items, as the Vice-Chair, Peter Strachan, was attending the meeting via Teams.

There were no other interests to declare that related specifically to items on the agenda.

70/12/23 Minutes of the Meeting of the Committee held on 5 October 2023

The minutes of the meeting of the Committee held on 5 October 2023 were approved as a correct record, and the Chair was authorised to sign them.

71/12/23 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.

72/12/23 Use of Delegated Authority

Andrea Clarke introduced the item. Since the last meeting of the Committee on 5 October 2023, there had been three approvals of Procurement Authority by the Commissioner in relation to: DLR Station Controller Replacement; the Framework Agreement for the Supply of Electrical Consumable Goods; and the DLR Northern Sidings Contract.

There had also been one approval of unbudgeted Financial Authority by the Commissioner in relation to the Superloop.

There had been no other uses of delegated authority nor any Mayoral Directions to TfL within the Committee's remit.

The Committee noted the paper.

73/12/23 Forthcoming Key Procurement Activities

Guy Taverner introduced the item, which set out the major new procurements or contract extensions planned over the next 24 months and decisions that were anticipated to be required from the Committee through Chair's Action between this meeting and the next planned meeting in February 2024.

The paper also highlighted significant forthcoming procurements that required approval at officer level during that period.

A similar paper was also presented to the Finance Committee in November 2023 and this would now be presented to this Committee on a regular basis. The Committee welcomed the paper and commented that it was very useful in providing the Committee with visibility of forthcoming procurement decisions.

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

74/12/23 Investment Programme Report Quarter 2, 2023/24

Michael Cooper and David Rowe presented the Investment Programme Report for Quarter 2 of 2023/24 (25 June to 16 September 2023).

Regarding safety, there were three incidents reported under the Reporting of Injuries, Diseases and Dangerous Occurrences. There were also three lost-time injuries and generally, the number of long-term injuries had continued to decline. The common learning had been shared across the Capital team to ensure the root causes were addressed. This quarter had witnessed an increasing number of incidences of unacceptable behaviour against employees which TfL was working hard to prevent, including equipping front line staff with body worn video cameras and providing conflict avoidance training. It was discussed that the National Rail network experienced similar issues and the operators might be able to share best practice on dealing with such incidences.

TfL had delivered six out of its 28 strategic milestones on time or early in the quarter and a total of 12 of the 28 milestones to date this financial year.

The Four Line Modernisation Programme continued to progress well, with a focus on completing software for the remaining signalling areas. The team had recently completed the second system test for Signal Migration Area 9 in Harrow, successfully testing the integration of Chiltern trains with the new signalling system for the first time. Works had also been carried out to test the communication system between the Jubilee line and Metropolitan line, which marked a significant step forward.

On the Piccadilly line Upgrade, dynamic train testing was underway. The Siemens train manufacturing facility in Goole, East Yorkshire, had been completed, which would create a significant number of opportunities. The estimated final cost had increased, although an increase in Programme and Project Authority was not sought at this stage, and would be considered when a review had been completed. The outcome of this review would be reported to the Committee in February 2024. **[Action: Stuart Harvey]**

Riverlinks had won an award at the British Construction Awards for its work on the Silvertown Tunnel. The tunnel boring machine had been dismantled following the completion of the works. The team would continue to explore opportunities to further reduce costs, with the aim of bringing the costs back in line with the authority.

At Elephant & Castle, TfL was continuing to progress the procurement arrangements for the tunnelling works. Work also continued in respect of the Phase 2 fit out works.

At Surrey Quays, the main contractor, Morgan Sindall, continued to progress the detailed design of the station upgrade and the enabling work had begun.

Good progress continued to be made with delivering the step-free access programme. A preliminary study had been carried out on the feasibility of making adaptations to stations on the southern part of the Northern line. The work to provide adaptations at Colindale and Leyton was also progressing well. At London Bridge, the Secretary of State for Levelling Up, Housing and Communities had turned down the appeal from the developer for the New City Court site. Therefore, the developer was not progressing the scheme. At Stratford station, the construction works were underway to deliver the new urban rail realm and new southwestern station entrance. Preparations were now underway to move to the fit-out phase.

David Rowe drew attention to several key achievements in relation to the Safe and Healthy Streets Programme. TfL had recently published guidance on safety standards to operators in respect of the new Direct Vision Standard star rating. Good progress continued to be made with the appointment of a new joint venture partner to provide electric vehicle charging points. TfL remained on track to award a contract for the supply of the new Countdown 3 system for buses by March 2024 and to launch the new Dial-a-Ride booking app by the end of 2023. Works were also progressing well at Kingston Cromwell Road bus station.

On London Underground Renewals, Members noted a correction to the report in relation to the section on Network Wide Track Renewals (page 65 of the report, page 90 of the agenda papers) where track renewals were currently on target to deliver 3,500mof renewal (not 3,500km as published).

Overall, TfL had continued to make good progress on delivering the London Underground Renewals Programme. Key achievements over the quarter included the continued delivery of the escalator and lift replacement programme, the completion of most of the bogie overhaul on the Metropolitan line and the installation of LED lighting on the Bakerloo line fleet. Further progress was also being made with the Central line Improvement Programme. The completion of the colleague welfare facilities at Plaistow station had taken the total to five completed to date and a further three facilities were to be completed by the end of this year.

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

75/12/23 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 2023.

Alison Munro presented the Appendix, summarising IIPAG activities from October to December 2023. IIPAG had continued to review the new Investment Programme structure. It had made recommendations regarding the need for an over-arching strategy or plan for programme or portfolios and a golden thread to provide clarity of objectives and outcomes. It had also recommended that performance indicators were developed to measure performance. It was confirmed that good progress continued to be made with responding to the recommendations. Management was undertaking a review of internal structures to coordinate work and share good practice across portfolios and to identify how individual projects contributed to TfL's overarching strategic objectives.

IIPAG had also completed its report on the delivery of renewals. It had stressed the need for an urgent data collection exercise to monitor performance and identify potential future improvements and efficiencies, given the resourcing constraints and the situation with the deterioration of assets. Members emphasised the importance of this work to gain a greater insight into the allocation of spending on assets. It was also noted that the Capital team was working closely with Finance and colleagues across TfL to manage assets over the whole life cycle to achieve value for money and identify efficiencies.

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

76/12/23 TfL Project Assurance Update

James Norris introduced the item, which provided an update on the project assurance work undertaken between 20 August and 11 November 2023.

Two programme reviews were undertaken with the Independent Investment Programme Advisory Group (IIPAG) involved in both, and 12 project assurance reviews were undertaken, with IIPAG involved in four. These reviews gave rise to a total of 36 recommendations. None of these were considered to be critical issues.

The report also provided an overview of the status of IIPAG and the Project Assurance team's recommendations, five of which had subsequently been closed, and contained a new graph covering a 12 month period illustrating the common themes that have arisen.

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

77/12/23 Bakerloo Line Upgrade Stage 1

Stuart Harvey and David Rowe introduced the item on the Bakerloo line Upgrade Programme. The paper set out the case for investment to replace the life expired 1972

tube rolling stock, the contract option with Siemens Mobility Limited and the implications of not being able to exercise the option, due to constrained capital funding.

Due to the age of the rolling stock, TfL had already experienced service reliability issues and this was projected to decline further. Subject to Government capital funding, the intention was to replace the fleet by exercising the time limited option in the 2018 rolling stock contract with Siemens, which would deliver several benefits, including standardising the fleets across the lines.

Work had commenced on developing a strategy to deliver Phase 1 of the scheme. A further report would be submitted to the Committee detailing progress with these works and the next steps.

The Committee noted that TfL continued to make the case to Government for the long-term capital funding required to support the Programme. It recommended that TfL continue to develop contingency plans to manage the risks to the Programme and to ensure services keep running in the event funding was not secured on a timely basis.

The Project Assurance team had conducted reviews of the Programme. Alison Munro reported that the Independent Investment Programme Advisory Group (IIPAG) agreed that there was a compelling case for investing in the line. IIPAG would report back to the Committee in due course on the outcome of its review of the Programme. The business case was currently being reviewed by both IIPAG and Project Assurance, ahead of its submission to the Department for Transport.

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

78/12/23 iBus2 Contract Award

Louise Cheeseman and Rebecca Bissell introduced the item, which set out the case for replacing the existing iBus contract and the merits of the proposed new iBus2 system.

Alison Munro reported on the findings of the Independent Investment Programme Advisory Group's review. Overall, it had praised the quality of the procurement process and commented on the need to prepare a robust plan to manage the transition to the new system. The Project Assurance team had also conducted a review and no critical issues were raised.

Members welcomed the proposals and noted the potential benefits of the system in terms of providing real time information on services and on facilitating bus priority to speed up journey times.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and, subject to approval of the revised TfL Business Plan to be considered by the Board on 13 December 2023:

- 1 approved Procurement Authority in the amount set out in the exempt supplementary paper on Part 2 of the agenda for entry into the iBus2 contracts described in the paper; and**

- 2 noted that matters for which Procurement Authority was sought above extended beyond the current TfL Business Plan and Budget (a revised version of which was to be considered by the Board on 13 December 2023) and provision would, therefore, need to be made in future Business Plans and Budgets.**

79/12/23 Safe and Healthy Streets Programme

David Rowe and Penny Rees presented the item, which set out progress to date since March 2023 with the Safe and Healthy Streets Programme, along with future plans. The paper also provided an update on the Catford Town Centre project.

The delivery of the proposed Programme was subject to the proposals securing the necessary funding including Major Road Network funding from the Department for Transport, for the completion of the Catford Town Centre project. The Committee supported that project and endorsed the request for the Board to agree in principle to the making of a Compulsory Purchase Order to facilitate delivery of the project.

Good progress had been made with delivering a range of initiatives of the Programme, including safer cycling initiatives and lower speed limits. TfL had experienced some challenges with delivering certain schemes and was working with the boroughs to address these issues. The paper also set out details of resourcing challenges.

TfL would imminently publish its Travel in London Report, which summarised trends in travel and transport in London, which would be considered by the Board in December 2023. The latest report showed that daily cycling journey trips had increased and the impact of schemes delivered through this Programme had contributed to that outcome.

The project teams were mindful of the need to align the Programme with the aims in the Mayor's Transport Strategy. To ensure this alignment, they reviewed each project to identify how it contributed to the overarching objectives and achieved efficiencies.

The Independent Investment Programme Advisory Group and the Project Assurance team had undertaken a full assurance review in October 2023. There were no critical issues raised and five general recommendations were made.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and, subject to approval of the revised TfL Business Plan to be considered by the Board on 13 December 2023:

- 1 approved additional Programme and Project Authority of £42.2m to support delivery of the Safe and Healthy Streets Programme over financial years 2022/23 to 2025/26, bringing the total Safe and Healthy Streets Programme and Project Authority to £587.9m; and**
- 2 approved unbudgeted Financial Authority for Transport for London to receive £10m of funding from the Department for Levelling Up, Housing and Communities' Housing Infrastructure Fund Marginal Viability fund towards the delivery of the Catford Town Centre Highway Realignment project, and £1m from Westminster City Council, giving a total of £11m unbudgeted Financial Authority.**

80/12/23 DLR Rolling Stock Replacement Programme

Stuart Harvey introduced the item, which provided an update on the DLR Rolling Stock Replacement Programme to deliver a fleet of new trains and associated infrastructure.

Overall, the Programme was progressing well. Extensive train testing was underway, and several key milestones had been met. The project team remained confident that the Programme would be delivered on target.

The project team had worked to overcome the challenges regarding the Beckton Depot northern sidings. From a safety perspective, the site had been well managed. As a result of the challenges, TfL had incurred additional costs and it was forecast that the estimated final cost would exceed the existing Financial Authority and the Programme and Project Authority. A further update on the Programme would be submitted to the Committee in Quarter 1 of 2024/25.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and approved additional Procurement Authority, for the amount set out in the paper on Part 2 of the agenda, to enable officers to progress the immediate next steps of a revised contracting strategy for the Northern Sidings, prior to seeking further Authorities from the Committee in 2024.

As set out in Minute 69/12/23, following the conclusion of this item, Dr Nelson Ogunshakin OBE left the meeting for the discussion of the remaining items of business. Seb Dance chaired the meeting for the remainder of the meeting.

81/12/23 Elizabeth Line: Service Frequency Increase for High Speed 2

David Rowe introduced the item, which set out TfL's business case for additional investment in Elizabeth line services at Old Oak Common (OOC) to central London, during its period as a temporary High Speed 2 (HS2) terminus.

It was confirmed that TfL's modelling (based on HS2's models), had been undertaken on the assumption that OOC would be used as a terminus for 10 years. It was clarified that this business case was primarily driven by the impact from increased passenger demand from HS2 Phase 1, which would link London and Birmingham.

The redevelopment of OOC station would also have significant implications on Network Rail infrastructure. The Commissioner had met with the relevant Government Minister about the need to bring together the key partners to manage the redevelopment of OOC to minimise disruption, particularly considering TfL would be upgrading the Piccadilly line at the same time. TfL wanted to ensure that any closures linked to OOC could be maximised to undertake works on the infrastructure.

The OOC station was due to open in 2030-33. TfL would require the additional Elizabeth line trains to be available from the opening of the OOC station and the current proposals would allow them to become available earlier. TfL was working to understand the business benefits from this.

The Independent Investment Programme Advisory Group and the Project Assurance team undertook a full assurance review in October 2023. There were no critical issues raised and four general recommendations were made.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and, subject to HM Government agreeing to provide the capital funding for the acquisition of additional rolling stock for the Elizabeth line and related services and enabling works:

- 1 approved unbudgeted Financial Authority, for the amount set out in the paper on Part 2 of the agenda;**
- 2 approved Programme and Project Authority, for the amount set out in the paper on Part 2 of the agenda for the activity described in the paper;**
- 3 approved Procurement Authority, for the amount set out in the paper on Part 2 of the agenda to order additional trains under the existing contract; and**
- 4 noted that matters for which Authorities were sought above included commitments beyond the period of the 2023/24 Business Plan and provision would, therefore, need to be made for those commitments in future Business Plans (including that to be considered by the Board in December 2023).**

82/12/23 High Speed 2 Programme: TfL Resources

David Rowe introduced the item, which sought additional funding to enable TfL to recover costs for work on the High Speed 2 Programme.

The Committee noted the paper and the exempt supplementary information on Part 2 of the agenda and, subject to the Board's approval of the revised Business Plan due to be considered by it in December 2023:

- 1 approved additional Programme and Project Authority of £4.8m, bringing the total Project and Programme Authority to £43.0m, to enable the TfL team to continue the activities described in the paper; and**
- 2 noted that the matters for which approval was sought above related to matters which extended beyond the current Business Plan and Budget (and the revision due to be considered by the Board in December 2023) and provision would, therefore, need to be made in future Business Plans and Budgets.**

83/12/23 Members' Suggestions for Future Discussion Items

Andrea Clarke introduced the current forward plan for the Committee. The requests for further papers would be added to the plan.

The Committee noted the forward plan.

84/12/23 Any Other Business the Chair Considers Urgent

There was no other urgent business to discuss.

85/12/23 Date of Next Meeting

The next scheduled meeting of the Committee would be held on Wednesday 28 February 2024 at 10.00am.

86/12/23 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 Part 1 items on the agenda. These agenda items were reordered at the meeting to consider the items in the following order: Elizabeth Line: Service Frequency Increase for High Speed 2; High Speed 2 Programme: TfL Resources; Forthcoming Key Procurement Activities; Investment Programme Report Quarter 2, 2023/24; Independent Investment Programme Advisory Group Quarterly Report; TfL Project Assurance Update; Bakerloo line Upgrade Stage 1; iBus2 Contract Award; Safe and Healthy Streets Programme; and DLR Rolling Stock Replacement Programme.

The meeting closed at 1.00pm.

Chair: _____

Date: _____

Programmes and Investment Committee



Date: 28 February 2024

Item: Matters Arising and Actions List

This paper will be considered in public

1 Summary

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

2 Recommendation

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

List of appendices to this report:

Appendix 1: Actions List

List of Background Papers:

Minutes of previous meetings of the Programmes and Investment Committee.

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

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Programmes and Investment Committee Action List (to be reported to the meeting on 28 February 2024)

Actions from the meeting held on 6 December 2023

Minute no.	Item/Description	Action by	Target Date	Status Note
74/12/23	<p>Investment Programme Report Quarter 2, 2023/24: Piccadilly Line Upgrade</p> <p>The estimated final cost had increased, although an increase in Programme and Project Authority was not sought at this stage, and would be considered when a review had been completed. The outcome of this review would be reported to the Committee in February 2024.</p>	Stuart Harvey	February 2024	Completed. An update is provided in the Investment Programme Report on the Part 2 agenda for this meeting.

There are no actions from previous meetings

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Programmes and Investment Committee



Date: 28 February 2024

Title: 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 6 December 2023, there have been:

- (a) no uses of specific authority delegated by the Board;
- (b) one use of Chair's Action in relation to the Ultra Low Emission Zone (ULEZ) Scrappage Scheme;
- (c) one approval of authority by the Finance Committee that would ordinarily be in the remit of this Committee, in relation to the Piccadilly Line Upgrade (PLU);
- (d) two approvals of Procurement Authority in relation to the Gallows Corner Flyover Refurbishment Design and Build Contract award and the novation of the Detection and Enforcement Infrastructure Contract and one approval of Procurement Authority and cumulative Programme and Project Authority in relation to the Colindale Station Upgrade Main Works Contract award;
- (e) no approval of unbudgeted Financial Authority by the Commissioner nor Chief Finance Officer; and
- (f) 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 112, in situations of urgency, the Board delegates to each of the Chair and the Chairs of any Committee or Panel the exercise of any functions of TfL on its behalf, including the appointment of Members to Committees and Panels. Any use of Chair's Action is reported to the next ordinary meeting.
- 4.2 There has been one use of Chair's Action since the last meeting of the Committee.

London-wide Ultra Low Emission Zone Scrappage Scheme

- 4.3 On 24 January 2024, the Committee received a paper providing an update on the London-wide ULEZ scrappage scheme.
- 4.4 On 26 January 2024, the Chair of the Committee, in consultation with available Members approved additional Programme and Project Authority and unbudgeted Financial Authority of £40m, to enable the continued operation of the scrappage scheme in 2024, giving a total Programme and Project Authority of £211.8m. The approval was subject to the Greater London Authority (GLA) approving a grant of the same sum, which was subsequently received.
- 4.5 The use of Chair's Action was considered appropriate as the scrappage scheme was due to run out of funding by the end of January 2024.
- 4.6 The paper has been published on the [TfL website](#).

5 Use of Authority by the Finance Committee

Piccadilly Line Upgrade – Stage 1 Progress Update

- 5.1 With the agreement of the Chair, an item on the PLU – Stage 1 Progress Update was included on the agenda for the additional meeting of the Finance Committee held on 22 December 2023. The decision on that item related to the Business Plan that was being considered by the Finance Committee and as discussions with Siemens Mobility Limited had been ongoing, including the item on the agenda allowed the decision to be made in public rather than by Chair's Action.
- 5.2 All members of the Board were invited to attend. The report of the meeting of the Finance Committee held on 22 December 2023 was reported to the meeting of the Board on 7 February 2024.
- 5.3 The Finance Committee noted a progress update on the rolling stock, depot and infrastructure projects which made up the PLU Programme and endorsed proceeding with finalising a Compensation Event and the proposal to reprofile payments, both under the Manufacture and Supply Agreement for the Deep Tube Upgrade Programme with Siemens Mobility Limited.

- 5.4 Despite the severe financial pressure and supply chain disruptions following the impact of the coronavirus pandemic, the first train arriving in London for testing remained on schedule for mid-2024, with introduction into service in 2025. Siemens Mobility Limited had requested settlement of a Compensation Event under the terms of the contract. The proposed extended rolling stock manufacturing and testing programme would provide value for money compared to alternative options, such as the significant storage of trains, and preserved the intended introduction of the service frequency increase to 27 trains per hour by May 2027.
- 5.5 The approach also benefitted TfL's revised Business Plan and the overarching Capital Programme by significantly rephasing the PLU cash profile, given the Government capital funding settlement announced on 18 December 2023 resulted in £250m less than assumed in the Business Plan.

6 Programme and Project Authority and Procurement Authority Approvals

- 6.1 To enable an appropriate level of governance, processes are in place for the authorisation, control and reporting of projects.
- 6.2 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.
- 6.3 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.
- 6.4 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.

Approvals by the Commissioner and Chief Finance Officer

- 6.5 Since the last meeting of the Committee, the Commissioner has approved:
- (a) Gallows Corner Flyover Refurbishment Design and Build Contract: Procurement Authority of £32,539,445.33 for the award of the contract to Costain;
 - (b) Detection and Enforcement Infrastructure Contract; Procurement Authority of £153.3m, with £70.7m commitment remaining for a variation for novation; and

- (c) Colindale Station Upgrade Main Works Contract: Procurement Authority of £34.53m, and cumulative Project and Programme Authority of £46.74m to award the contract to Morgan Sindall and BEMO Tunnelling Joint Venture.

7 Financial Authority Approvals

- 7.1 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'. This paper reports on any use of unbudgeted Financial Authority.
- 7.2 Since the last meeting of the Committee, neither the Commissioner nor the Chief Finance Officer has approved any unbudgeted Financial Authority requests within the Committee's remit.

8 Mayoral Directions to TfL

- 8.1 The Greater London Authority Act 1999 (as amended) permits the Mayor to issue to TfL general directions as to the manner in which TfL is to exercise its functions or specific directions as to the exercise of its functions (or not to exercise a power specified in the direction). Directions are also often made in relation to the implementation of matters in respect of which the Mayor delegates statutory powers to TfL.
- 8.2 The Mayor makes Mayoral Directions through Mayoral Decisions. Papers for Mayoral Directions set out the financial and other implications. If those implications change over time, that will be reported to the GLA.
- 8.3 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>.
- 8.4 Mayoral Directions fall into three broad categories: those addressing technical issues relating to statutory powers; those related to commercial development activities; and those related to projects and programmes. Mayoral Directions relating to TfL are reported to the Board's Committees for discussion as soon as possible after they are received by TfL or published. Regular reports will list the relevant Directions for as long as they are applicable.
- 8.5 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.
- 8.6 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. That page will be updated as and when further Directions are made.
- 8.7 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:

Minutes from previous meetings of the Committee
Finance Committee 22 December 2023 paper on Piccadilly Line Upgrade
Greater London Authority Decision Making Database.
ULEZ Scrappage Scheme Chair's Action paper, issued 24 January 2024

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Programmes and Investment Committee



Date: 28 February 2024

Item: Investment Programme Report Quarter 3: Periods 7, 8, and 9, 2023/24

This paper will be considered in public

1 Summary

- 1.1 The Investment Programme Report describes the progress and performance in Quarter 3, 2023/24 (17 September to 9 December 2023) of a range of projects that will deliver world-class transport services to London.
- 1.2 A paper is included on Part 2 of the agenda which contains exempt supplementary information. The information is exempt by virtue of paragraph 3 and 5 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the business affairs of TfL and legally privileged advice. Any discussion of that exempt information must take place after the press and public have been excluded from this meeting.

2 Recommendation

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

List of appendices to this report:

Appendix 1: Investment Programme Report Quarter 3 2023/24

Exempt supplemental information is contained in a paper on Part 2 of the agenda.

List of Background Papers:

None

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Investment programme report

Quarter 3 2023/24
(17 September to 9 December 2023)

Contents

3 Introduction

- 4 Purpose and scope
 - 5 Investment programme delivery structure
-

6 Our performance

- 7 Safety performance
 - 8 Strategic milestones
 - 10 Schedule performance
-

11 Major projects

- 12 Elizabeth line – Rolling stock
 - 13 Four Lines Modernisation
 - 15 DLR rolling stock and systems integration
 - 17 Piccadilly line upgrade
 - 19 Silvertown Tunnel
 - 21 Bank station capacity upgrade
-

23 Rail and station enhancements

- 24 High Speed 2
 - 24 Elephant & Castle
 - 25 East London line enhancement programme
 - 25 Surrey Quays
 - 25 Tram replacement rolling stock
 - 25 DLR
 - 25 London Underground
-

27 Safe and healthy streets

- 29 Old Street station and roundabout
 - 29 Cycling infrastructure
 - 29 Vision Zero
 - 30 Bus priority
 - 31 Bus safety
-

32 Environment

- 33 London-wide Ultra Low Emission Zone*
 - 34 Direct Vision Standard phase two
 - 34 Electric vehicle infrastructure
 - 34 Zero-emission bus fleet
 - 35 Waste heat
 - 36 Solar private wire
 - 36 Buildings decarbonisation
-

37 Technology

- 38 Operations technology
 - 40 Technology and data
-

42 Street, bus and rail-sponsored service renewals

- 43 Streets
 - 44 Buses
 - 44 River services
 - 44 London Overground
 - 45 DLR
 - 46 London Trams
-

47 London Underground renewals

53 Appendix: Our safety performance data

Introduction

Our investment programme comprises projects to maintain the reliability of the network and support growth in the capital





The quality of our services is fundamental to London's way of life

Purpose and scope

Purpose

Transport for London (TfL) is part of the Greater London Authority (GLA) family led by Mayor Sadiq Khan. We are the integrated transport authority responsible for delivering the Mayor's aims for transport.

We run most of London's public transport services, including London Underground, London Buses, the DLR, London Overground, Elizabeth line, London Trams, London River Services, London Dial a Ride, Victoria Coach Station, Santander Cycles and the IFS Cloud Cable Car. The quality and accessibility of these services is fundamental to Londoners' quality of life. By improving and expanding transport, we can make people's lives easier and increase the appeal of sustainable travel.

We are moving ahead with many of London's most significant infrastructure projects, using transport to unlock growth. Supporting the delivery of high density, mixed-use developments that are planned around active and sustainable travel will ensure that London's growth is good growth. We also use our own land to provide thousands of new affordable homes and our supply chain creates tens of thousands of jobs and apprenticeships across the country.

Scope

The report gives a progress update on the programmes and major projects that seek authority each year from the Programmes and Investment Committee. It includes programmes of renewals and enhancements to maintain reliability and support growth. Renewing and replacing our assets is our required baseline to maintain our current performance in terms of safety, reliability, capacity and asset

condition. Additional enhancements can unlock new capacity and enable us to use our existing network more intensively.

This report covers Quarter 3, which runs from 17 September to 9 December 2023. For each key project or programme, the financial and milestone data represent the position at the end of Quarter 2, with commentary on key achievements, progress and challenges. It also updates on notable progress since the last report.

The data displayed differs depending on whether the programme or portfolio has a finite scope to deliver:

- For projects with a finite scope, financial records of spend to date, authority and estimated final cost (EFC) are provided, which represent the entire duration of the programme or portfolio except where stated. For these projects, a completion date is also provided, indicating the year and which quarter the specified event will occur
- For ongoing portfolios that aggregate a number of projects, financial records of spend to date and forecast cost are provided for a discrete period of time

Numbers in brackets represent a deficit in the figure or a decrease since the last report; numbers without brackets represent a surplus in the figure or an increase since the last report. Where financial information is commercially sensitive, it has been redacted. The performance over time graphs illustrate financial performance over the last four quarters. The commentary alongside the graph explains any specific trends or changes to trends over a snapshot in time.

Investment programme delivery structure

Our investment programme is delivered by the areas of business set out below. This is reflected in this structure of the report

Since Quarter 1 2023/24, a new structure has been established for the report to reflect the new organisational structure under Capital. There may be further small changes over time to refine parts of the structure, however at present it comprises the following areas:

Major projects

This includes our largest and most complex projects. It comprises line upgrades such as the Piccadilly line upgrade and the Four Lines Modernisation programme, as well as network extensions, major station upgrades and the Elizabeth line.

Rail and station enhancements

This brings together London Underground and surface-related enhancements. In particular, where there are links to third-party developments and funding, it recognises the similarities in the activities involved and the outcomes that they deliver. It includes HS2, Elephant & Castle, the East London line, Surrey Quays, Tram replacement rolling stock, DLR Royal Docks and DLR Thames Wharf.

Safe and healthy streets

This programme comprises Old Street station and roundabout, Cycling infrastructure, Vision Zero, Bus priority and Bus safety.

It recognises the importance of holistic investment in the bus network, alongside cycling and walking, to increase travel by sustainable modes.

Similarly, the addition of bus safety schemes such as intelligent speed assistance alongside the Safer Junctions and Lowering speed limits programmes aligns activities to improve safety on London's road network.

Environment

This includes the London-wide Ultra Low Emission Zone, Direct Vision Standard phase two, Electric vehicle infrastructure, Zero-emission bus fleet, Waste heat, Solar private wire and Buildings decarbonisation, while also reflecting the new green project pipeline that is being developed.

Technology

This programme comprises two technology programmes. Operations technology covers activities such as Enforcement, compliance, safety and security, Network and public transport management, Cycling and micromobility, Connectivity and Digital asset management.

Technology and data includes projects focusing on Oyster card payment, contactless payment, the Tfl Go app and several projects relating to our internal technology services

These have separate governance despite sharing common resources, stakeholders and delivery of strategic outcomes.

Streets, bus and rail-sponsored services renewals

This groups together renewals of Streets, Buses, River Services, London Overground, DLR and London Trams.

These programmes share a common approach to work-bank management and by combining associated activities such as bus-focused renewals, we can improve investment prioritisation and efficiency.

London Underground renewals

This covers two main London Underground renewals activities – Train systems and Infrastructure.

Grouping these activities enables a more holistic oversight and prioritisation in managing renewals across programmes. In addition, this programme incorporates Railway systems enhancements and Elizabeth line renewals.

Our performance

We measure the safety and milestones progress of our investment programmes schemes



Safety performance

Capital

Capital includes all activity under the Chief Capital Officer as well as maintenance activity for which the Chief Operating Officer is responsible. During Quarter 3, the organisational structure of the Capital directorate has continued to change as part of the wider Our TfL programme.

In Quarter 3, our Capital programmes and projects delivered a combined total of 0.8 million site-based hours, a decrease of 0.2 million hours from the previous quarter.

Quarterly performance

In Quarter 3, there were no incidents which reached the threshold for reporting under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR). As a result, the RIDDOR accident frequency rate for the Capital area has fallen from 0.06 to 0.04 at the end of Quarter 3.

There were no lost-time injuries reported, which are injuries that cause an employee to be absent for one or more shift, resulting in the lost-time frequency rate falling to 0.10 in Quarter 3.

In total, there were eight injuries reported during Quarter 3. The most prevalent incidents included slips, trips, falls and workplace violence directed towards colleagues by members of the public.

This is a reduction of incidents in the quarter by two. This continues the long-term trend of reduction in workforce injuries within Capital, as we work towards our zero-harm ambitions.

In addition to identifying specific actions in response to each incident, common learnings and key themes from the quarter have been shared across our Capital teams to ensure the systemic route causes are fully addressed.

The most significant incidents in TfL Capital in Quarter 3 have been those relating to vandalism and work-related violence and aggression directed towards both people and assets that perpetrators believe to be connected with the expanded Ultra Low Emission Zone (ULEZ).

The workers of our suppliers are facing significant threats, and this is also a major concern for our colleagues who are carrying out work in public areas. Vandalism of assets has posed risks to members of the public, such as exposure to live electrical conductors and the risk of being struck by signal poles being felled.

In December, a significant incident was the detonation of an improvised explosive device on a ULEZ camera in Sidcup. The blast was powerful, but thankfully no one was physically injured. The Metropolitan Police are investigating and have made two arrests.

Supported by TfL, suppliers are sharing information on how they are managing the risks posed. Our SHE Capital team has been working with Compliance, policing, operations and security to develop TfL Capital-specific guidance on work-related violence and aggression.

On the Piccadilly line upgrade programme, a live 50-volt cable was cut after it had been certified as dead by TfL engineers. There were no injuries, but this incident is being followed up with a thorough local investigation.

The DLR rolling stock replacement programme carried out testing of a new train during a track possession. As part of the testing process the train slid and overshot its designated stopping point. Although this happened during a testing activity with no safety risk to others, the reasons need to be fully understood and an investigation is in progress to identify root causes.

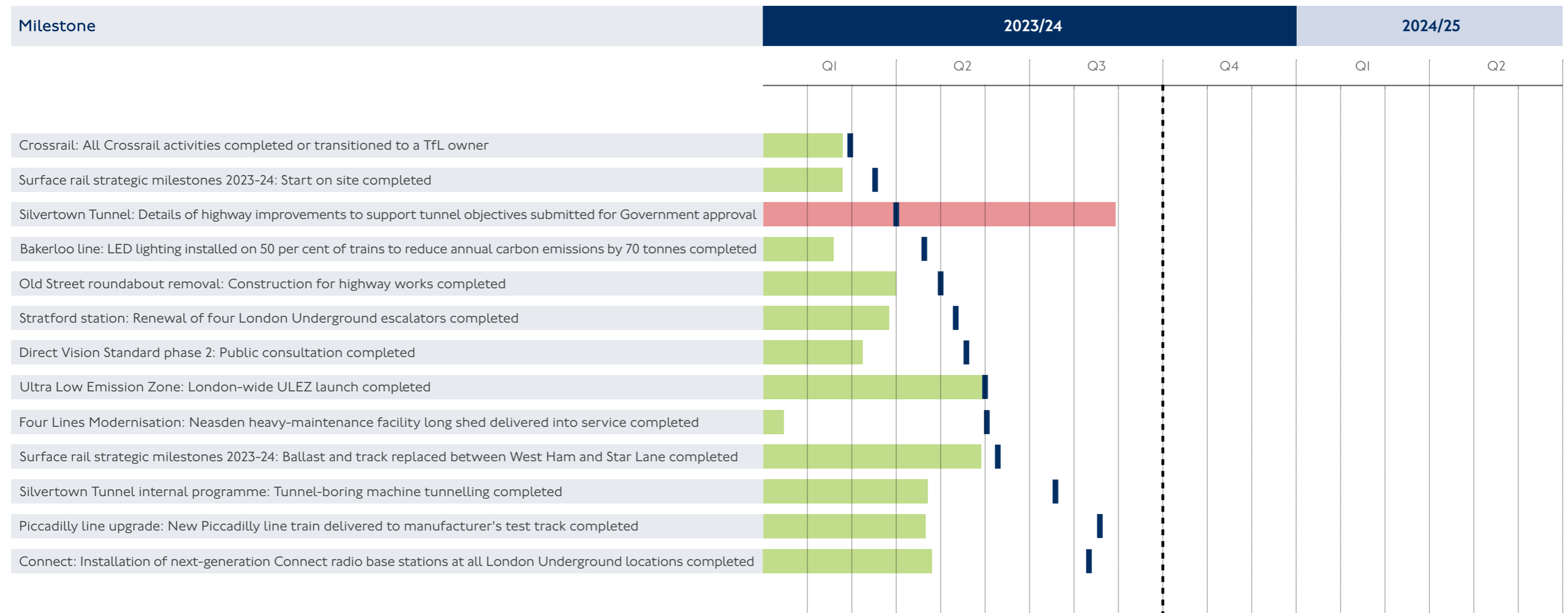
On 15 October, on the A4020 Uxbridge Road near the junction of Greenford Road, a TfL contractor was installing posters in a bus shelter when they were struck by a vehicle. The contractor was taken to hospital with life-threatening injuries and sadly passed away on the morning of 24 October. They had been working for a third-party contractor who manages the advertising on our bus shelters. This incident is subject to ongoing investigation by the Metropolitan Police.

Strategic milestones

This year to date we have delivered 19 milestones, three more than the 16 planned for completion by the end of Quarter 3

We delivered seven strategic milestones in Quarter 3. Of these, three were planned to complete in Quarter 3 and were delivered on time, while three that were planned for Quarter 4 were delivered early in Quarter 3.

Below are our strategic milestones for 2023/24. The solid blue bar shows when the milestone was due to be met, while the green, amber and red blocks show when it was achieved, or is forecast to be achieved.



■ Delivered on time or earlier than planned
 ■ Delivered less than 90 days later than planned
 ■ Delivered more than 90 days later than planned
 ■ Planned delivery date
 Reporting period cut off by 9 December 2023

Strategic milestones 2023/24 (continued)



■ Delivered on time or earlier than planned
 ■ Delivered less than 90 days later than planned
 ■ Delivered more than 90 days later than planned
 ■ Planned delivery date
 Reporting period cut off by 9 December 2023

Schedule performance

We achieved a number of scheduled milestones this quarter, with two forecast to be late

Milestones achieved

Kingston bus station redevelopment – Cromwell Road

Construction started on site ahead of schedule in October.

Piccadilly line upgrade

We completed the first stationary commissioning test on the new Piccadilly line train in October, ahead of schedule.

London Underground staff welfare sites

In November, we delivered the first eight staff welfare sites.

Silvertown Tunnel internal programme

– monitoring and mitigation strategy

Submission of details to the Secretary of State for Transport of highway improvements to support the traffic, environmental and socio-economic objectives of the tunnel were deferred to ensure effective engagement with the boroughs on the planned highway improvements, but have now been completed.

Milestones achieved early

DLR rolling stock replacement

Signalling is now complete to allow trial running for the new trains.

Technology – Mobile phone coverage

There is now coverage at 100 locations across London Underground (stations and tunnel roads).

London Underground renewals – Track programme – Deliver 3.5km of new track, improving reliability and reducing noise

This was delivered earlier than planned, in Quarter 3.

Milestones forecast to be late

DLR – Beckton Depot and network infrastructure

Bring into use Beckton Depot southern sidings to enable the introduction of new DLR trains

This milestone will be impacted by the principal contractor for the northern sidings project, Buckingham Group, entering into administration, as the southern sidings can only be commissioned following the northern sidings commissioning. This milestone cannot now be recovered; however, this delay relating to sidings does not impact the overall trains into service in two years' time.

London Underground renewals Jubilee line (fleet overhaul and component renewal) – Completion of the renewal of key components on 50 per cent of Jubilee line trains

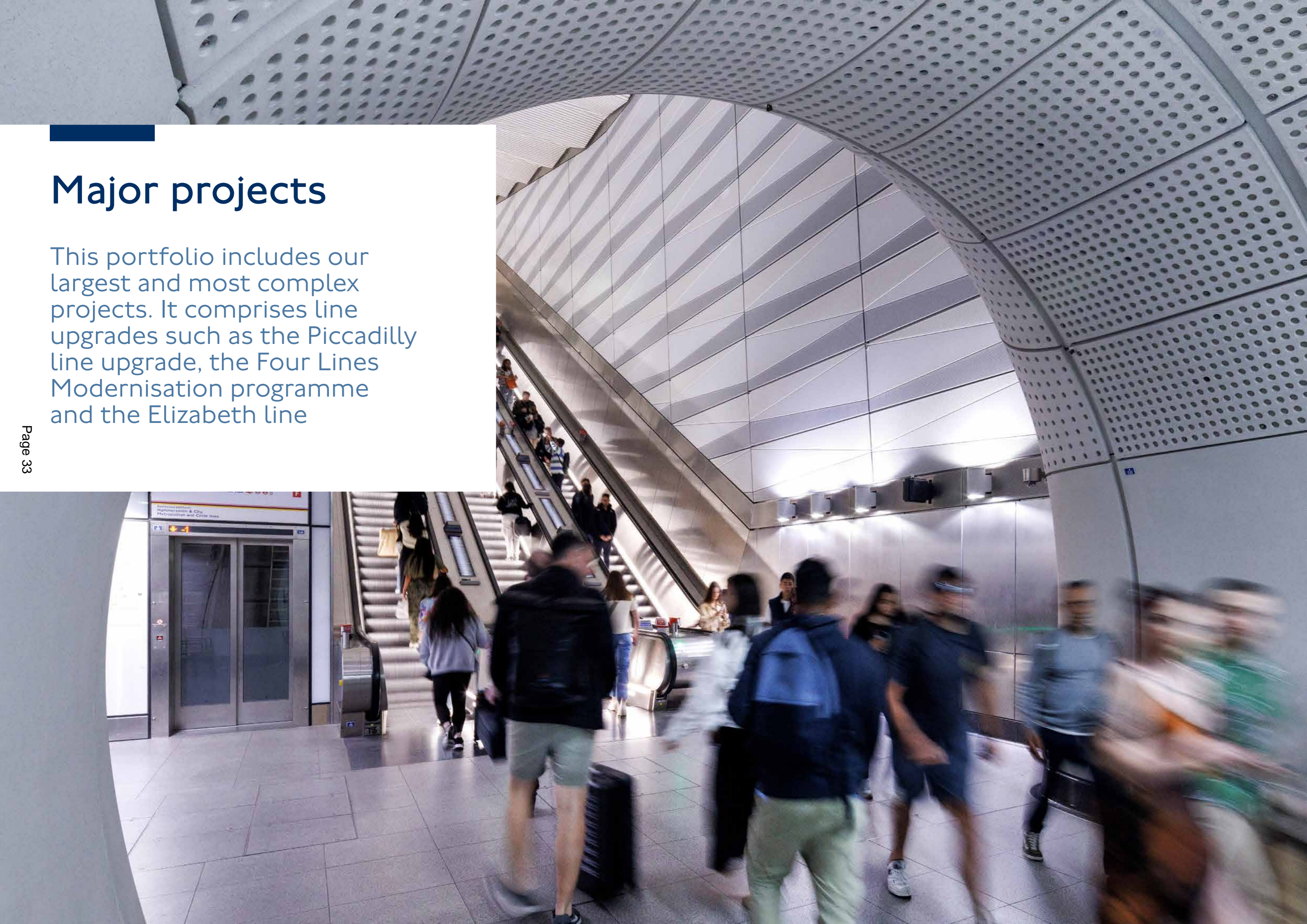
This strategic milestone target date is now expected to be missed by 19 days. The refurbisher of the train wheels has experienced a number of issues since the start of the programme, including inaccurate material estimates, shortage of employees and issues with quality. We are working closely with the supplier to mitigate the delay.



We are investing in staff welfare facilities on the Tube network

Major projects

This portfolio includes our largest and most complex projects. It comprises line upgrades such as the Piccadilly line upgrade, the Four Lines Modernisation programme and the Elizabeth line



Elizabeth line

Rolling stock

Forecast completion	Gross cost to date (£m)	Gross cost to go (£m)	Gross EFC (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
Q4 2024/25	1,002	5	1,007	1,149	142
Change since last Investment programme report					
No change	No change	No change	No change	No change	No change

Financial commentary

The cost to date relates to ongoing rolling stock work that will be completed in 2024/25.

Performance over time commentary

The forecast end date represents the delivery of the rolling stock and depot, including all additional changes. Since authority was awarded in 2013/14, the estimated final cost dropped from £1,090m to £1,007m because the trains have since been part of a sale and leaseback arrangement. They are now being leased and the costs charged as operational costs.

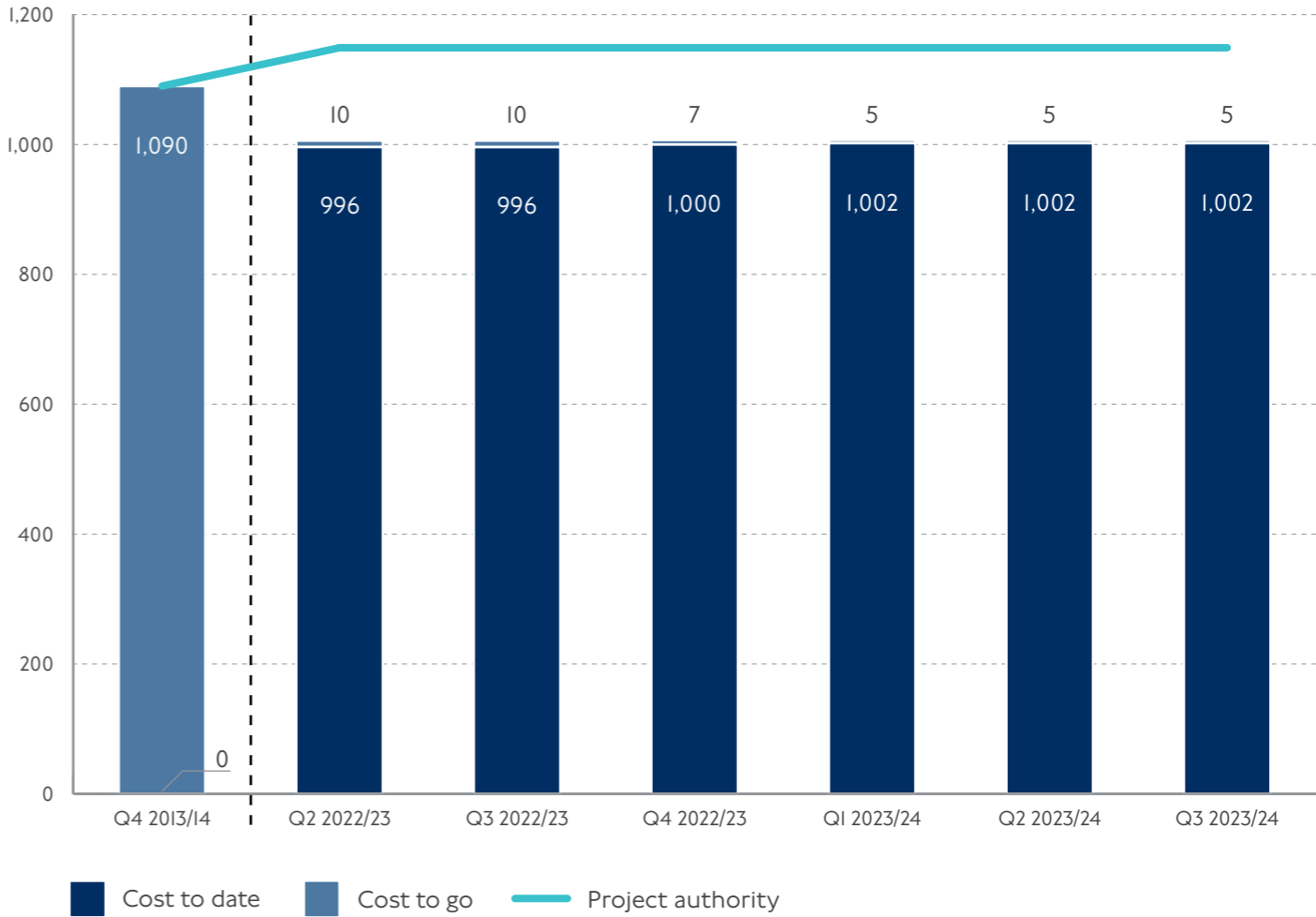
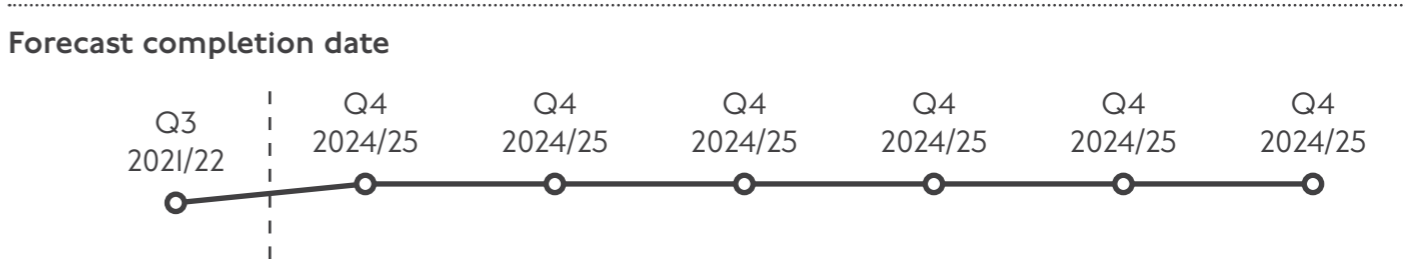
Programme update

Class 345 Trains
 Since 21 May 2023, the Class 345 fleet has been operating the peak service of 24 trains per hour, consistently meeting the required daily availability level of up to 65 trains.

The train and signalling manufacturers continue with their programme of software upgrades to address residual reliability issues.

This has been accounted for in the rolling stock project forecast through to 2025.

Estimated final cost performance over time (£m)



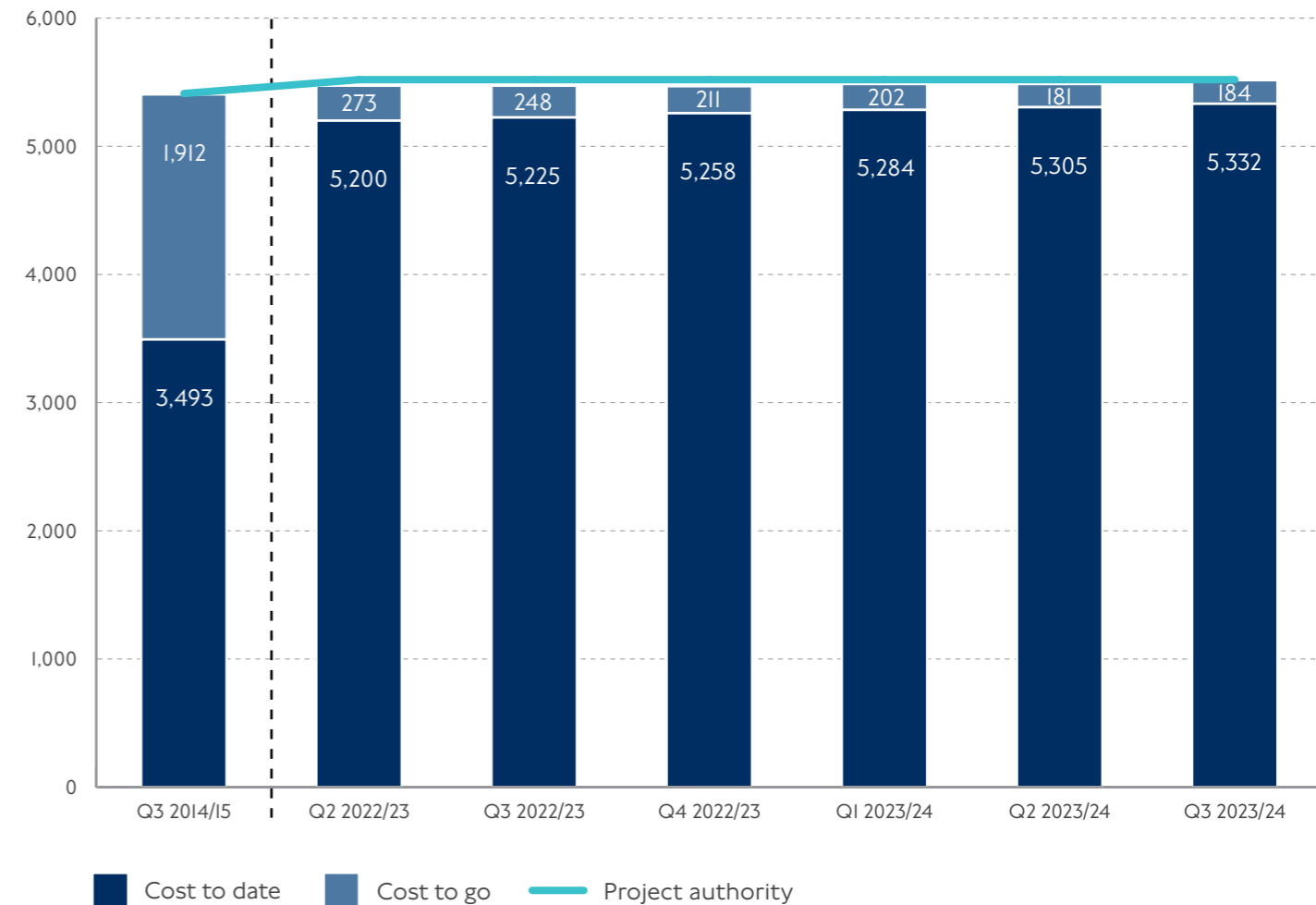
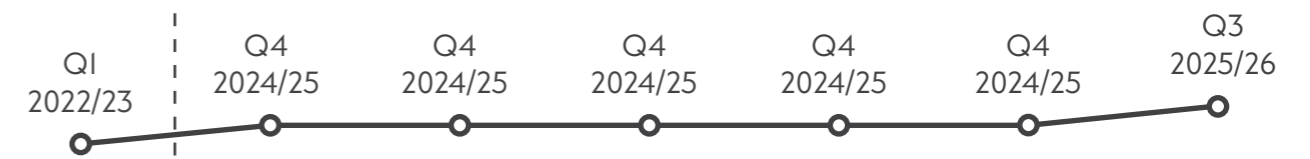
Line upgrades

Four Lines Modernisation

Forecast completion	Gross cost to date (£m)	Gross cost to go (£m)	Gross EFC (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
Q3 2025/26	5,332	184	5,516	5,520	4
Change since last Investment programme report					
3 quarters later	27	3	30	No change	

Estimated final cost performance over time (£m)

Forecast completion date



Financial commentary

Since the last report our EFC has been updated to reflect the outputs of a detailed review of the signalling software schedule with our signalling supplier for the next two signal migration areas (SMAs) to go live (SMAs 8 and 9) and consequential updates to the schedule for the remaining SMAs beyond this, up to SMA14.

This has resulted in an increase to the EFC reflecting a revised forecast completion date for the final SMA (SMA14) of Quarter 3 2025/26. This has come principally from a revised assessment of the most likely timescales to develop, test and commission the software and complete operational readiness activities. This is a realisation of some of the risks and challenges that were highlighted to the Programmes and Investment Committee in our July 2023 annual update.

Separately there has been an increase to the forecast cost to complete the works at Neasden depot owing to delays to

the site works due to challenging ground conditions, with a high volume of buried cables and pipes within the excavations that were not detailed in records and hazardous materials.

We continue to review opportunities and mitigations to offset the current risks underpinned by our ongoing review of the schedule and cost. We are not seeking to increase Programme and Project Authority at present as our team continues to review (with our signalling supplier) the schedule for the later SMAs, including assessing the benefits of different delivery strategies.

Four Lines Modernisation is a complex and challenging programme and remains under pressure as we progress with the development and commissioning of the most complex areas. We continue to explore a range of opportunities to mitigate cost pressures where possible, and a detailed assessment will be reported to the Programmes and Investment Committee in July 2024 as part of the annual review.

Performance over time commentary

The forecast completion date shows when the final signal migration area, SMA14 between Rayners Lane and Uxbridge, will be brought into service. The date has been delayed from the initial forecast made when the signalling contract was awarded in 2015. This is principally owing to challenges with complex software development, testing and commissioning, and closure availability, alongside the impact of the pandemic.

The forecast completion date has been revised since the last report and is now forecast to complete in Quarter 3 2025/26. This follows a detailed collaborative review with our signalling supplier specifically focusing on the next two SMAs to go live (SMAs 8 and 9) with consequential updates to the schedule for the remaining SMAs beyond this.

It also reflects the impact on our signalling software schedule arising from the need to accommodate additional fixes to resolve two software issues identified in the commissioned system. This was not unexpected, given the complexity of the signalling system, and these fixes were successfully implemented in August 2023.

SMAs 8 and 9 (Neasden and Harrow) are the most complex areas in the programme and present significant 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, restricted access opportunities and significant operational training requirements.

Significant progress was made in developing and testing these areas in 2023, 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 technically complex areas and therefore the schedule to complete.

We continue to work collaboratively with our signalling supplier to meet these challenges and implement measures to minimise or mitigate the risks associated with the delivery of the remaining SMAs.

Programme update

The programme is delivered by progressively installing new signalling on sections of the railway known as signal migration areas (SMAs). The new automated signalling system is already in place at 62 stations, including the whole of the Circle and Hammersmith & City lines, as well as the east end 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) is now operated by an automatic train control signalling system.

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.

The next SMA to be commissioned, covering the Metropolitan line between Finchley Road and Preston Road (SMA8), is targeted to go live in Quarter 3 2024/25.

This area is one of the most complex on the London Underground 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 depot at Neasden.

We have increased our confidence in the system integration for this complex area through significant off-site testing on our simulators in Toronto, ensuring that we optimise efficient use of on-site planned closures. This includes successful works undertaken during a closure on 10-11 November to test the connection between the control systems of the Jubilee and Metropolitan lines to ensure communication between them. This is a significant step forward for the programme in advance of the commissioning of this area in 2024.

Beyond SMA8, further progress was made when in October we completed the second system test for SMA9 in the Harrow area, successfully testing the integration of Chiltern trains with the new signalling system for the first time.

Installation of trackside signalling assets in the areas that are yet to go live is also on target to be substantially complete by the end of March 2024.

Works are progressing on the planned upgrades to the heavy-lifting shed at Neasden depot. The design for the new staff accommodation block is planned to be completed in Quarter 2 2024/25. Once built, these facilities will enable the planned overhaul of Metropolitan line trains.

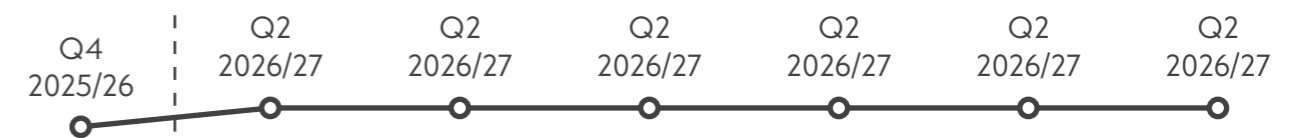
Line upgrades

DLR rolling stock and systems integration

Forecast completion	Gross cost to date (£m)	Gross cost to go (£m)	Gross EFC (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
Q2 2026/27	463	444	907	881	(26)
Change since last Investment programme report					
No change	55	(52)	3	No change	

Estimated final cost performance over time (£m)

Forecast completion date



Financial commentary

Since the last report, the £3m change in EFC is due to income no longer being reported in costs, as in previous reports, but now reported as programme income. The cost pressures previously identified remain.

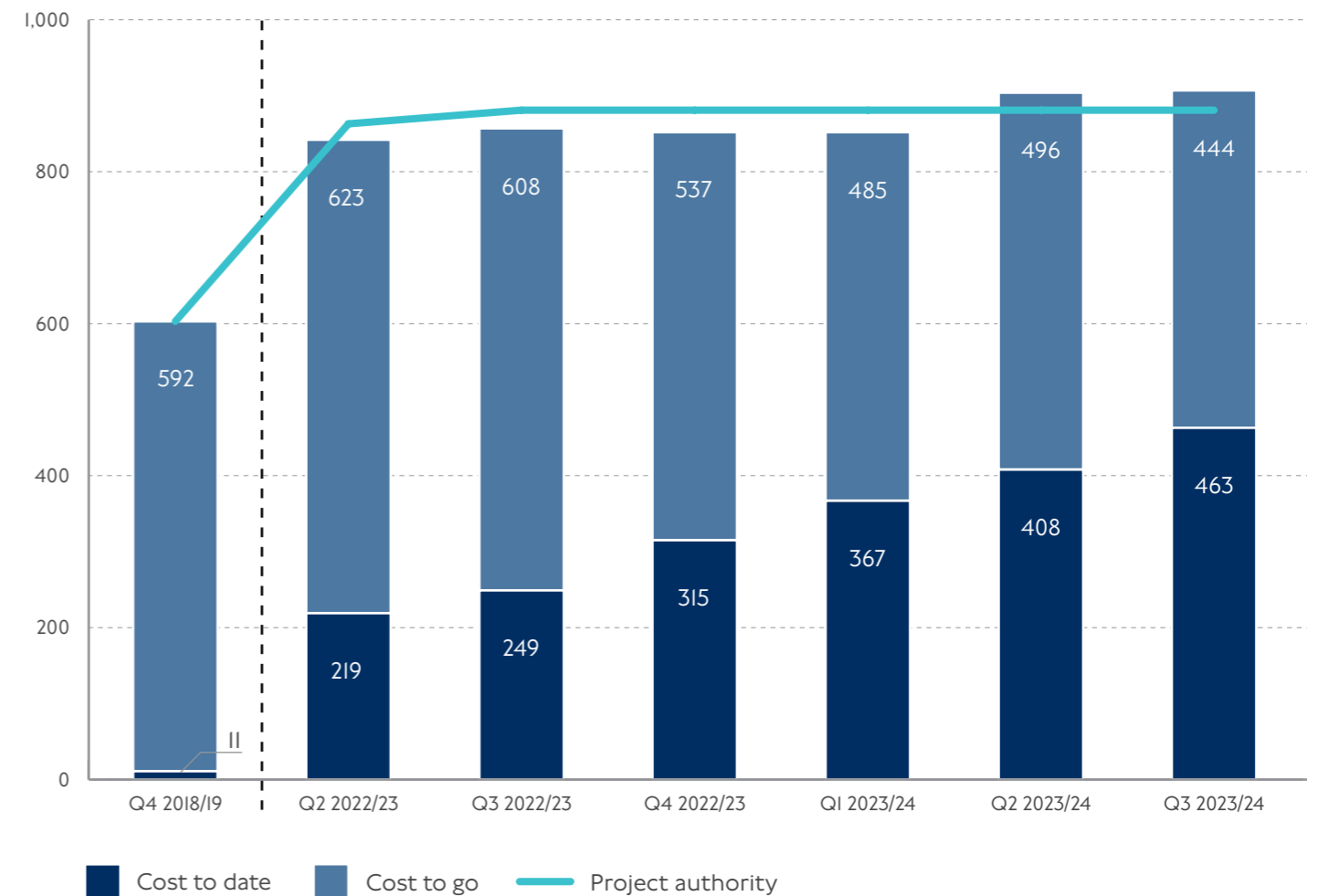
In Quarter 2, there were significant increases following the insolvency of the principal contractor delivering infrastructure works at Beckton depot and the reassessment of the likely outturn cost of all remaining works across the entire programme, including estimates for unprocured scope and future inflationary allowances. We continue to review options to mitigate these cost pressures where possible.

Performance over time commentary

Since Programme and Project Authority was granted in 2019, we have received approval from the Government to purchase 11 additional trains funded through the Housing Infrastructure Fund.

The increase in EFC from Quarter 4 2018/2019 reflects the addition of £261m of grant funding from the Government to deliver the Housing Infrastructure Fund scope of works.

The EFC in Quarter 2 2023/24 reflects the initial estimates of the impact of the insolvency of the principal contractor delivering infrastructure works at Beckton depot and the reassessment of the likely outturn cost of all remaining works across the entire programme, including estimates for unprocured scope and future inflationary allowances.





New DLR trains will start to enter passenger service later this year

Rolling stock delivery

Manufacturing of the new rolling stock in Spain is continuing, with 22 trains completed. Main line testing is also progressing and signalling integration testing of the onboard vehicle signalling control system is underway.

The modifications to the train control software reduce the fixed power assets required to support the new trains. This will reduce embedded carbon in construction and provide an energy saving over the trains' lifespan. We estimate the carbon saving from reduced construction activity to be 358 tCO₂e and work is ongoing to quantify the operational energy saving.

We encountered some challenges during integration testing works towards the end of 2023 which we are currently investigating. This has had an impact on delivery dates. We now expect the new trains to begin entering passenger service in Quarter 1 2024/25. Importantly, the end date for the renewal of the full fleet remains Quarter 2 2026/27.

Beckton depot and network infrastructure

Following Buckingham Group Contracting Ltd, the principal contractor for the Beckton depot northern sidings contract, entering administration, we are implementing alternative arrangements to ensure the completion of these works. Works have now restarted on site with an alternative contractor and we anticipate bringing the northern sidings into use in Quarter 4 2023/24.

Construction has also begun on a second entrance at Blackwall station. The first power resilience contract has been awarded and works have started on site. Identified synergies on the delivery of these works will enable us to reduce railway closures, thereby minimising impacts on our customers.

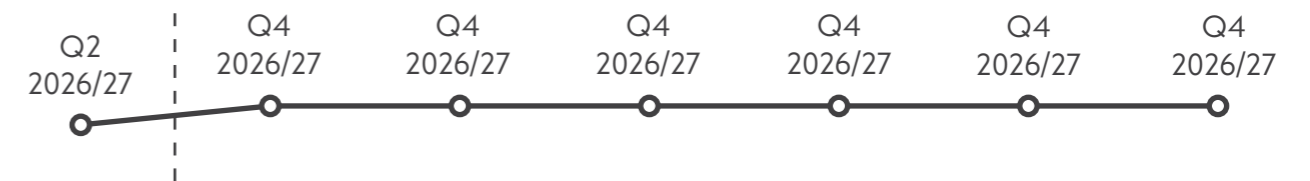
Line upgrades

Piccadilly line upgrade

Forecast completion	Gross cost to date (£m)	Gross cost to go (£m)	Gross EFC (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
Q4 2026/27	949	2,101	3,050	2,994	(56)
Change since last Investment programme report					
No change	163	(163)	No change	No change	

Estimated final cost performance over time (£m)

Forecast completion date



Financial commentary

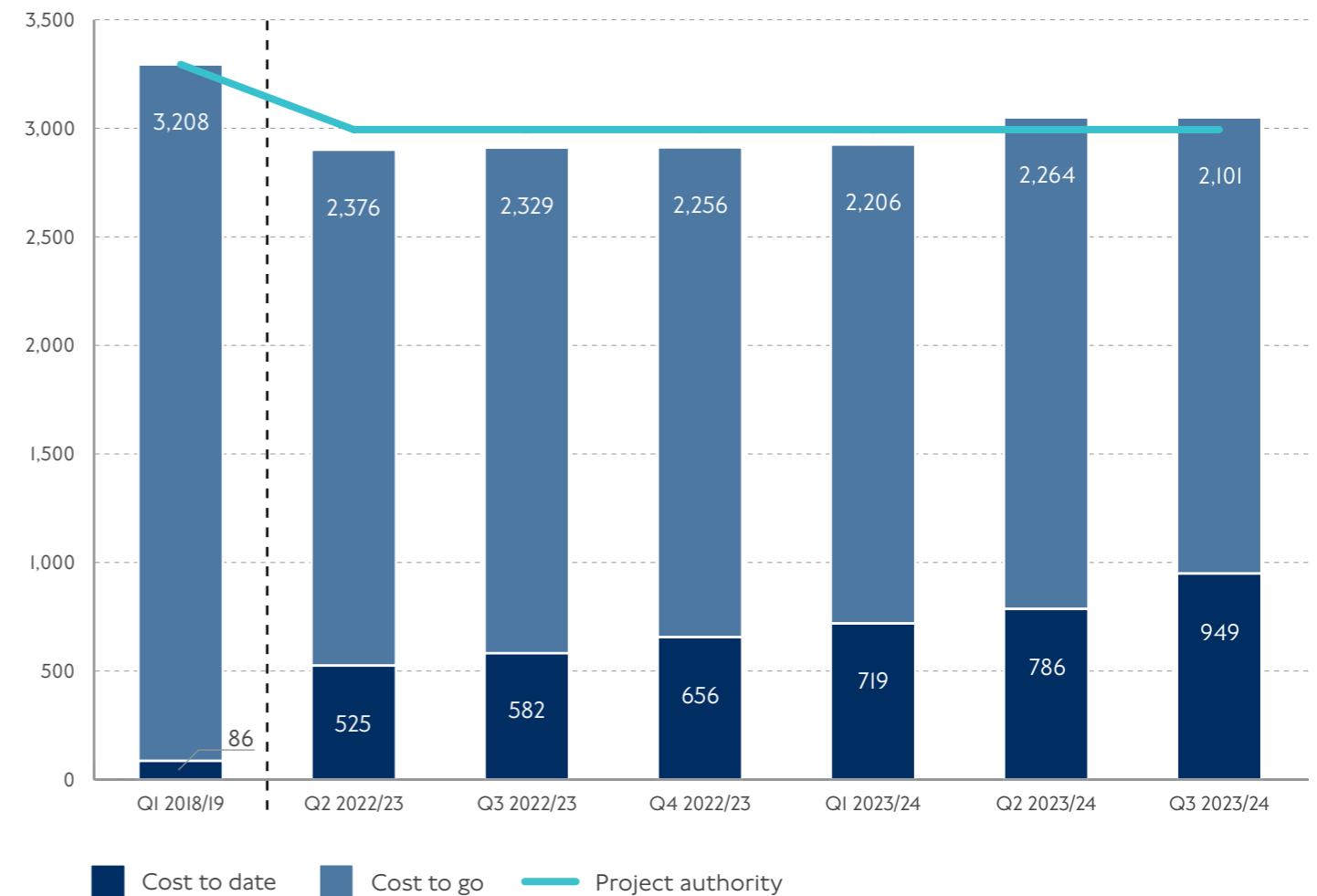
A full update was provided in the annual programme review submission to the meeting of the Programmes and Investment Committee on 5 October 2023, which highlighted the current risks and challenges faced in the delivery of the Piccadilly line upgrade programme and how we are responding to them.

In Quarter 3 2023/24, the EFC has been held at £3,050m, which exceeds the Programme and Project Authority of £2,994m. While a view has been taken of the known new risks and challenges, it is not proposed to seek an increase in Programme and Project Authority at present until the conclusion of extensive work that is under way on alternative delivery plans, mitigation measures and opportunity development to inform the Stage I EFC position.

Performance over time commentary

As previously reported and set out in the paper to the Programmes and Investment Committee at the meeting on 5 October 2023, schedule and EFC have been under pressure from several factors including increases in base costs due to emerging scope in the depot upgrades; industry price increases and indexation; programme risk and uncertainty provisions increasing to reflect schedule risks and the associated impacts.

In December 2023 the rolling stock manufacturer, Siemens Mobility Limited, notified us of a likely Compensation Event under the terms of the contract, the basis of which is that access to designated depots for the base order of 94 trains will not be available to Siemens Mobility Limited for the provisional acceptance of the train(s) relevant contractual dates.



In response, a proposed extended rolling stock manufacturing and testing programme has been considered that offers advantages compared to alternative options such as storage of trains and risk to performance of trains after storage. This option also preserves the intent to introduce the service frequency increase to 27 trains per hour by 2027. This was endorsed by the Finance Committee on 22 December 2023 and is now being implemented.

In addition to the above we continue to progress actions to realise the range of programme-wide opportunities previously identified to reduce pressure on the Stage I EFC, including the revised delivery approach for the depot upgrades and improved risk management.

A 'dynamic EFC' approach continues to be taken and a partially mitigated EFC of £3,050m is reported at the end of Quarter 3, 2023/24 (£56m above the current authority). Efforts are now focused on achieving greater certainty around the delivery schedule and costs, with no intention to see an increase in authority until after these activities have been completed. We have now completed a schedule re-baselining exercise and are reviewing the EFC. This review is on target for completion in Quarter 4, 2023/24.

These actions mean that the first train will still arrive in London for testing in summer 2024 and will be introduced into service in 2025.

Programme update

Rolling stock

The manufacturing contract with Siemens Mobility Limited is progressing well, with the first fully assembled train continuing to be tested at Siemens' test and validation centre in Westphalia, Germany. The new train is undergoing pre-delivery performance and reliability proving prior to series production. The new train design had a media launch in November.

A rephasing of the timing of payments has been agreed in principle under the contract with Siemens Mobility Limited. This will not affect the delivery of the first train in 2024 for testing in London ahead of entering service in 2025 and will protect the planned Piccadilly line timetable uplift in 2027, ensuring Londoners will benefit from the new, higher-capacity walk-through trains.

These arrangements also mean that more new trains will be built in the Siemens Mobility Limited factory at Goole in Yorkshire, surpassing the 50 per cent originally planned, where Siemens Mobility Limited is investing up to £200 million and creating up to 700 jobs at the factory and up to 1,700 in the supply chain.

The new Siemens trains will recover energy through regenerative braking and more efficient propulsion. Traction energy consumption is expected to be reduced by around 20 per cent compared with the trains operating today.

Key performance indicators focusing on carbon reduction have been established and are regularly reported on. Carbon risks and opportunities are included in our internal programme performance report.

Work continues on revising the carbon baseline to reflect an evolving understanding of programme scope and design.

Enabling works for high voltage power

The first major work packages are progressing as part of the Piccadilly line upgrade high-voltage (HV) power framework. The third batch of HV works, encompassing building extensions to Hatton Cross and Hounslow substations, was awarded following competitive tendering. The final batch has been issued for tender, with contract award expected in summer 2024.

Site enabling works have begun at Cockfosters substation in readiness for the installation of HV equipment. Detailed designs are nearing completion across multiple sites and start on site will begin in Quarter I of 2024.

One-person operation closed circuit TV (OPO CCTV)

The OPO CCTV project successfully achieved its strategic milestone: Piccadilly line digital system for OPO CCTV for platform interfaces – detailed design complete. This is a significant milestone in the end-to-end system design.

Depots

The first stage of the train maintenance depot upgrades at Northfields and Cockfosters is underway, starting with work to complete the three new siding roads at Northfields depot. These will support the leaf-fall timetable in October 2024.

At Cockfosters depot, site preparation and enabling works are progressing for the new wheel lathe facility and a contract for building construction is expected to be placed in early 2024. The contract for the new train simulator facilities at both depots has been awarded and design work has begun. The simulators will support the training programme for Piccadilly line train operators prior to the introduction of the new trains.

Work is also underway to provide initial maintenance facilities to enable the first new trains to be serviced within the existing depots. A contract has been awarded for the supply of two mobile train lifts to match the new train design, with the lift at Cockfosters to be installed first.

Progress continues to be made on the concept design for end-state depots. Three contractors have now been engaged to provide support through early contractor involvement for the design of the upgraded maintenance facilities and the track environment across both depots.

Network extensions

Silvertown Tunnel

Forecast completion	Gross cost to date (£m)	Gross cost to go (£m)	Gross EFC (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
Q4 2024/25	119	61	180	176	(4)
Change since last Investment programme report					
2 quarters earlier	1	4	5	3	

Financial commentary

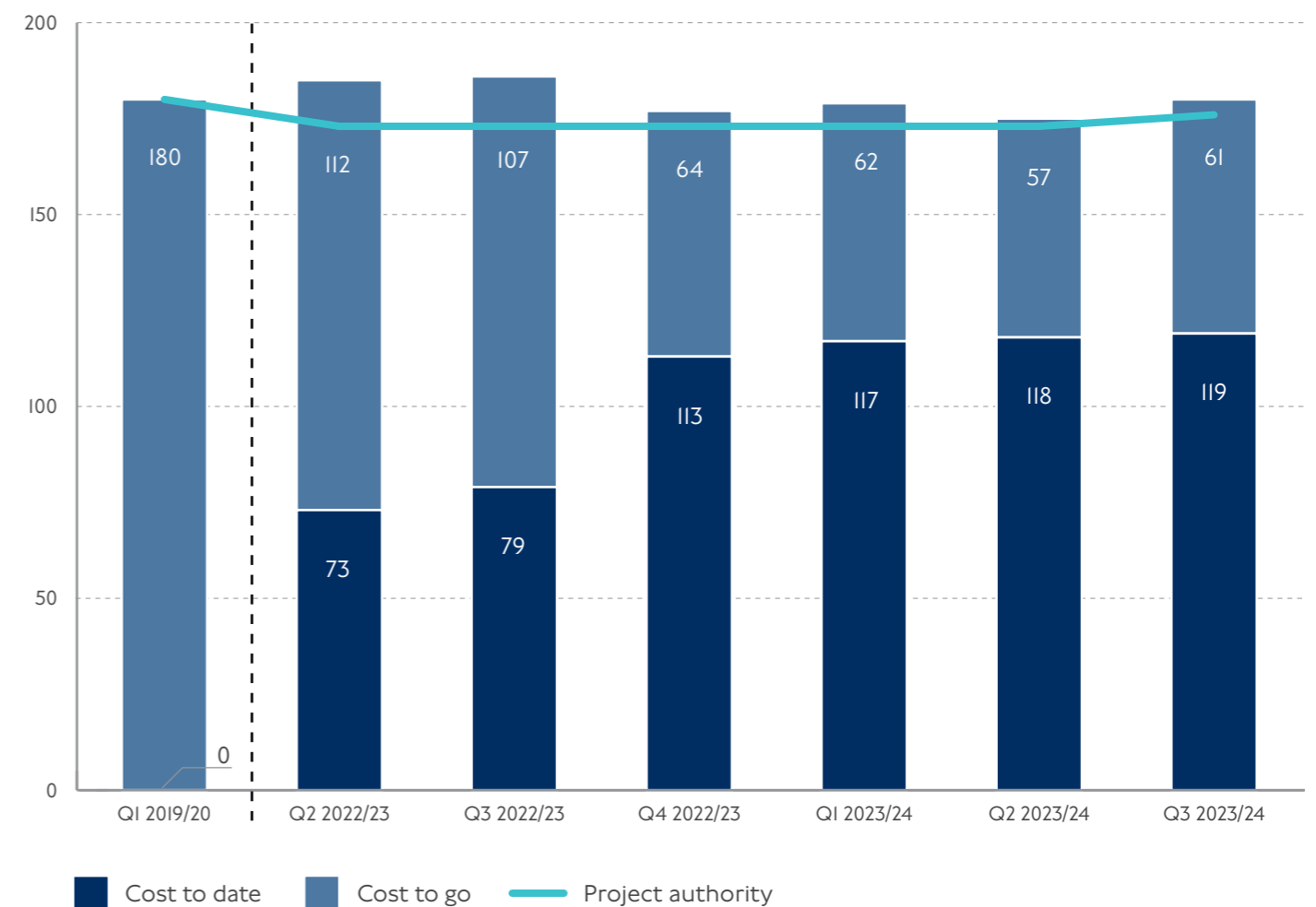
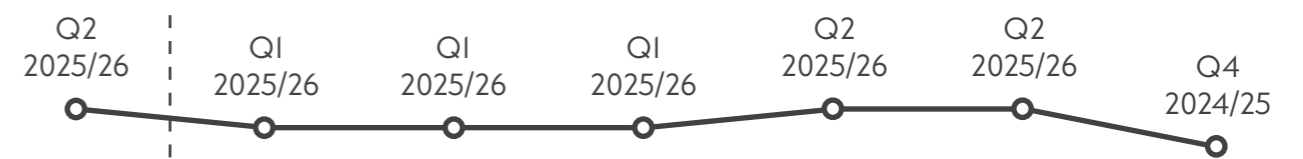
Following the full update at the Programmes and Investment Committee meeting in October 2023, the Programme and Project Authority was increased by £2.7m to include scope for the provision of bus infrastructure. The EFC is currently £4m over authority due to additional inflation assumptions being included for land purchase. The project team continue to look for ways to bring the EFC back in line. Following a series of reviews focused on programme mitigations, the permit-to-use date has improved and is now planned to be achieved in Quarter 4 2024/25.

Performance over time commentary

The forecast end date is when the permit from an independent assessor to use the new Silvertown Tunnel is obtained. Following a series of programme mitigations, the planned permit-to-use date has moved to Quarter 4 2024/25.

Estimated final cost performance over time (£m)

Forecast completion date



All numbers are shown as net of income and third-party contributions

Programme update

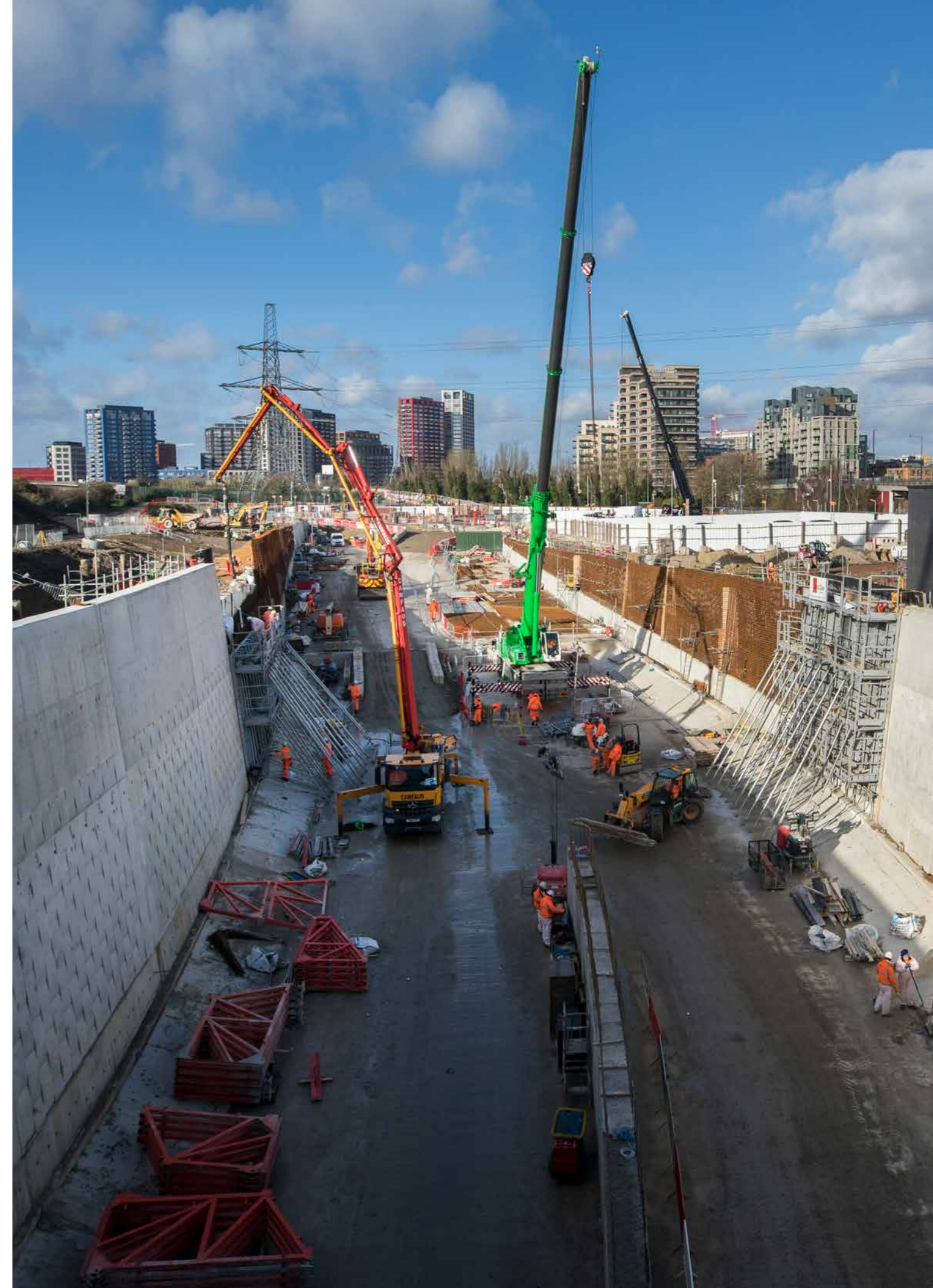
Following completion of the tunnel cross-passage excavation activities, all main tunnelling works have now been completed. At the New Civil Engineer tunnelling conference and awards ceremony held in December, our main contractor, Riverlinx, won awards for Innovation in Tunnel Boring Machinery and Systems for the pressure ring launch and floating rotation, Tunnelling Contractor of the Year and Tunnelling Project of the Year (over \$200m).

The new Boord Street walking and cycling bridge across the A102 was opened on 10 November 2023, following installation of the permanent ramp on the north side. The new bridge provides a safe and easily accessible crossing on the Greenwich Peninsula for people walking and cycling, including cargo bikes, and will accommodate future neighbouring development proposals.

Works continued at the A102 road, following several productive weekend closures, and the southbound overbridge, which crosses over the new tunnel approach road, came into effect on 9 October 2023.

The introductory cross-river bus network for Silvertown Tunnel was finalised in March 2023, and following a competitive tender process over the summer was awarded to Go-Ahead London in September 2023. The network includes routes I08 (the existing service using Blackwall Tunnel), I29 and SL4, which forms part of the wider Superloop network.

They will begin operating when the Silvertown Tunnel opens in 2025. We will be working to deliver a zero-emission bus fleet across all three routes. The consultation for the cross-river cycle provision closed on 10 September 2023 and we received more than 680 responses. We are analysing those responses before deciding on the next steps.



Work continues on the new Silvertown Tunnel, opening in 2025

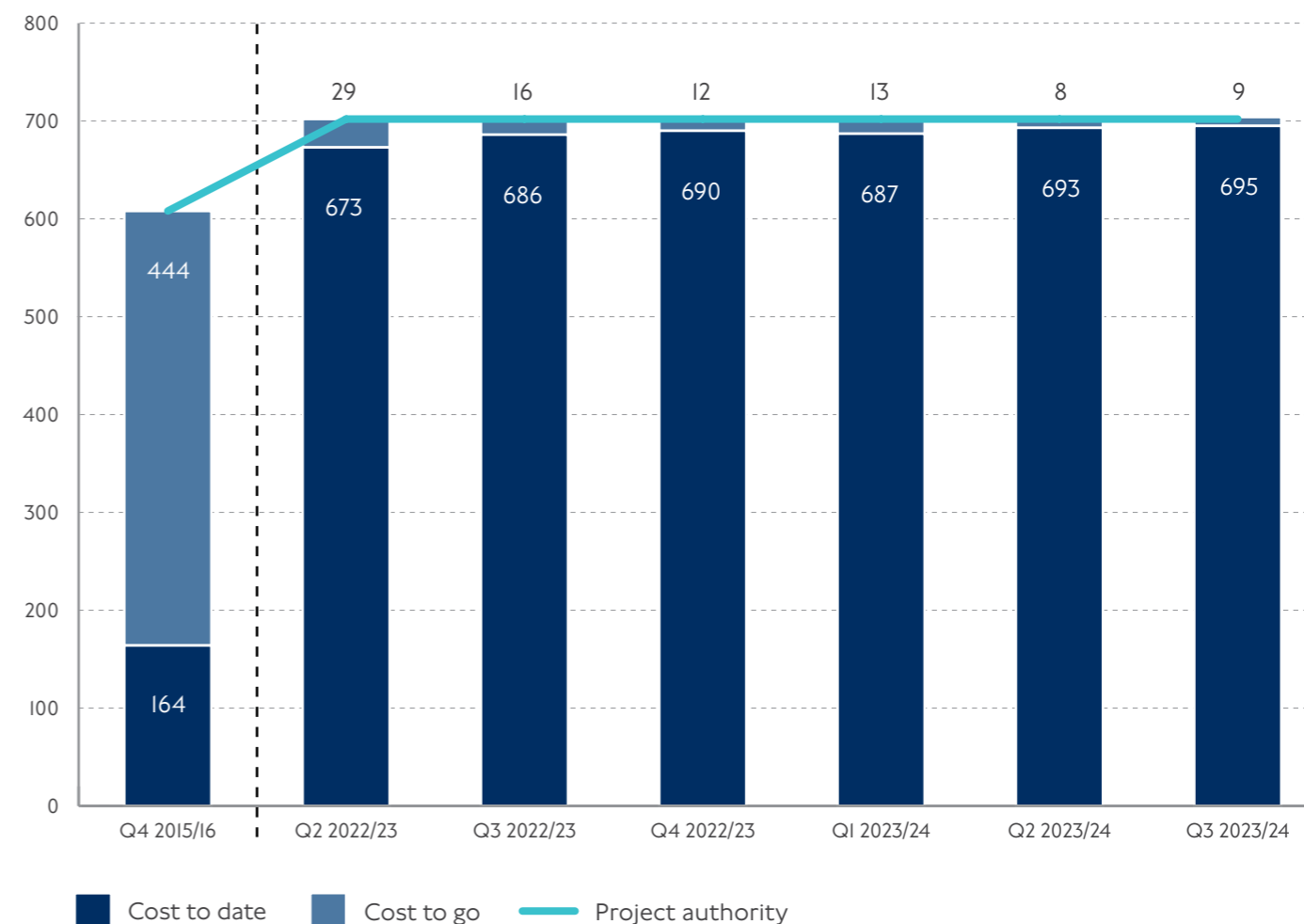
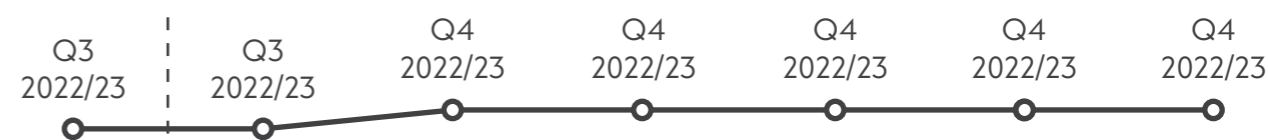
Network extensions

Bank station capacity upgrade

Forecast completion	Gross cost to date (£m)	Gross cost to go (£m)	Gross EFC (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
Q4 2022/23	695	9	704	702	(2)
Change since last Investment programme report					
No change	2	1	3	No change	

Estimated final cost performance over time (£m)

Forecast completion date



Financial commentary

Despite the EFC remaining relatively stable since October 2020, since the last IPR report at P06 the EFC has increased by £3m. This is due to delays to completion of handover, revised estimates for the external surface works and delays to resolving matters with the City of London Corporation on the Arthur Street shaft.

The project is still actively looking to reduce the EFC to bring this in line within existing Programme and Project Authority. This includes seeking agreement with the main contractor to agree a final account that will adjust the risk position that TfL holds. If the project is unable to reduce the EFC by PI2 2023/24, the project team will be required to seek additional authority from the Programmes and Investment Committee to ensure the value of work done (VOWD – costs from the beginning to the current point in time) does not exceed authority in the early periods of 2024/25.

Performance over time commentary

The forecast end date represents the opening of the new Cannon Street ticket hall entrance at Bank station, which was achieved on 27 February 2023. Our estimated final cost has increased since the authority award in 2016, owing to site works being disrupted by the impact of the terrorist attack at London Bridge, the need for additional scope following the discovery of asbestos, and the impact of the coronavirus pandemic. In addition, the final phase of the programme was delayed by around three months owing to issues relating to the manufacture and installation of cladding panels and commissioning of safety-critical systems.

Programme update

This complex project has increased the station's capacity by approximately 40 per cent, improved passenger flows and reduced journey times, enhancing the overall customer experience. Improvements include step-free access to and from the Northern line, improved access to and from DLR platforms, two new moving walkways, 12 new escalators and two new lifts. There are also more direct routes within the station and a new entrance on Cannon Street.

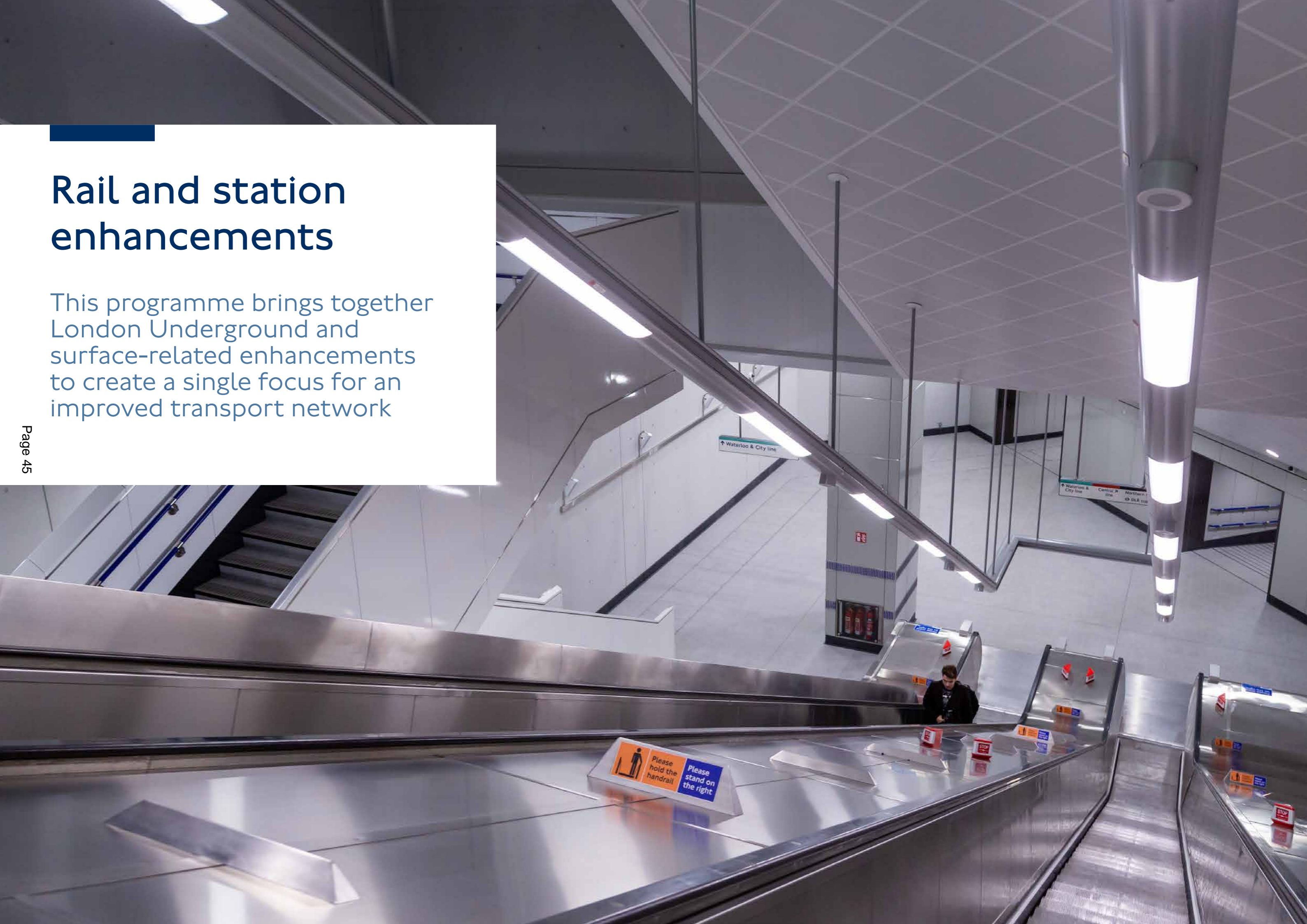
Designs for junction modification works between Arthur Street, King William Street and Upper Thames Street have been accepted by the Corporation and there was a successful public consultation. An S278 agreement has been signed between parties for the City of London to carry out works on the Cannon Street pedestrian crossing. The reinstatement design for Arthur Street (following infill of the shaft) has been agreed with the Corporation.



Work at Bank station has improved the experience for customers

Rail and station enhancements

This programme brings together London Underground and surface-related enhancements to create a single focus for an improved transport network



Rail and station enhancements

Forecast period	Gross cost to date (£m)	Gross cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
2022/23 to 2025/26	98	224	322	1,027	705

Change since last Investment programme report

No change	20	(13)	7	5
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Financial commentary

An additional £20m of Programme and Project Authority was approved at the July 2023 Programmes and Investment Committee meeting, allowing us to carry out planned enhancements work across the programme. The Programme and Project Authority of £1,027m reflects spend outside of the review period, therefore, prior to 2022/23 and beyond 2026/27.

The forecast between 2022/23 and 2025/26 has increased by £7m, predominantly driven by cost increases of £1.4m for the London Trams Sandilands programme to complete final stages of planned delivery.

Performance over time commentary

The total cost shows little movement from the previous quarter but there has been good progress in conversion of the £20m of cost to go into spend to date when compared with Quarter 2. Some delays have resulted in delivery moving into Quarter 4 and later years. Increased authority recognises the longer-term forecast for the programme.

High Speed 2

Since the Department for Transport's (DfT) announcement in March that it will pause construction at Euston station and rephase its delivery, and the Government's Network North announcement in October significantly scaling back the project, we have continued to engage collaboratively with High Speed 2 (HS2) Ltd (the company developing the new high-speed rail network) and other Euston Partnership members including Network Rail, DfT, London Borough of Camden, the GLA and Lendlease, the masterplan development partner.

We are continuing to work with HS2 and partners on options to reduce costs while ensuring effective functionality of TfL infrastructure and operations, such as the London Underground and bus stations at Euston. However, there is concern that some of the fundamental safeguards and agreements contractually secured under the protective provisions agreement may be at risk as part of the cost savings requirements.

Environmental requirements and carbon reduction targets for new or altered assets have been incorporated into the functional requirements and have been cascaded to the HS2 Ltd supply chain.

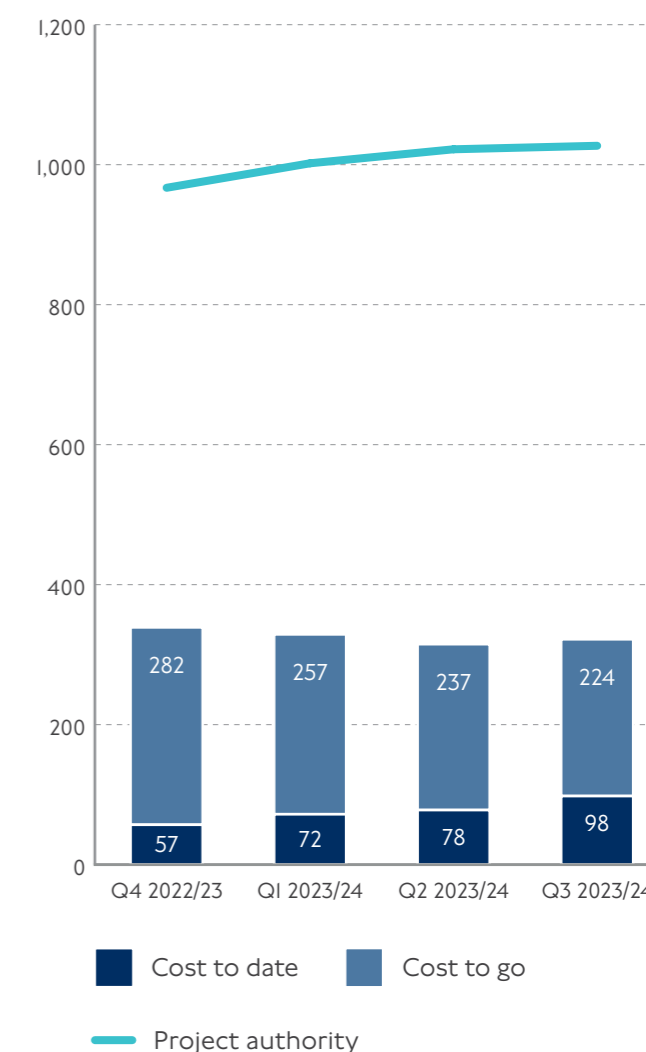
With the link to Euston now delayed further, Old Oak Common will become a temporary terminus for HS2 services for up to a decade. We have made the case to the Government to procure additional Class 345 Elizabeth line trains to ensure sufficient capacity for passengers coming from HS2 services to continue their journey into central London.

There has been some meaningful progress in relation to the provision of level boarding for Elizabeth line rolling stock at Old Oak Common, with the DfT providing support for HS2 to undertake additional design work to investigate the lowering of tracks. We continue to actively engage with HS2 and Network Rail on this proposal.

Elephant & Castle

A new station entrance and Northern line ticket hall will support the creation of 5,000 new homes and 10,000 new jobs in the area around Elephant & Castle station. This new entrance will significantly increase the station's capacity to meet both existing and new demand for Tube services, as well as delivering vital step-free access to the Northern line platforms.

Rail and station enhancements performance over time (£m)



Procurement arrangements for the new tunnels continue to plan, with evaluation of tenders underway. Environmental requirements have been incorporated into tunnelling package contract documents and the contract is planned to be awarded in Quarter 2 2024/25. As a precursor to the main tunnelling works, the pre-tunnelling ancillary works made excellent progress and we achieved completion on time in early January 2024. These works allow the main contractor to focus on tunnelling activities, without the added complications of relocating services or needing to strengthen existing platforms.

All these works, plus the station box, are known as Stage 1 works and are fully third-party funded. Construction of the station box continues, with excavation to deep basement levels making progress. The developer is planning to handover the station box by Quarter 1 2025/26, as agreed.

Options have matured for the fit-out of the station box and tunnels, including bringing the new station entrance into use (known as Stage 2), and Stage 2 was included in the draft Business Plan approved on 22 December 2023.

East London line enhancement programme

Balfour Beatty has been appointed to deliver the signalling enhancement to the East London line funded by the Housing Infrastructure Fund, and the detailed design is complete. Following procurement of the necessary power infrastructure reinforcement, we have progressed the design elements of the work. We are also continuing to work on the necessary signalling upgrades, with a series of signal diversions completed successfully and wayside installations ongoing.

Surrey Quays

Our main contractor, Morgan Sindall Infrastructure, continues with the detailed design of the Surrey Quays station upgrade. The civils and architectural elements of the design have progressed, and we have completed establishing the offices and compound on site. Enabling works, including the diversion of utilities and railway systems both inside and outside the rail corridor, have begun and, where required, were safely completed ahead of the Christmas closure. Following a successful Christmas closure, which included changes to the existing platform 2 escape stairs and partially demolishing the existing platform 2, we have begun piling works.

Tram replacement rolling stock

Our rolling stock replacement programme will replace the life-expired Bombardier CR4000 trams, which are experiencing declining reliability and have one of the lowest states of good repair across our fleets.

Following a recent assurance review, a standard selection questionnaire was issued to the market on 3 January this year. Design development for the depot and power interventions are ongoing.

DLR

DLR Thames Wharf

Feasibility-level design and initial value engineering work has now concluded for a new station at Thames Wharf in line with the revised masterplan for the Thameside West development.

We are working with the GLA to build a funding package for the next stage of works, which includes completing concept level design. This funding package is likely to include contributions from TfL, the GLA and local developers.

DLR Royal Docks

The GLA-funded Royal Docks station programme is aligned with the emerging aspirations of the Royal Docks and Beckton Riverside Opportunity Area Planning Framework. This framework aims to improve accessibility and reduce congestion to enable an additional 3,000 homes to be built.

The programme has completed concept design for capacity enhancements at Pontoon Dock station, and we are working with the GLA and third parties to secure a full funding package for the delivery of the works.

London Underground

The London Underground enhancements and station developments project covers a range of improvements, mainly to stations and depots. We continue to improve stations by carrying out capacity upgrades and delivering projects that increase and improve accessibility and relieve congestion.

Step-free access

Design work has taken place at each of the eight identified stations to determine the feasibility of installing step-free access. Surveys are being undertaken and a single preferred option has been identified for each location. Initial build plans and cost estimates for each site are being finalised.

A review of Burnt Oak and Northolt stations, which were both in detailed design when they were paused during the pandemic, is ongoing. Updated costs, construction programmes and benefits projections are being produced to determine the viability of proceeding to the construction phase of these projects.

The preliminary study to identify opportunities for step-free access at the southern end of the Northern line continues. Stations are being scored in multiple categories to assess the difficulty and likely cost. An update will be provided later this year detailing the next steps.

We also continue to engage with local authorities, developers, and businesses in other areas of London to explore available options to introduce further step-free access to stations. Feasibility work at other stations could be progressed if investment is provided by these organisations.

Waterloo – Elizabeth House

We continue to finalise agreements to ensure step-free access to the Northern line platforms is secured before the redevelopment of Elizabeth House is completed. This would involve constructing lift shaft structures and connections to the northbound platforms to enable the future fitout of the lift shafts.

Paddington – Bakerloo line

We are working with a third-party developer to deliver a new step-free ticket hall at the Bakerloo line. Installation of cabling, services and finishes for the new ticket hall and step-free access areas continues.

Colindale

Colindale is one of London's fastest-growing areas, and we are working to increase capacity and deliver step-free access at this station. This involves the reconstruction of the ticket hall above the tracks which will also enable the redevelopment of TfL-owned land for residential use. Following the announcement in January 2023 that the GLA was successful in provisionally securing funding from the Government's Levelling Up Fund, we submitted a detailed business case to the DfT in November 2023. This was approved at the DfT's Roads and Local Investment Committee on 14 December, which enabled us to let the primary construction contract on 18 December. Official main works started on site on 8 January 2024.

Knightsbridge

The project is forecast to deliver step-free access from the new Hoopers Court entrance by May 2024, with three new lifts making the station step-free from street level to platform. Boarding ramps on both platforms will help customers to board Piccadilly line trains step-free.

West Ham

We are working with a third-party developer, Berkeley Homes, to build a new ticket hall to serve the Twelve Trees Park housing development, comprising 3,847 units delivered in four phases. The main construction works associated with the new entrance started in summer 2022.

Progress in 2023 was slower than planned due to complexities in closing out several design matters which could only be addressed once Berkeley Homes appointed their principal contractor. Good progress

has now been made in resolving these and the superstructure works are expected to begin in January 2024. It is anticipated that the new ticket hall will open in September 2025, depending on the wider site works.

Stratford

Construction works are under way for delivery of the urban realm and new southwestern station entrance. Following completion of the piling for the new entrance, work on the new entrance structure has begun along with works on transforming part of the operational parking area into a new urban area. We remain in close communication with funders of the scheme, London Legacy Development Corporation and London Borough of Newham, as the works proceed. The project is forecast to finish in March 2024. The project also continues to liaise with the Network Rail project to deliver a new customer lift connecting the Jubilee line concourse to the western subway.

Leyton

This scheme involves the creation of a new ticket hall to provide increased capacity and step-free access by means of an overbridge and lifts. The works will support the many thousands of new dwellings being built in the area.

Following the announcement in January 2023 that the GLA was successful in provisionally securing funding from the Government's Levelling Up Fund, we submitted a detailed business case to the DfT in November 2023. This was approved at the DfT's Roads and Local Investment Committee on 14 December. Pre-construction surveys are under way, with the main site works programmed to begin in August 2024.



We are working to deliver step-free access at eight stations

Safe and healthy streets

This programme brings together bus enhancement and healthy streets projects to create a single focus for investment in healthy streets and enhancements for bus users



Safe and healthy streets

Forecast period	Gross cost to date (£m)	Gross cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
2022/23 to 2025/26	244	436	680	588	(92)
Change since last Investment programme report					
No change	41	(41)	No change	(229)	

Financial commentary

Our Safe and healthy streets programme continues in line with the funding settlement conditions agreed with government over the two-year period for 2022/23 and 2023/24. We will continue to provide funding to London boroughs for investment in their streets, although this is accounted for as operating expenditure. The total investment in active travel, across both operating and capital expenditure, is an average of £150m per year net of income across our Business Plan 2022/23 to 2025/26.

The Programme and Project Authority shown in the last report included authority for spend prior to financial year 2022/23. The updated authority covers financial year 2022/23 to financial year 2025/26 only to match the forecast period and only includes authority for those commitments we expect to make in Quarter 4 of financial year 2022/23 and early next year. The programme will return to the Programmes and Investment Committee to request further authority for the remainder of the financial years 2024/25 to 2025/26.

Investment in Quarter 3 was £41m, bringing spend to date this year to £114m, including efficiency savings of £5m. This compares to a year-to-date budget of £123m, with the shortfall due to slower than expected remobilisation of internal and external resources. We are closely monitoring our delivery and fully expect to meet our commitments.

Performance over time commentary

Following the government funding settlement and the TfL Board agreement of the 2023 Business Plan, investment in Safe and healthy streets has continued to accelerate each quarter. This includes continued investment and commitment to deliver the walking and cycling, bus and Vision Zero action plans.

The paper to the December 2023 Committee meeting set out a request for an additional £42m of Programme and Project Authority to cover expected commitments to be entered into in Quarter 4 and next year and updated the authority to reflect the forecast period.

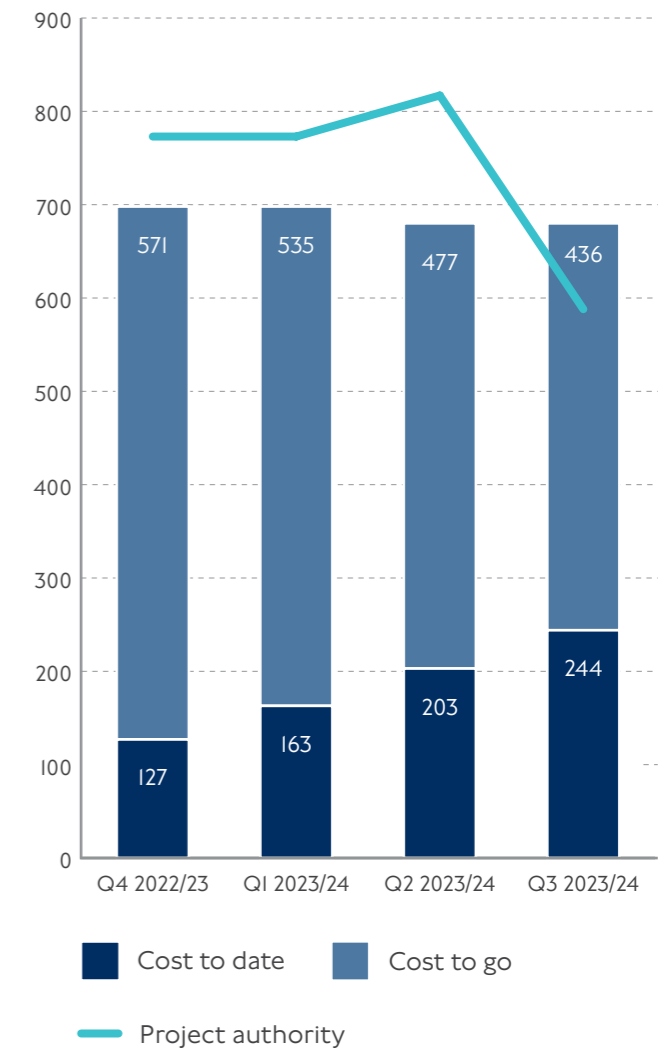
Programme update

The Safe and healthy streets programme continues to reduce road danger in line with the Mayor's Vision Zero strategy, as well as making it easier to walk, cycle and travel by bus across London. It will also accelerate progress towards mode shift, decarbonisation, economic recovery and tackling health inequalities.

The programme has made strong progress against strategic targets for the year – exceeding the target for the cycling infrastructure kilometres and the Vision Zero target relating to lower speed limits by reducing the speed on 150km of our road network.

Some challenges have hampered progress on the Bus priority programme, largely relating to securing stakeholder support for reallocating road space from private vehicles to buses. Across TfL and the London boroughs, some post-pandemic mobilisation challenges persist – for example, in securing skilled project staff and coordinating the work associated with this programme and a backlog of utility company road space requests for maintenance. Nonetheless, we remain world-leading in our approach to creating healthy streets for London, and have successfully made permanent the majority of beneficial trial schemes which were delivered at pace during the pandemic.

Safe and healthy streets performance over time (£m)



Old Street station and roundabout

The Old Street roundabout project will bring safety improvements for cyclists and pedestrians by providing new and improved crossings, fully segregated cycle lanes and a new public space with an accessible main entrance to Old Street Underground station and the shopping arcade.

Construction of the new London Underground main station entrance has continued and is scheduled for completion in March 2024.

Works have also continued on the surrounding peninsula area with final paving works and installation of new street furniture, trees and planting for the new public space. Two of the new pedestrian crossings onto the peninsula area were opened in October 2023, and the final crossing and the public space opened on 21 December 2023.

Construction of the new passenger and goods lifts have been completed ahead of testing for February 2024. Refurbishment continues of the subsurface concourse area with installation of new mechanical, electrical and communications equipment. Delivery and installation of new fire doors, security gates and shop fronts is progressing and is expected to be completed by April 2024.

Completion of all testing is now April 2024, with all handover and assurance completed by June 2024.

Cycling infrastructure

Cycleway 4 London Bridge to Greenwich

The London Borough of Southwark is continuing to construct the temporary scheme for Lower Road between Rotherhithe roundabout and Surrey Quays Road, which will complete the final section of a protected cycling route between London Bridge and New Charlton. Works are expected to be completed by February 2024.

Cycleway 9 East Kensington Olympia to Brentford

The construction work for a new segregated cycleway between Kew Bridge and Watermans Park was completed in October and connects the area with Chiswick, Gunnersbury and Hammersmith. The next section, Watermans Park to Brentford Magistrates' Court, started on 23 October 2023 as planned.

Cycleway 23 Lea Bridge to Dalston

Construction of segregated cycleways around Lea Bridge roundabout is progressing well, with all kerbing, paving, resurfacing and lining of the cycleway completed and upgraded signals commissioned on 20 December 2023. Resurfacing of the carriageway around Lea Bridge roundabout began on 8 January 2024 and was completed on 26 January 2024. Construction of Lea Bridge Road started as planned on 24 July 2023 and is being delivered by the London Borough of Hackney.

Cycleway 37 Mile End to Westferry Lane

Work to deliver the permanent scheme at Mile End Road junction was due to begin in February 2023 but the London Borough of Tower Hamlets is seeking changes to elements of the proposals and consequently has not signed a section 8 agreement permitting the works. We have written to the London Borough of Tower Hamlets to highlight the importance of resolving any outstanding matters so this safety critical scheme can be delivered.

Cycleway 50 Finsbury Park to Tottenham Hale

Construction of the section on our roads from Caledonian Road to Finsbury Park was completed on 8 January 2024. Consultation and monitoring will then begin while the scheme is in operation.

Vision Zero

Lowering speed limits

Lowering the speed of vehicles in London is key to reducing both the likelihood of a collision and the severity of the outcome. The second phase of the programme is underway aiming to provide a 20mph speed limit on 220km of our roads by May 2024, with 215km implemented to date.

This quarter, we introduced a 20mph speed limit on the A205 corridor in Greenwich and across TfL roads in the Royal Borough of Kensington and Chelsea as well as a new 30mph speed limit on the A4180 Ruislip Road in the borough of Ealing. We are nearing completion of works to lower the speed limit to 20mph on sections of roads in the boroughs of Greenwich, Lewisham, Lambeth, Southwark, Wandsworth and Merton. These came into operation on 18 December 2023.

Mounted banners on lamp columns have been installed across these corridors to help raise driver awareness of the new 20mph speed limit. A radio and digital advertising campaign ran from 18 September to 18 December 2023 to complement the changes.

Detailed design is under way to lower the speed limit to 20mph on selected roads in the boroughs of Greenwich, Newham, Wandsworth, Richmond, Sutton and Merton, and on the A312 Harlington Road in West Hounslow. A new 30mph speed limit is proposed on the A4 Great West Road in Hounslow. A new 40mph speed limit will also be introduced on the A406 North Circular Road in Enfield and Waltham Forest. These projects are scheduled for delivery by May 2024 and will complete phase two of our lowering speed limits programme.

Outcome definition work is taking place on identifying where complementary speed-reducing features such as green infrastructure, lane reallocation and raised crossing points can be installed to provide a self-enforcing speed limit where it has recently been introduced, in line with DfT guidance on setting speed limits.

Safer Junctions programme

We have made improvements at 44 out of 73 junctions identified as the most dangerous junctions on our roads, defined as those with some of the highest collision rates involving vulnerable road users. Construction work continues on the Holloway Road/Drayton Park safer junction scheme, which is on track to complete in Quarter 4 of 2023/24 financial year.



We are introducing a range of features to improve bus safety

Further design and survey work is continuing at pace on the Battersea Bridge safer junction scheme, with construction due to start in Quarter 3 of 2024/25 financial year, pending approvals, funding and coordination with other works on the network. We are continuing with design and planning work on the remaining safer junctions and are committed to public engagement on potential changes to 10 further locations by the end of 2024. We intend to start engagement on designs for Seven Sisters Road/Woodberry Grove and Cannon Street/King William Street by Quarter 2 of financial year 2024/25.

Pedestrian safety

Design work continues on more than 40 schemes across London, at locations where there is an identified road safety concern.

Construction was completed in early December at the junction of A205/ Lancaster Avenue in Lambeth, improving a pedestrian crossing and reducing vehicle speeds. Construction of a new pedestrian crossing in Grosvenor Place in Westminster began in early January 2024. Construction also started in November 2023 on a new pedestrian crossing on Cavendish Road in Clapham.

Across 2024/25, we plan to deliver pedestrian safety improvements at a number of locations, including King's Cross, the A23 in Lambeth, Redcliffe Gardens in Kensington and Chelsea, and the A5 Edgware Road in Westminster.

Bus priority

We continue delivery of new bus lanes, contributing to a target of 10km by the end of March 2024. To date, 5.4km has been delivered on borough and TfL roads. More bus lane schemes are planned for delivery in Quarter 4. Signal timing reviews have been completed at a total of 806 sites to provide additional priority for buses, well exceeding the target of 700 for the year. Two-thirds of buses in London approaching traffic signals either arrive on a green signal or receive some form of bus priority.

More than £10m of funding has been allocated to London boroughs to deliver enhanced bus priority on their local road networks. As well as new bus lanes, this investment will deliver other bus priority features such as new bus gates, the removal of pinch-points and changes to the operating hours of bus lanes. The London Borough of Newham is continuing to construct a scheme that will provide 700m of new bus infrastructure, with further significant bus lane delivery planned in the boroughs of Brent, Enfield and Hounslow in Quarter 4 2023/24. Barking & Dagenham Council recently completed more than 200m of new bus lane at Wood Lane.

We have identified a suite of activities to improve bus priority across the 10 Superloop routes. Improvements include traffic signal upgrades, new and improved bus lanes, and removing pinch-points. In some locations, a holistic corridor-based investigation is being progressed to focus on end-to-end bus priority. Signal timing reviews have already been reprioritised to include Superloop corridors.

Transformational schemes

Catford town centre

We continue to work with Lewisham Council to support their ambition to create a greener town centre for Catford, ensuring it is a pleasant place to live, work and visit, and improve transport in the area. Following the public consultation, we published our response to issues raised at the end of November, outlining our intention to proceed with the scheme, subject to approvals and funding. The concept design is progressing well, and we submitted a planning application for the scheme on 19 December 2023.

To fund this scheme, we are applying for finance through the DfT's Major Road Network fund and the business case is being considered at the DfT Roads Investment Committee in February 2024, ahead of ministerial and HM Treasury review in Quarter 1 2024/25.

Lambeth Bridge

We are continuing to develop the detailed design to improve safety and security at Lambeth Bridge, which is one of the three most dangerous junctions in London for cycling. We received funding from the Programmes and Investment Committee in October 2023 to undertake construction works from 2024/25. We relocated the palm tree from Lambeth Bridge northern junction into Churchill Gardens in December 2023 and are working with utility companies with the aim of starting works prior to the main construction works. The design is progressing as planned and we aim to complete this by Quarter 1 2024/25 and start the main construction works from Quarter 2 2024/25.

Nine Elms highway scheme

We continue to work with Wandsworth Council to bring forward improved cycling, walking and public transport for existing and new residents, businesses and visitors to the Vauxhall Nine Elms Battersea opportunity area. The design for the eastern section from Vauxhall to Duchess Bridge is complete and, subject to approvals and funding, we will start construction in Quarter 4. In parallel we will progress with the design of the western section from Duchess Bridge to McDuff Road.

Borough funding

We support boroughs to deliver a range of healthy streets improvements on local roads and have allocated £78.9m funding for delivery in 2023/24. Boroughs are currently working on around 600 Healthy Streets schemes funded from the Safer corridor and neighbourhoods programme. These include walking, bus priority, cycling and safety schemes delivering a range of active travel benefits on borough roads.

Bus safety

We published our Bus safety strategy on 7 September 2023, setting out our vision for a safe and attractive bus network and aim to ensure that nobody is injured or killed on our bus network by 2041. We have successfully reached the milestone of having more than 1,000 buses in London's fleet, meeting the Bus Safety Standard, and we are continuing to make good progress with retrofitting technology onto the fleet.

We are now introducing several safety features from the Bus Safety Standard onto vehicles that entered the fleet before the safety features were mandatory, but which still have a substantial number of years of London service ahead. This will deliver safety benefits that were not available at the point of manufacture. These upgrades include intelligent speed assistance, which automatically restricts bus speeds to local limits, and a camera monitoring system, which replaces mirrors with high-performance cameras to improve driver visibility and reduce blind spots. Fatigue-detection technology is also being fitted in a widescale trial.

Bus customer action plan

We published our Bus action plan in March 2022, which outlines how we will build and broaden the appeal of the bus service. This includes delivering a step-change in customers' perceptions and experiences of bus travel, which can be achieved through offering better information and meeting expectations of a modern and comfortable experience at bus stops and on buses.

In 2022 we launched a package of co-ordinated enhancements to customer features, both on the buses and along 18 stops on Route 63 between King's Cross and Honor Oak.

We delivered a new fleet of 29 electric buses with enhanced customer features. These features include a skylight, high-backed seating, USB charging and phone holders, a new moquette to help mark out priority seats, wood-effect flooring, stop-buttons on the back of seats, and enhanced on-bus customer information screens.

Trials are also underway on new types of digital information screens at 18 stops. New digital colour displays within bus shelters give customers the same live bus arrival information that is offered on London's traditional dot matrix countdown signs, alongside a variety of other live mapping and travel information such as disruptions and diversions.

We are currently developing our plans for the next stage of this work and will be establishing targets and milestones in the coming periods.

Environment

This programme comprises environmental projects and includes the new green project pipeline that is being developed



Environment

Forecast period	Gross cost to date (£m)	Gross cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
2022/23 to 2025/26	328	249	577	1,013	436
Change since last Investment programme report					
No change	101	(119)	(18)	59	

Financial commentary

The forecast cost has reduced overall by £18m since the last quarter. This is driven largely by a re-baselining of the forecast as projects mature and we have a better understanding of our likely costs reducing risk provisions predominately in the Tunnel user charging and Detroit projects.

Programme and Project Authority covers spend outside the EFC window of 2022/23 to 2025/26.

Performance over time commentary

A paper was approved during the quarter to grant the portfolio a further £59m of Programme and Project Authority to provide additional support to Londoners through the scrappage scheme in 2023.

We have seen a reduction in forecast spend, owing to efficiencies surrounding road user charging schemes and reduced risk provisions on existing schemes as we mitigate risks.

London-wide Ultra Low Emission Zone*

On 29 August 2023, the Ultra Low Emission Zone (ULEZ) expanded to cover all London boroughs. A report published on 31 October 2023 showed that vehicle compliance in outer London has increased by 10 per cent, from 85 per cent when the Mayor announced the consultation for the proposed expansion in May 2022, to 95 per cent. In addition, the number of non-compliant vehicles seen driving in London on an average day has decreased by 77,000 compared to June 2023, a reduction of 45 per cent.

Since 30 January 2023, the largest vehicle scrappage and support scheme of its kind in the UK has been available to assist Londoners with adapting their non-compliant vehicles. Up to 19 November 2023, more than 40,000 applications had been approved, which equates to nearly £140 million of support for eligible Londoners.

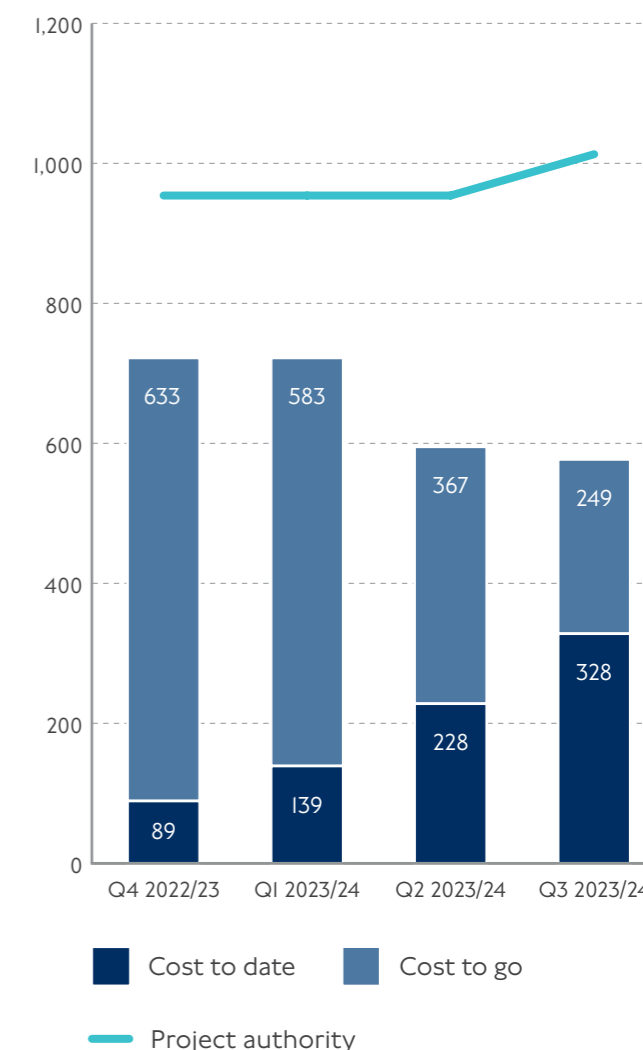
The London-wide information campaign, launched in January 2023 to raise awareness of the ULEZ expansion, has continued past the launch date, encouraging Londoners to check their vehicle and emphasising the health benefits of the scheme. We are also continuing to work with stakeholders, including London boroughs and home counties, MPs and London Assembly members, businesses, community groups and organisations representing disabled people, as well as a wide range of other Londoners to raise awareness of the ULEZ expansion and the scrappage scheme.

We have installed an extensive camera network to support the effective operation of the scheme. Up to 18 December 2023, we had installed 2,261 new cameras, with a total of more than 3,500 cameras enforcing road user charging schemes in London. We have also installed 2,579 signs, of which 940 are boundary signs.

Unfortunately, there have been a significant number of incidents of vandalism on ULEZ cameras and signs. All incidents are reported to the police. A number of individuals have been arrested and charged, and one convicted. We are working closely with our contractors and the police. Where necessary, cameras are repaired or replaced.

*This includes other road user charging schemes

Environment performance over time (£m)



Direct Vision Standard phase two

Since March 2021, all heavy goods vehicles (HGVs) over 12 tonnes are required to obtain a safety permit to operate in London as part of the London HGV safety permit scheme. This scheme contributes to the Mayor's Vision Zero strategy by improving HGV drivers' visibility, thereby reducing the risks HGVs present to vulnerable road users. It is run in partnership with the boroughs through London Councils. Vehicles that do not meet the minimum one star on the Direct Vision Standard rating, introduced in 2019, are required to fit additional 'safe system' measures to the vehicle. Since March 2021, the scheme has been enforced by a penalty charge notice.

From 29 October 2024, the minimum rating to operate without fitting additional safety measures goes up to three stars. A consultation ran between 14 February and 3 April 2023 seeking views on the proposed progressive safe system (PSS), which enhances the current system to reflect technological development since it was originally designed. London Councils approved this and other scheme changes in June 2023, and operator guidance and specifications for the PSS were published on 4 September 2023.

These changes will build on safety improvements from the current scheme, which saw the number of fatal collisions where vision is a contributing factor fall by 75 per cent from 2018 to 2023 (from 12 to three).

Electric vehicle infrastructure delivery

London is expected to need between 40,000 and 60,000 electric vehicle charging points by 2030, including up to 4,000 rapid chargers. Estimates show that a quarter of these could be accommodated on public sector land. This infrastructure could help support a reduction of carbon dioxide emissions of between 1.5 and 2.6 million tonnes per year. The Mayor has committed to supporting the continued rollout of charging points alongside the private sector, to help meet exponential growth in demand and contribute towards achieving a net zero carbon London by 2030.

The first tranche of our electric vehicle infrastructure delivery programme will provide rapid and ultra-rapid charging points across 100 parking bays on our roads. Charge-point operator Zest was contracted for an initial batch of 39 charging bays across 24 sites in May 2023, and two further batches of 25 sites in November 2023.

We have completed a preliminary assessment of more than 2,400 sites across the GLA estate which has allowed us to accelerate the release of further batches to the market. In addition, we have reviewed current assessment criteria to bring forward new sites across our land and wider GLA land. We have also initiated a second tranche of delivery, to identify a pipeline of sites to be delivered on both our own and GLA Group member land.

In addition to the rollout of rapid electric vehicle charging points, the Office for Zero Emission Vehicles has recently announced that London will receive almost £39m of

funding through the DfT's Local Electric Vehicle Infrastructure fund. This will primarily be used to accelerate the delivery of low-powered charging infrastructure on borough highways. This includes residents without access to off-street parking, and builds on the 400 fast-charging points that will be delivered by London boroughs by March 2024 using £9.7m of the Local Electric Vehicle Infrastructure pilot funding and additional borough delivery funded by the Government's on-street residential charge point scheme.

Zero-emission bus fleet

Since reaching the milestone of 1,000 zero-emission buses in August 2023, we now have more than 1,300 in the fleet and are progressively adding to this total. Our target is to reach 1,400 by the end of this financial year.

The 1000-bus milestone was marked by a Mayoral launch in August 2023 at Edgware bus garage, showcasing a wrapped electric bus operated by Metroline. We also celebrated the introduction of more than 80 new zero-emission buses in Sutton on routes 80, 93, 154, 164 and 213. This large addition to Sutton's fleet means that more than half of the journeys taken by bus in Sutton are now via zero-emission buses, thereby further improving local air quality.

Currently, 14 per cent of our bus fleet operates with zero-emission buses, including hydrogen, battery electric and opportunity charged electric buses. This progress is key as it contributes to our wider ambition to transform TfL to become the strong, green heartbeat of London.

Work continues on the route 358 electric opportunity charging trial, which is expected to go live in the coming months. Once completed, the trial will use pantograph charging infrastructure at either end of the bus route in Bromley, one of the longest routes in the bus network, alongside the introduction of 20 new single-deck electric buses with enhanced customer and safety features.

We are currently on track to transition to a fully zero-emission bus fleet by 2034. With additional government funding, this target could be achieved by 2030.

Since 2016, the number of fully zero-emission bus routes has increased from five to more than 60, with around a further 15 routes using a mixture of zero-emission and low-emission buses. The number of zero-emission buses on London's roads has increased by more than 3,000 per cent since 2016, growing from 30 buses to more than 1,300 buses.

Zero-emission buses help Londoners breathe cleaner air and further contribute to the decarbonisation of the transport network, which is crucial to our work to meet the Mayor's mission for London to be a net zero carbon city by 2030. Through the decarbonisation of London's bus network, we will save an estimated 4.8m tonnes of carbon by 2034 or an estimated 5.5m tonnes of carbon by 2030 with government funding.



All new buses in our fleet meet the latest safety standards

Our zero-emission bus fleet is the largest in western Europe and has the lowest carbon dioxide emissions per passenger kilometres compared to other global cities such as New York, Paris and Vancouver. All new buses joining the fleet will have enhanced customer features, such as improved flooring, seating, lighting and customer information, and will meet the industry-leading Bus Safety Standard.

In addition to this, the investment in zero-emission buses supports around 3,000 jobs across the UK, in locations such as Ballymena, Falkirk and Yorkshire. By creating capacity and certainty for a wider zero-emission bus market, this investment is paving the way for green national economic growth. Our funding pipeline for zero-emission buses also lowers costs for other local authorities by creating economies of scale.

Waste heat

Waste heat from London Underground ventilation shafts is a constant and reliable source of energy. Much of it is simply released into London's air. This project will capture thermal energy from the ventilated air to feed to local users, powering heating and hot water in nearby buildings.

Feasibility studies have been conducted for six ventilation shafts, to explore the scale of opportunity. This project could contribute to serving thousands of residential premises, plus commercial and public buildings such as schools. The proposed supply of waste heat would reduce a requirement for gas combustion and could therefore be associated with improved air quality through a decrease in carbon emissions.

Current activity is focused on accelerating the delivery of an initial ventilation shaft site, and to identify an appropriate energy supplier. Following their appointment and design work at this first location, work will continue to identify future waste heat opportunities across our estate. Other sites for harnessing heat, including pumped water systems, are being explored across the London Underground network. We also continue to receive considerable interest from the market at a variety of locations.

A significant project milestone was achieved on 16 November, with a preferred delivery and commercial approach confirmed for the first site. Market engagement continues and will be used to finalise the procurement strategy and compile a delivery schedule. Plans for a longer-term delivery strategy are under way.

Solar private wire

As London's single largest consumer of electricity, it is our responsibility to identify and utilise renewable energy sources.

The Solar private wire project presents an opportunity to directly receive zero-carbon (solar-generated) electricity from decentralised sources, bypassing the national grid and distribution network operators and associated charges. This has the twin benefits of guaranteeing renewable energy, while also offering financial savings.

Initial investigations suggest our power network can accommodate 64 megawatts of renewable energy, equivalent to five per cent of the annual load.

The intention is for a solar collaborator to carry out detailed project identification, design and delivery. We would ultimately purchase the energy to assist with powering the London Underground network. We are on track to conduct a tendering exercise from early 2024 and once a contract is secured with a preferred delivery partner, work will begin on baselining a design and delivery schedule across a variety of proposed sites.

Buildings decarbonisation

We are one of London's largest landowners, with roughly 6,000 registered structures of a wide variety of building types across our estate. These include stations, depots, river piers, head offices and approximately 3,000 rental properties and housing developments. We are also the single largest energy consumer in London (with electricity consumption equivalent to roughly 457,000 homes).

Emissions from our buildings represent around 11 to 12 per cent of our total operational carbon emissions. Due to the high number of fossil fuels being used (mainly for heating systems), these will be reduced less by grid decarbonisation than other operational emissions areas. The heat decarbonisation programme has been created to prioritise the removal of fossil fuel heating systems.

The strategic objective of the programme stems from our Corporate environment plan, published in 2021. This states our ambition to achieve net zero carbon across all operations, including head office buildings, by 2030.

Desktop modelling of decarbonisation initiatives was produced as part of a deep-dive report completed in 2022. This study focused on our buildings estate to create a carbon baseline for our entire property portfolio and assessed the potential costs, benefits and business case of a package of decarbonisation interventions rolled out at many sites across the network. Following the report, further studies were completed at eight priority locations.

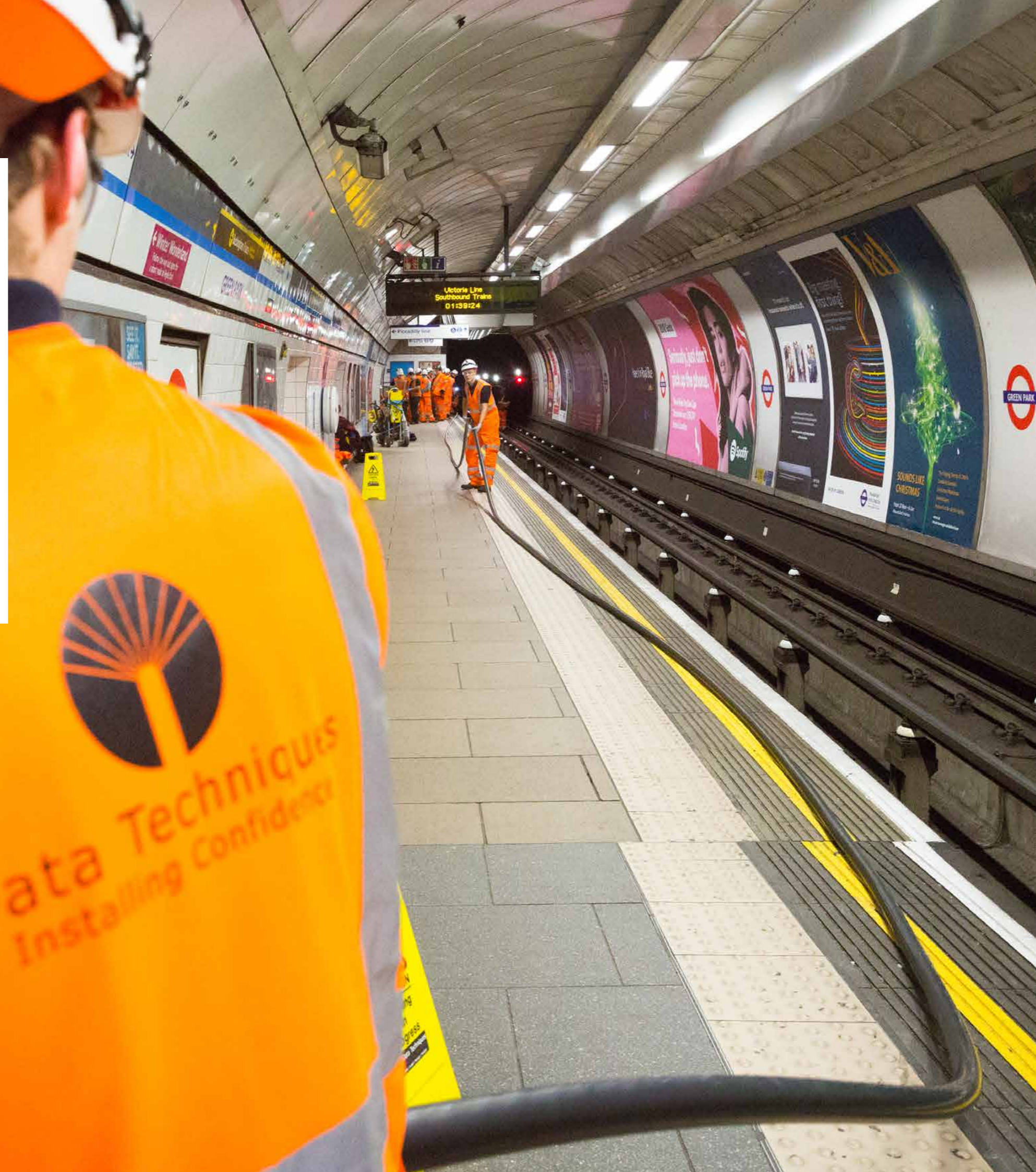
Work is currently under way to progress these initial feasibility studies and to complete studies for a further 14 sites. A further round of prioritisation will take place after that, to inform a delivery schedule that maximises value for money. It is our intention to create a rolling programme of heat decarbonisation projects that replace fossil fuel heating systems with low carbon alternatives.

Some funding has been secured to support delivery from 2023/24 to 2026/27. However, additional third-party funding will be required to enable delivery of this programme. Grant funding has been secured through the Public Sector Decarbonisation scheme and a second bid for funding was submitted in November 2023. The outcome of this bid will be known at the end of Quarter 4 2023/24. If successful, this will accelerate delivery of heat decarbonisation projects at three priority sites by March 2026.

The programme achieved a significant milestone on 20 December 2023, where requirements were confirmed.

Technology

This programme comprises two technology programmes, Operations technology and Technology and data, with a small number of new rail and sponsored-services technology projects



Technology

Forecast period	Gross cost to date (£m)	Gross cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
2022/23 to 2025/26	313	546	859	783	(76)
Change since last Investment programme report					
No change	49	(91)	(42)	(299)	

Financial commentary

The £76m forecast versus authority is due to the Programmes and Investment Committee's approval of Programme and Project Authority in July 2023 only covering commitments for the financial year 2025/26.

We are putting a request to this Committee meeting (February), to cover all Programme and Project Authority required for financial year 2025/26.

The forecast reduction of £42m since the last quarter reflects reductions in the current and last financial year as part of business planning, £39m of which is for Operations technology projects.

Performance over time commentary

The Programme and Project Authority shown in the Quarter 2 report included £217m prior to financial year 2022/23 and £82m after financial year 2025/26. The updated authority covers financial year 2022/23 to financial year 2025/26 only, to match the forecast period.

Projects with the highest spend in the last quarter include the Connectivity asset renewal programme, Project Hina (a project to replace ticket reader technology for buses to aid revenue collection), London Underground station security integration, Project Oval (DfT initiative to expand the acceptance of contactless pay as you go to suburban rail services across south-east England), station WiFi rollout, deployable enforcement cameras, surface data network transformation and the Performance assurance fund.

Operations technology Enforcement, compliance, safety and security

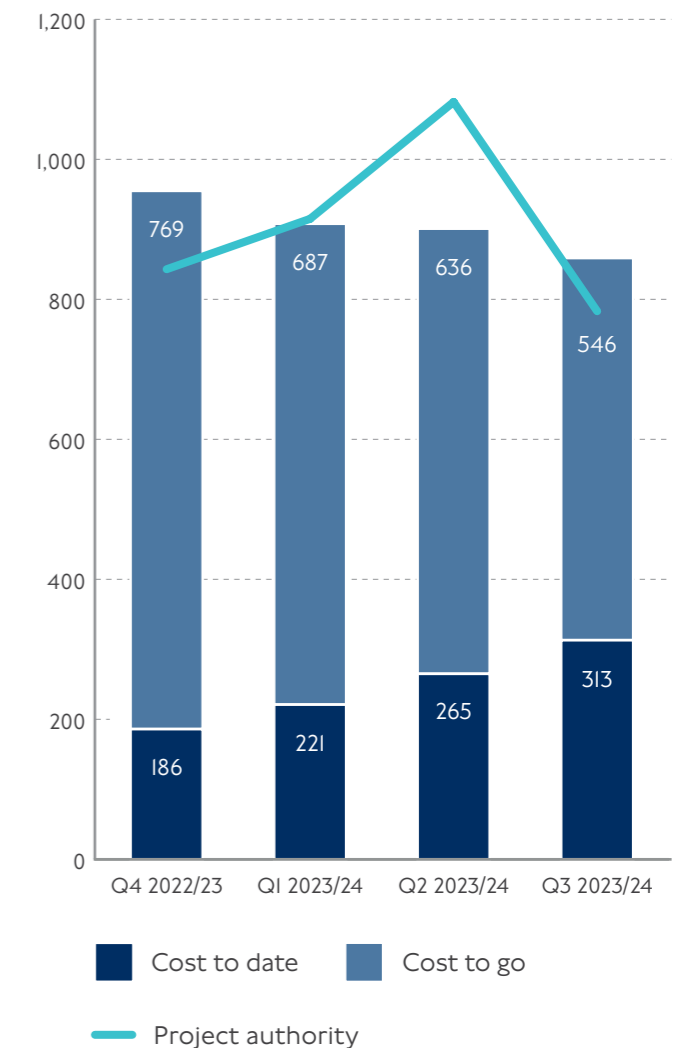
Work continues on the rollout of deployable enforcement cameras on our road network, enabling us to target specific safety and non-compliance hotspots and make a significant contribution to meeting our Vision Zero goal. They are currently operational at 43 high-priority locations. We have identified sites for a second phase of cameras to be installed in 2023/24 and are well underway with this year's delivery

programme. We are constantly reviewing our approach to ensure that site selection maximises safety and public transport benefits. Any money recovered from penalty charge notices will be reinvested in maintaining a safe and efficient road network for everyone travelling in London. The cameras are used for enforcement of civil traffic rules only and are fully compliant with data protection legislation.

On average, we manage 10,000 cases of work-related violence and aggression every year. As part of delivering the work-related violence and aggression strategy, the operational employee safety programme has rolled out an additional 700 body-worn video cameras since September to employees most at risk. In total, we have rolled out 6,200 body-worn video cameras and they are now part of essential equipment. Significant progress has been made to distribute 300 emergency communication devices by the end of 2023.

As part of the Station security technology improvement programme, we have started the design of critical incident management functionality for 40 stations. The delivery of this functionality in 2024 will enable us to manage these stations during a critical incident and other key events. We are rolling out safety improvements to our CCTV estate and we can now remotely view CCTV at a further seven stations. We are also improving passenger help points, making sure emergency calls are handled promptly by those best able to help. We have prioritised improvements at 15 stations initially, with further improvements planned in 2024.

Technology performance over time (£m)



Network and public transport management

We are delivering innovative new road management systems which will reduce delay, improve journey times and encourage a shift to more sustainable modes of transport.

For the common operating view incident management system, we are working to complete the final two releases by the end of 2023/24, which will enable more effective and efficient management of the road network and incidents through an integrated interface to the variable message signs on the street.

Delivery of the real-time optimiser system is now in the final stages of testing prior to the system going live in Quarter 4 2023/24. This will optimise traffic signals and respond to multiple modes of traffic, improving network performance. Further enhancements to the system are planned for 2024.

The requirements for video analytics have been captured and an options assessment phase is now in progress. This will be followed by the procurement phase starting in financial year 2024/25. This project will provide full real-time modal count data for all modes, enabling us to make data-led intelligent network management decisions.

We are maintaining and developing technology to operate our public transport networks and improve the customer experience. This includes upgrading the critical technology systems that underpin the bus network, such as the iBus system which provides real-time information on bus locations.

At its meeting on 6 December 2023, the Programmes and Investment Committee granted procurement authority for the iBus 2 project. The contract finalisations process is underway, with the contract award notice expected in February 2024.

Procurement has progressed for the new Countdown 3 system, where the past few months have focused on the evaluation of suppliers and business case development to appraise the best option ahead of contract award in July 2024.

The replacement booking and scheduling system for Dial-a-Ride was launched in November 2023, giving customers the option to book online and enabling us to deliver more trips with the same number of vehicles.

Cycling and micromobility

Procurement is ongoing for a new operating contract for the Santander Cycles scheme, as the existing contracts expire from 2025. The procurement is due to complete in 2024.

More member hires took place in calendar year 2023 than at the same point in any previous year, meaning we're on track to have a record year. In total, more than 6.4m member hires have taken place already this year. More than 700,000 hires have also now taken place on e-bikes.

The London e-scooter rental trial has been operating since June 2021, with 10 participating London boroughs. For the period ending 22 October 2023, more than 3.1 million e-scooter trips have been taken as part of the trial. Following the extension of UK-wide e-scooter trials by the DfT, the next phase of the London trial with suppliers Dott, Lime and Voi began on 25 September 2023. This phase will ensure we continue to learn about e-scooters and their role in London's transport network. It will also present opportunities for operators to test new onboard safety technologies, including pavement-riding detection, tandem-riding detection and acoustic vehicle alerts.

Connectivity

We awarded a contract in November 2023 that will renew essential communications infrastructure on London Underground prior to obsolescence. This work will ensure that critical information like signalling, CCTV and radio continues to be transmitted, facilitating continued operation of the London Underground network. As it rationalises multiple existing systems, it will be cheaper to operate and reduce our carbon footprint. In 2024, we plan to begin feasibility work on extending this network.

Digital asset management

We are continuing to consolidate our asset management systems into a single platform to better manage the performance of our key operational assets across London Underground and improve delivery of critical maintenance works. The migration of our asset information to the new system is due to complete in April 2024.

We are also fully digitising asset management capabilities across our estate in order to manage our assets more efficiently. This will also allow us to introduce next-generation tools to support our decision-making, such as an asset investment decision support system, to help us to make strategic investment decisions in a consistent, transparent and evidence-based way.

Tools for planning, automation and staff

We are preparing to replace devices for employees as well as renewing the system used to manage access to the London Underground network during engineering hours. More than 4,000 people per night work on the network, and ensuring access is appropriately controlled and managed is critical to their safety.

Technology and data

Payments

On 13 November 2023, we introduced changes to our online payment services for Oyster to allow many non-UK cards to be accepted for the first time. This change will make it easier for visitors to top up their Oyster card via our website and mobile app.

Digital workplace

We continue to focus on Our future desktop (successor to Windows 10) and have awarded a contract to Specialist Computer Centres Ltd to assist with the technical and service design collateral. We have also purchased 1,440 laptops which will be used to refresh laptops across the organisation to ensure they are Windows 11 compatible and meet our baseline specifications.

To assist with embedding persona-led technology and service offerings, we have awarded a contract to Nomensa that will establish initial personas (and potential offerings) through a series of interviews and workshops with a subset of frontline and field colleagues.

We have completed our first targeted printer refresh and consolidation across our head office buildings, replacing end-of-life devices with efficient multi-functional devices. The reduction in print devices reflects both the reduced footfall in our offices and also the reduced print demand due to greater environmental awareness and the increased availability of alternative technology options.

Networks

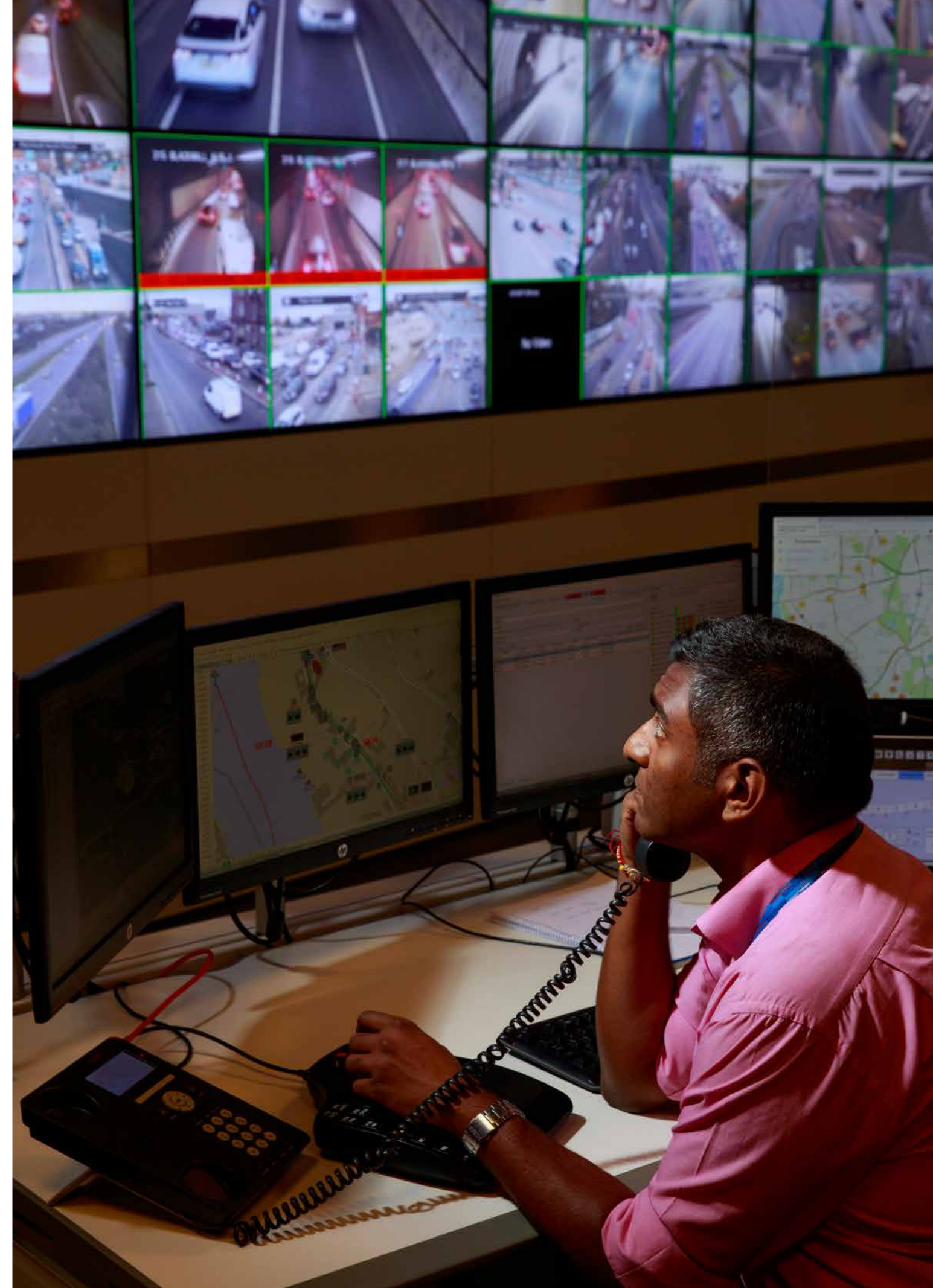
Work to extend mobile coverage on the Tube has continued this quarter, with the first four Elizabeth line stations. Uninterrupted 4G and 5G coverage will be rolled out to all underground ticket halls, platforms and tunnels on the Tube and Elizabeth line networks, of which 80 per cent will be connected by the end of 2024.

Our project to replace the end-of-life data network services that underpin virtually all surface services continues to progress. To date, we have migrated 4,433 of 4,596 (96 per cent) sites to the new network delivered by Capita. Of the migrated sites, 49 are currently operating on an interim 4G-based solution.

Technology services operations

As a central part of the GLA family we are undertaking several initiatives, termed IT shared services (ITSS), that will see TfL assume responsibility for agreed IT systems and services across the GLA family. We recently rolled out our IT services and devices to a pilot group in the GLA, the Mayor's Office for Policing and Crime and the Old Oak and Park Royal Development Corporation. We are gathering useful data from them to support the wider roll out in 2024.

Similarly, the ITSS initiative with London Legacy Development Corporation (LLDC) continues, with the detailed planning phase due to complete in the next quarter. We expect to have assumed responsibility for LLDC IT shared services by March 2025.



A unified system will help us manage operations across London

The reseller framework project has started the first phase of the procurement process which will facilitate the continued delivery of a compliant and competitive route to market for commonly used IT products and services. We are working to award a new reseller framework by September 2024 and provide a new IT product catalogue in 2025.

Enterprise resource planning

The replacement of the expiring SAP HR system continues, although we need to defer the launch from April 2024 to October 2024 to accommodate London Underground pay award changes in the April payroll and to overcome elements of customisation to our salary data that go back 20 years.

For our core SAP ERP system and its upgrade to SAP S/4 HANA, we are on track for our first major milestone to issue the market tender in March 2024.

The Operational workforce management project is now fully underway with design and build activities, and the supplier, UKG, brought on board. The next major business milestone is the launch of UKG workforce dimensions for the rostering and scheduling of compliance, policing on streets, London Underground revenue control and bus operations colleagues in March 2025 as part of phase I. This will be preceded by a working pilot from October 2024 to ensure operational readiness. Phases 2 and 3 will then look to deploy the solution across the majority of operational teams in 2026.

Contact centre operations

Contracts have been awarded to Journeycall and Marston Holdings for the contactless payment card contact handling service. The service is scheduled to be transitioned from the incumbent between February and May 2024. The first transition is 40 per cent of calls to Journeycall in February, followed by the remainder of calls to Marstons in March. All correspondence is expected to transfer in April.

The street faults re-tender has concluded and the contract was awarded to the incumbent, My Society, in September 2023.

Responses for the re-tender of the interactive voice response contract have been received and are being evaluated ahead of a contract award in June 2024.

Data analytics

We recently concluded a series of data maturity assessments across the organisation, using the government model as a framework. Some common themes have emerged in terms areas of strength and areas that we will prioritise as we articulate our vision for data and develop our strategy roadmap. We have set the direction and vision for data, co-curated our data principles, and have begun evaluating a selection of initiatives which align with key strategic priorities, demonstrate early value and address maturity pain-points. Our draft data strategy went live on 5 January 2024, and we are targeting the end of the financial year for the draft to be submitted for TfL endorsement, allowing time for engagement with the Executive leadership team.

Our safety, health and environment data storage solution is undergoing user acceptance testing, giving users hands-on experience with the new data platform. Our irregular travel analysis platform, which tracks fare evasion and where it occurs more frequently, continues to be re-platformed to production following successful prototypes. This offers users greater confidence in the overall quality of the data and an improved formal support wrapper.

Digital

The TfL Go app has now been downloaded more than 5.5 million times and was used by more than 837,000 customers in December 2023. Further app updates have been released in response to customer feedback. These include making it easier to set your location when planning a journey rather than always defaulting to your current location.

We have made further progress on the integration of payments into TfL Go. However, concurrent work on the backend mobile payments API must be completed before we can launch to the public. This will now be later in 2024.

Plans to augment our back-end delivery capability will now begin following business plan approval in December 2023. Once work starts, this will help accelerate delivery in line with business ambition.

Technology challenges

Global semi-conductor supply issues have distorted our delivery due to long lead times and pricing that increases at short notice. Though the worst of this is now behind us, it has impacted our ability to procure and implement new IT infrastructure and has increased project costs. We now have mitigations in place for our pipeline and live projects. However, we are still exposed to risk on ad hoc projects, small works, or short-notice changes, including emergency works.

Resourcing continues to be a challenge, with numerous campaigns unable to fill all required vacancies. This issue is most notable for senior or specialist roles. There is a similar challenge in our customer community, with business engagement in projects an ongoing challenge due to business-as-usual operational demands which must take priority. There are issues with supplier resource which have affected delivery this year, however there are signs that the resource pressures in the supply chain are starting to ease.

Street, bus and rail-sponsored service renewals

This programme groups together renewals of Streets, Buses, River Services, London Overground, DLR and London Trams. These programmes share a common approach to work-bank management and by joining together associated activities such as bus-focused renewals this offers improved investment prioritisation and efficiencies



Street, bus and rail-sponsored service renewals

Forecast period	Gross cost to date (£m)	Gross cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
2022/23 to 2025/26	302	454	756	1,137	381
Change since last Investment programme report					
No change	61	(53)	8	No change	

Financial commentary

In May 2023, the Programmes and Investment Committee endorsed the creation of the Street, bus and rail-sponsored services programme. This new programme includes renewal projects previously reported in the Surface assets and Public transport portfolios. This consolidation of projects gives a single focus to maintain a good state of repair on the surface transport network.

There have been minor movements since the previous quarter, with the forecast having been updated to reflect the value of prioritised scope identified through the asset strategy prioritisation exercise that was completed across the business planning period.

Performance over time commentary

Forecast over the last four quarters has been stable. The Quarter 3 forecast reflects minor movements to prioritised scope.

Programme update

The programme brings together renewals that were split across our Surface assets and Public transport programmes. These programmes share a common approach to workbank management and through joining together associated activities, such as bus-focused renewals, improved investment prioritisation and efficiencies can be applied. The Surface assets programme consists of a capital programme, surface operations assets, surface major assets and Local Implementation Plan Bridges and Roads. The remainder of the portfolio consists of renewals as bus, rail and sponsored services renewals, and supports investment needed to maintain the safety, performance and reliability of the DLR, London Trams, London Overground, cable car, cycle hire, new Routemaster buses and Woolwich Ferry.

Delivery in 2023/24 is on track to achieve the planned outputs and benefits, therefore mitigating asset risk. However, the level of planned investment is significantly below that required (up to 50 per cent lower on some asset types) to remove the backlog of renewals and maintain service levels. Planning work for 2024/25 is underway but, due to constrained budgets, several projects will need to be deferred. Securing third-party funding, for example through the DfT's Major Road Network programme, is therefore essential to mitigate asset risks.

Streets

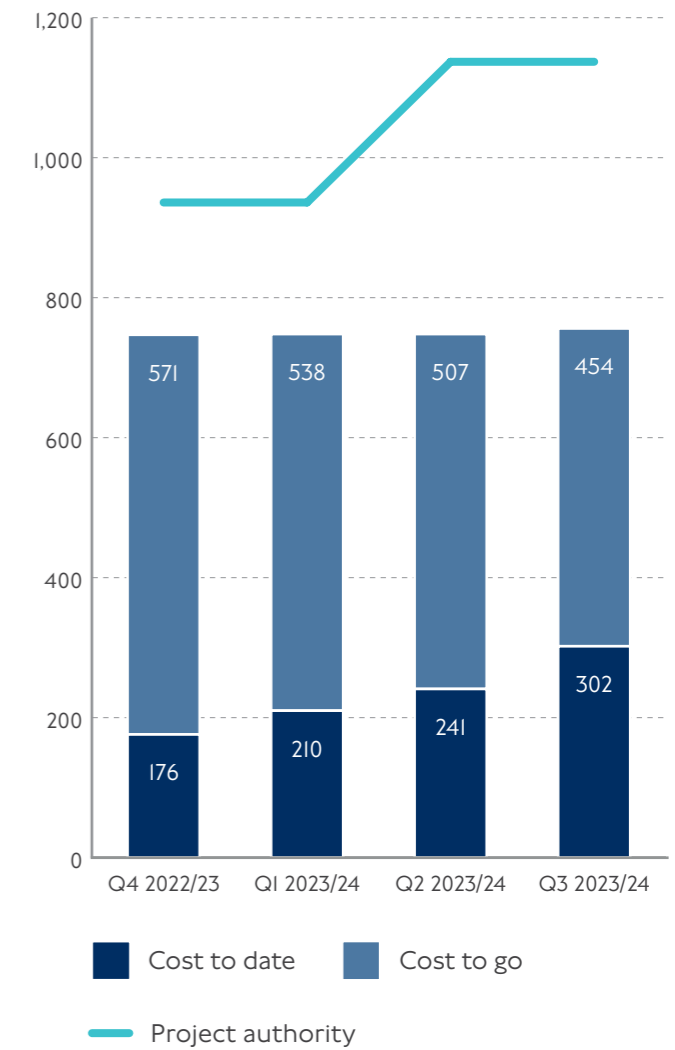
Blackwall Tunnel southbound

This project aims to renew critical systems that support tunnel operation, including lighting, concrete repairs and CCTV. Following detailed modelling assessments, we have selected a preferred construction option: a series of weekend and night closures to minimise impacts on people and goods needing to cross the river. We appointed Tarmac Kier JV as design and build contractor in April 2023 and plan to complete the design work by September 2024 with delivery timescales subject to budgets and value for money.

Gallows Corner

The Gallows Corner flyover in Romford is one of our highest-priority assets for renewal due to its age, condition and the current restrictions in place. Following the completion of feasibility work, we have selected a preferred option to fully refurbish and strengthen the flyover which has 30 per cent of the scheme carbon compared to the alternative of a full replacement.

Street, bus and rail-sponsored service renewals performance over time (£m)



EFC reflects forecast starting 2022/23 vs authority which includes legacy Public Transport portfolio starting 2017/18

The concept design using the existing foundations to support the new deck structure has been completed. The business case was approved at the DfT's Roads Investment Committee and is progressing through further government approvals including ministerial approval. We have completed the tender for the design and build stage of the project. The contract has now been awarded and the detailed design stage instructed. Approval of the business case is essential ahead of the delivery stage contract.

A40 Westway

Following successful completion of the major joint replacement, the project is now focused on delivering the remaining scope. This includes further joint replacements, parapet renewals and repairs to concrete deterioration.

Concept design work for the remaining elements has been completed and we have awarded the contract for work on seven expansion joints. Detailed design has begun with a plan for implementation in Quarter 2 2024/25. We will also be progressing with the design of work on three expansion joints to establish the earliest opportunity to replace these remaining vital components. The progress of concrete repairs and other works will start at a future date subject to budget availability.

Hammersmith Bridge

The London Borough of Hammersmith & Fulham started stabilisation works in 2022. The majority of the works are now complete, ensuring Hammersmith Bridge is safe and can remain open to pedestrians and cyclists in the short term. Alongside the DfT we continue to support the borough in developing a business case for the longer-term strengthening works to fully restore the bridge.

Carriageway renewal

Plans are currently in place to deliver 200,000 square metres of resurfacing against an initial target of 127,900 square metres. Overprogramming has been used and this will continue for the next period. In the last quarter we have delivered schemes at A406 North Circular Road westbound (Melville Gardens to Green Lanes), A12 Colchester Road, A1400 Roundabout, A21 Farnborough Way and A205 Upper Richmond Road (Carlton Drive to Kendal Place).

Buses

Kingston Cromwell Road bus station

The major redevelopment of Kingston Cromwell Road bus station will significantly improve the bus experience for our customers. The works will deliver a bus station that offers a better customer experience, is easier to navigate, and is greener and more energy efficient.

The new bus station includes the introduction of energy-efficient lighting, energy-efficient buildings with a low environmental impact, a new sustainable urban drainage system, new vegetation including a green bus station canopy edge, and the introduction of solar panels.

The build began in August 2023 and works are planned to complete by Quarter 2 of the financial year 2024/25.

New Routemaster refurbishment

This programme is the mid-life refurbishment of 998 TfL-owned New Routemaster (NRM) buses. To date, 502 NRMs have been refurbished, 189 of which were during 2023/24. The target for this financial year is to complete a cumulative total of 595 refurbishments.

The programme has successfully delivered enhanced customer experience improvements while driving revenue, safety benefits and a reduction in operational costs. It relies upon refurbishment centres based across the UK and has a fully UK-based supply chain.

River services

We have completed our five-year maintenance cycle on both Woolwich Ferry vessels, in line with our regulatory obligation. Both vessels have now received Lloyds Class approval, with derogation in place to complete Lightship Surveys before March 2024.

Additional layby berth options continue to be reviewed, with the opportunity to use existing assets instead of building new ones. Meetings have been held with the Royal Borough of Greenwich to agree next steps in using their existing berth. The auto-mooring scheme is ready to undertake a feasibility study to understand options available for future mooring requirements and to build a strong business case.

Telent have begun installing our customer help points at the ferry terminals.

Work is ongoing on the linkspan (a type of drawbridge used to allow moving vehicles on and off the ferry) and the works are on target to complete by June 2024.

London Overground

We are in the last stages of negotiations with Network Rail on the replacement of the East London line signalling control system. Procurement of the new system will begin in April 2024.

Rhomberg Sersa UK has been selected to replace a total of 2,700 insulated track baseplates within the Thames tunnel. They delivered 135 insulated baseplates and prepared a further 1,000 of the new baseplate locations over the 2023 Christmas period. They plan to complete the works in August 2024.

The Class 378 train cab simulator renewal is now complete and in service.

DLR

Procurement activities for the renewal portfolio continue, with priority given to critical and safety-related projects. We are looking to achieve efficiency where possible through early engagement with our contractors to understand where value can be achieved.

The replacement bogie frame project for the B92 train type is progressing well. DLR has, in consultation with the franchise operator, developed a new strategy to recover spare bogies from the B92 units being scrapped, which has resulted in a £700,000 saving to the programme while maintaining a sufficient amount of spares. Wheel slip protection trials have been completed. Software installation has begun for the plan to upgrade all I10 train units.

Long-line public address system installation is continuing at 10 stations. This system is used for station announcements which are essential for evacuations as the majority of DLR stations are unstaffed. The works are ahead of programme and are due to complete four months ahead of schedule and on budget. The works will finish on site April 2024.

Signalling

Station controllers are an integral part of the DLR signalling system and the equipment is becoming obsolete. A replacement contract has been awarded to Thales this period, following a successful negotiation. This is the biggest signalling infrastructure renewal project the DLR will undertake over the next five years. The existing first-generation station controllers will be replaced with fourth-generation controllers which will support the roll-out of the new DLR trains in 2024 and expansion of the DLR network. Loop cable renewal continues with the majority changed on the west, Stratford International and east routes of the network.

High-voltage projects

High-voltage projects were impacted by the UK Power Networks (UKPN) sub-station fire at Poplar in March 2022. As a result, UKPN completion of power supply has been delayed until spring 2024, requiring some key projects to be re-programmed so as not to affect services. The Poplar DC switchgear has been commissioned into service. Works have completed on shore supply at Beckton and have begun at Poplar depot, which provides power in the workshops to move trains without the third rail traction system. Poplar depot power supply has been sectionalised and works completed at Royal Mint Street for additional low-voltage supply to the substation. A contract has been awarded to replace eight transformer rectifier units to support the new trains project.

Low-voltage renewals

Canary Wharf and Heron Quays low-voltage renewals are progressing, with the Herons Quays planned to be completed in Quarter 4. West India Quay lighting renewal has been commissioned into service.

An opportunity has arisen to change the ceiling tiles at Canary Wharf, for which we have completed the scope, and the works are ready for tender. Low-voltage distribution upgrade works continue with 80 per cent of the works completed. The remaining LED renewals work has been tendered and are being reviewed ready for appointment in the first quarter of 2024/25.

Platform resurfacing

The second phase of platform resurfacing has started, with designs approved for All Saints, Royal Albert and Prince Regent. Construction work has begun at Royal Albert, with the team using existing possessions and engineering hours. We have completed the Bank tunnels cross-passage door surveys, which will allow us to agree product selection with our contractors. Station equipment rooms surveys have started to ascertain the scope required to bring the rooms to meet fire-rating standards. A contract to replace the existing carbon dioxide fire suppression with a technical gas has been awarded and has begun.

Track fixing

Track-fixing works continue, and we completed more than 1,000 baseplates in Quarter 3. Switch and crossings renewals of 1,126 points were undertaken over Christmas, during a week-long closure. Trials have started at Bank tunnel to mitigate against structural clearance issues.

Lift upgrades

The lift system upgrade project has started on the next phase of 46 lifts. Three escalators at Cutty Sark have been refurbished and returned to service. Two escalators at South Quays will return to service following refurbishment in February 2024. Work has begun on lift renewals at Westferry and Stratford International stations. We have also begun mid-life refurbishment on the escalators at East India station. Lift renewals have begun at Stratford International, Westferry and Limehouse stations.



A programme of regular renewals keeps our trams running safely

London Trams

Installation work for both the wayside and on-tram upgrades to communications equipment are now complete, and we have begun deployment of a correct-side door-enabling system on the Bombardier CR4000 trams, with completion currently forecast for Quarter 4 of 2023/24. Our renewals programme continues across five asset groups: rolling stock, power, civils, systems and permanent way infrastructure.

Track renewals

A nine-day part closure of the tramway was completed in October as planned, during which 720m of drainage renewal works was completed between Sandilands and Addiscombe tram stops. A new cable route and cable installation work within Sandilands tunnels was also completed in this closure, in preparation for commissioning of a new UKPN power supply for the tunnel lighting in Quarter 4 of 2023/24.

The Church Street track renewal was completed in April 2023 under the new embedded track renewals framework contract. The next package under this contract is the East Croydon and George Street track renewal which is currently planned to be completed during two track closures, one in February 2024 and another in April 2024. Shirley Hill road crossing renewal, which was initially planned for delivery in October 2023, has now been deferred to Quarter 2 of 2024/25 to allow time for additional design options to be considered.

Birkbeck tram stop

We completed site investigations to replace the retaining wall and step-free access ramp at Birkbeck tram stop and identified that an updated design is needed. The design plans have been issued to the contractor for pricing and the works are planned to start in Quarter 4 2023/24.

London Trams depot

In May 2022, we awarded a contract to replace fire doors at the London Trams depot and ensure compliance with current fire safety standards. However, due to supplier delays, works restarted in October 2023 to enable completion by March 2024.

The invitation to tender has been issued for TfL's first net zero carbon project – Therapia Lane depot decarbonisation – with work currently forecast to start in Quarter 3 of 2024/25.

London Underground renewals

This programme delivers critical renewals across multiple asset groups that form an integrated transport system, including whole-life asset interventions on our train systems and wider infrastructure. The programme also includes renewals for the Elizabeth line and our colleague welfare projects



London Underground renewals

Forecast period	Gross cost to date (£m)	Gross cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
2022/23 to 2025/26	604	1,044	1,648	3,721	2,073
Change since last Investment programme report					
No change	101	(465)	(364)	563*	

Financial commentary

Quarter 3 continues the strong performance observed this year with a cost-to-date increase of £101m. The Programme and Project Authority movement of £563m* is due to additional authority being approved at the Programmes and Investment Committee in October 2023.

Key movements for the ramp up observed this quarter include fleet overhauls accounting for £40m and track renewals accounting for £27m, with the balance delivered across the remaining asset areas. Cost to go and forecast cost have reduced by £465m and £364m respectively due to the rephasing of spend until after 2025/26, which is outside the reporting period.

The variance between cost to go and authority is due to requested authority for years beyond the forecasting period.

Performance over time commentary

In 2022/23 and up to Quarter 3 2023/24, London Underground renewals have delivered £604m of spend to date. In the year to date, £15.4m of cost savings and efficiencies have been delivered. The reduced cost to go between Quarters 2 and 3 is due to the recent five-year reprioritisation exercise undertaken as part of the recent business plan prioritisation process.

Network-wide track renewals

Between September and November 2023, we replaced 1,584 metres of old bullhead rail on timber sleepers with modern high-integrity, low maintenance, flat-bottomed rail on concrete sleepers. In addition, we completed 468 metres of deep-tube renewals reconditioning works, thereby improving reliability and reducing noise.

Weekend possessions this quarter delivered the following:

- In September, 353 metres of ballasted track renewal (BTR) through Hammersmith platform 2 on the Piccadilly line
- In October, 96.5 metres of BTR and 203 metres of track drainage renewal/repair between South Kensington and West Kensington on the District line
- In November, 360 metres of BTR between Alperton and Sudbury Hill on Piccadilly line

Completion of the quarterly BTR works resulted in achievement of the programme strategic milestone to deliver 1,750 metres of new London Underground track by the forecast date of 27 November 2023.

Track renewals are currently on target with the total year milestone to deliver 3,500km of DTR/BTR.

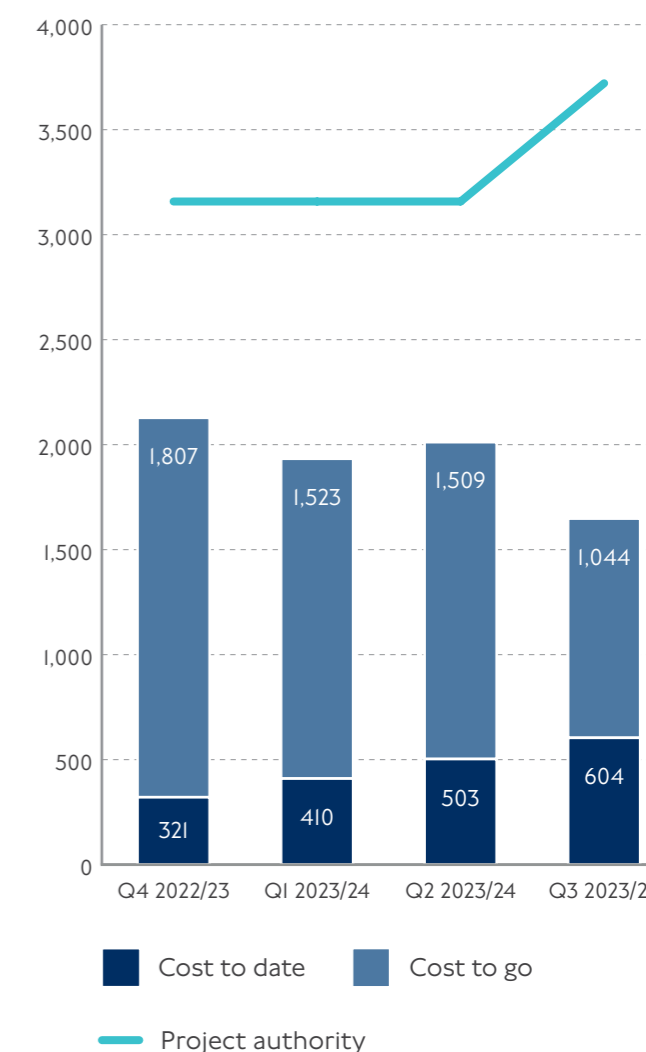
Victoria line (fleet overhaul and depot control system renewals)

Overhaul of the trailer wheelset has been completed on 33 of the 47 trains and phase two of door overhaul completed on 18 of 47 trains.

Metropolitan line (fleet overhaul)

Overhaul of bogies (the structure which supports the train carriages and includes wheels, bearings and axles) continues to plan with work on 50 of 60 trains completed.

London Underground performance over time (£m)



*PPA understated in Q2 – actual value £3,162m and a change of £559m

Metropolitan line (Liverpool Street escalators)

We completed removal of the three escalators and civils enabling works has started. Parallel works to the electrical and fire systems continue as planned.

District line (fleet overhaul)

Preparations continue to start the overhaul of the S7 fleet (Circle, District and Hammersmith & City lines) but later than previously planned (now 2025/26) and at a reduced rate of one train per period due to financial constraints.

Jubilee line (fleet overhaul and component renewal)

Programme lift completed on 21 of 63 trains and contract award is anticipated in February 2024 to repair the underframe cracking and to modify components.

Jubilee line (station communication and ventilation systems)

Station communication systems renewals are progressing to plan with works on site at West Ham and Canary Wharf completed in Quarter 3 2023/24. Installation works continue to plan at the remaining four sites on the east end of the Jubilee line. Communications installation work at all sites is scheduled for completion in March 2024.

We are progressing with works to upgrade the obsolete tunnel ventilation control panels and refurbish the fans of the staircase pressurisation system from Southwark to Canning Town and intermediate shafts. The overall ventilation programme is scheduled to finish in September 2026.

Jubilee line (escalators)

This rolling programme of escalator refurbishments has delivered three further repairs in Quarter 3 at London Bridge, Waterloo and Bank stations in line with the programme.

Works are continuing on the next three refurbishments at Canada Water, Bank and London Bridge stations to be completed in Quarter 4 2023/24. These works continue to incorporate the opportunity to renew fire linear heat detection systems in the escalator machine chambers.

Jubilee and Northern lines (incremental signalling upgrade)

The detailed design stage of replacement of central computers for the Northern line is progressing well, with installation works started for the first pair of computers. The design for works to replace the train operator displays on both lines is ongoing.

Northern line (Kentish Town escalators)

Works have progressed for the replacement of both escalators and station improvement works under a station closure running for 12 months to June 2024. Ticket office demolition is also complete.

Piccadilly line (fleet overhaul and signalling renewals)

Programme lifts, door overhauls and wheel overhauls are all progressing to plan with the first phase of door overhauls completed.

Piccadilly line (Holloway Road lifts)

Due to a quality issue with materials, the bring into use date has now slipped to mid-March 2024.

Central line (fleet and signalling renewals and incremental signalling)

On 24 November 2023, the Central line improvement programme successfully introduced the inaugural refurbished train into service. Subsequently, on 15 December, the Mayor of London personally rode this train, emphasising his commitment to enhancing network security and ensuring the safety of London residents through the implementation of CCTV systems

Feasibility and planning for the first tranche of the incremental upgrade to the signalling interlocking computers on the east end of the line continues, with full contract award expected in the last quarter of 2025.

Bakerloo line (fleet overhaul, LED lighting conversion and signalling upgrade)

A total of 15 programme lifts, four heavy overhauls and six mini-overhauls have been completed.

We continue to install the key signalling and control interface equipment in lineside rooms. 12 out of 16 sites have been finished, with Lambeth North recently completed as planned.

We achieved the 75 per cent LED conversion target on the trains in November 2023.

Bakerloo line (Marylebone escalators)

The work was finished on the final escalator replacement in late September 2023. The completion of the wider station gateline and an additional escalator will provide increased station capacity to support future customer demand. Fire hydrant upgrade works and station welfare renewals are progressing to programme.

The gateline works are now forecast for completion in March 2024 following the need to replace the complete sliding Bostwick gate.

Bakerloo, Central and Waterloo & City lines (accessibility)

The DfT has responded on the draft Rail Vehicle Accessibility Regulations (RVAR) exemption for the Bakerloo line expiring at the end of 2023. We have engaged with DfT to plan public consultation in 2024. Customer feedback has been received and is being reviewed on the first fully RVAR compliant Central line train.

Rail adhesion train

Overhaul of the second Central line rail adhesion train was completed, ready for leaf-fall season. Preparation works to start overhaul of the District line rail adhesion train are continuing.

Mechanised track renewal vehicle

Final adjustments to the mechanised renewal vehicle (MRV) have been made following consultation with trade unions, including the addition of a deployable ladder for welfare access. Final trials are scheduled for March 2024, following which the MRV will be available for booking for other project works.

Modular points and crossings

Work to assure that Kirow cranes are safe to use in sub-surface environments is continuing. Remaining open and tunnel sections tandem lift safety assurance approvals are due to be delivered in July 2024.

Remote track monitoring

The project is delivering new equipment which will be installed on two wagons to enable track condition recording, which will increase service reliability and provide critical data to keep the network safe. A feasibility study is expected to finish in April 2024.

Engineering vehicle overhauls

The battery locomotive and repair process for the bogie frames is currently under trial, with completion expected by June 2024. Successful completion of this trial and testing will enable the full production programme for the bogie frame repair and overhaul to begin. This will be an integral part of the battery locomotive overhaul programme, including a similar strategy for the traction motors. In addition, we are presently mobilising a workshop facility at our Acton works depot, where we will be utilising directly employed maintenance teams who will carry out overhaul works on our fleet of engineering wagons. The team is currently in the mobilisation phase, with the full overhaul programme expected to be underway mid-2024. In addition, work to overhaul our second Matisa tamper is due to start in February 2024 with completion expected mid-2024.

Network-wide water ingress remediation

Contract award for delivery at Mayor Sworder's arches sub-station at London Bridge is scheduled for April 2024. Concept design for remedial works at St Paul's and Chancery Lane stations is due to be completed in August 2024. Detailed designs at Liverpool Street and Charing Cross are due to be completed in April 2025.

Network-wide cutting and embankments

Works continue to stabilise the cutting between Grange Hill and Chigwell stations on the Central line to ensure the continued safe running of the railway, including strengthening the N3I footbridge and drainage works. The project is due to finish on site in March 2024.

The final elements of cutting-stabilisation works at Park Royal to Alperton and Rickmansworth to Chorleywood were delivered in November 2023.

Procurement of pre-construction ground investigation activities for embankment and cutting stabilisation projects between Finchley Central and Mill Hill East, and at Triangle sidings are being progressed, with start on site due in May 2024. Ground investigation survey works will start on site in March 2024 between Debden and Loughton and in April 2024 between Northolt and South Ruislip.

Plaistow power substation roof replacement

All scope for the roof works and colleague welfare improvements have now been delivered. During the works, we identified leaks in the station roof. Rectifying this requires a possession with Network Rail to access the source of the leak and we are working with them to deliver this work in due course.



London Underground renewals improve accessibility and safety

Station platform remediation works

Remedial works at 10 sites will start on site in April 2024 and are scheduled to be completed in February 2025. Design of the remaining platforms selected for remediation is continuing, and site works for those are scheduled to start in 2025.

Platform remedial works at Plaistow station are due to be completed in March 2024.

Welfare facility renewals

Colleague welfare facility improvements include works at mess rooms, kitchens, locker rooms, changing rooms and shower and toilet facilities across London Underground. Eight sites have been completed including Piccadilly Circus, Holborn and Liverpool Street, meeting our strategic milestone. Mobilisation works at three more sites have started with progress on prestart documentation underway, additional sites to follow.

Smoke and heat exhaust ventilation systems

We are replacing and refurbishing the life-expired components that form part of the smoke and heat exhaust ventilation systems located in the roofs of Bermondsey station and Stratford Market depot, scheduled for completion in late 2024.

Secondary lifts (supporting step-free access)

Work at Green Park station is now planned to start in March 2024, delayed due to late submission of electrical designs and issues with the procurement process for the comms design-and-build package. During this delay we will undertake enabling works to reduce the impact on the programme.

Works at Hounslow East and Bermondsey stations are progressing to plan.

Uninterruptable power supply

Site works began in September 2023 to replace 31 life-expired uninterruptable power supply units on the Victoria line to ensure a continuous power supply to critical signalling assets. The first tranche of nine planned for Quarter 3 2023/24 have all been commissioned and design work has started for the next tranche.

Offline battery power inverters

There are around 260 offline battery power inverters located across the network which are critical assets that power emergency lighting in the event of power loss.

As part of the replacement programme, 20 units have been successfully commissioned so far, and the contract for a second tranche of 40 was awarded in October 2023. Manufacturing is on track for the first unit to be factory tested in March 2024. This contract includes product development changes and recycling of key components that will help mitigate the obsolescence risk of the remaining units. Internal scoping and market engagement is in progress for further units as part of the strategy work on the longer-term solution.

Traction power

Design work is in progress for the replacement of traction isolation switches located in sidings on Central and Bakerloo lines, continuing the programme to address equipment non-compliances and removal of operational restrictions. The works were planned to begin in 2024/25 but may need to be deferred to prioritise spending in more critical areas.

The construction of a new room to house a replacement switchboard at Holborn was completed to plan in April 2023. These complex works are being implemented under special access arrangements which have progressed well. Site testing and quality checks of the new equipment are in progress with commissioning activities scheduled to complete by February 2024.

LED lighting

Good progress has been made across the delivery programme with works nearing completion at Hainault and Ruislip depots, and works started at Stonebridge Park depot.

The conversion of approximately 1,900 lights at Oxford Circus was completed in October 2023, ahead of planned completion by February 2024. We expect to save 63 tonnes of carbon dioxide equivalent per year, as LEDs consume up to 60 per cent less energy than fluorescent lighting. We have received positive feedback from customers and colleagues who appreciate brighter lighting levels.

We have awarded a contract and started the phased conversion of King's Cross St Pancras station. Continuation of these works in 2024/25 remains subject to budget prioritisation constraints. Conversion of lighting at smaller stations is being delivered internally, with a team mobilised to deliver 22 priority stations during 2023/24. In Quarters 1 and 2 2023/24 we delivered 5.5 stations. This quarter, we delivered at the same rate of 5.5 stations.

East Ham wall rebuild

We are working to deliver a permanent solution to rebuild a wall at East Ham. The project aims to carry out the required temporary works, including propping of a partially collapsed wall, ahead of a permanent solution being installed. Access to the site is challenging, as it is bordered by private residences on one side and vital cables for railway operation on the other. As the worksite is constrained, we are closely considering welfare facilities to secure a suitable location. There is a strong focus on reviewing and mitigating the key risks regarding our assets, the public and residents. Subject to the acceptance of the access licences and Party Wall Act notices being agreed with residents and necessary design work, works could start in mid-2024.



Page 74

New digital signalling has been installed on the Elizabeth line

Elizabeth line renewals

In Quarter 3, re-railing of Connaught tunnel at the Royal Docks and points at Custom House were delivered successfully. A replacement staircase has been prefabricated and will be installed at Ilford in a possession in February 2024. Ten of the 20 voltage transformers that required renewal were replaced in October and November possessions, with the remainder planned for the end of March 2024.

Chevron lighting is being progressed using engineering hours. Delivery of the digital private network signalling system replacement for the previous system, to ensure continuity of operationally critical communication systems, was completed in January 2024. Further tasks, for example staff training, are required to close this project in March 2024.

Railway systems enhancements

Delivery of the scheduled Northern line signalling software updates continues, with the first release commissioned on the railway at the end of October 2023. This was delayed from July 2023 due to the need to correct identified concerns with the user controls at Highgate service control centre and the train operator displays. These software updates address residual issues and requirements following completion of the Northern line extension and the Bank station closure works. The final software release is scheduled for Quarter 2 2024/25. This has been rephased to accommodate other projects that are dependent on the same supplier key resources including the Four Lines Modernisation and DLR rolling stock replacement programmes.

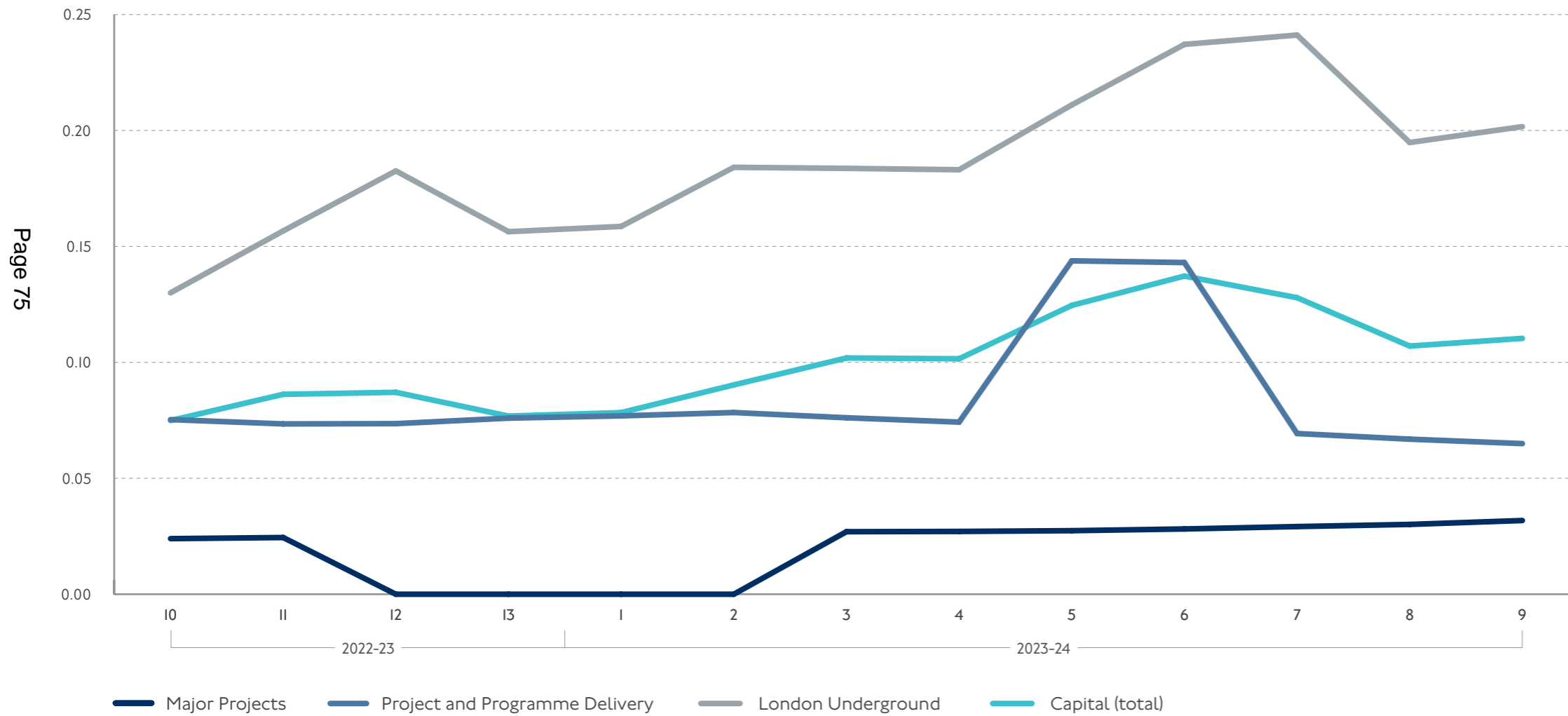
Delivery of Jubilee line signalling software updates continues and the rolling stock on-board signalling software was updated in Quarter 3 2023/24. The final software release is currently scheduled for Quarters 3 and 4 2025/26. This is dependent on delivery of the Four Lines Modernisation programme at the interface with the Jubilee line taking place in Quarter 2 2024/25.

Appendix

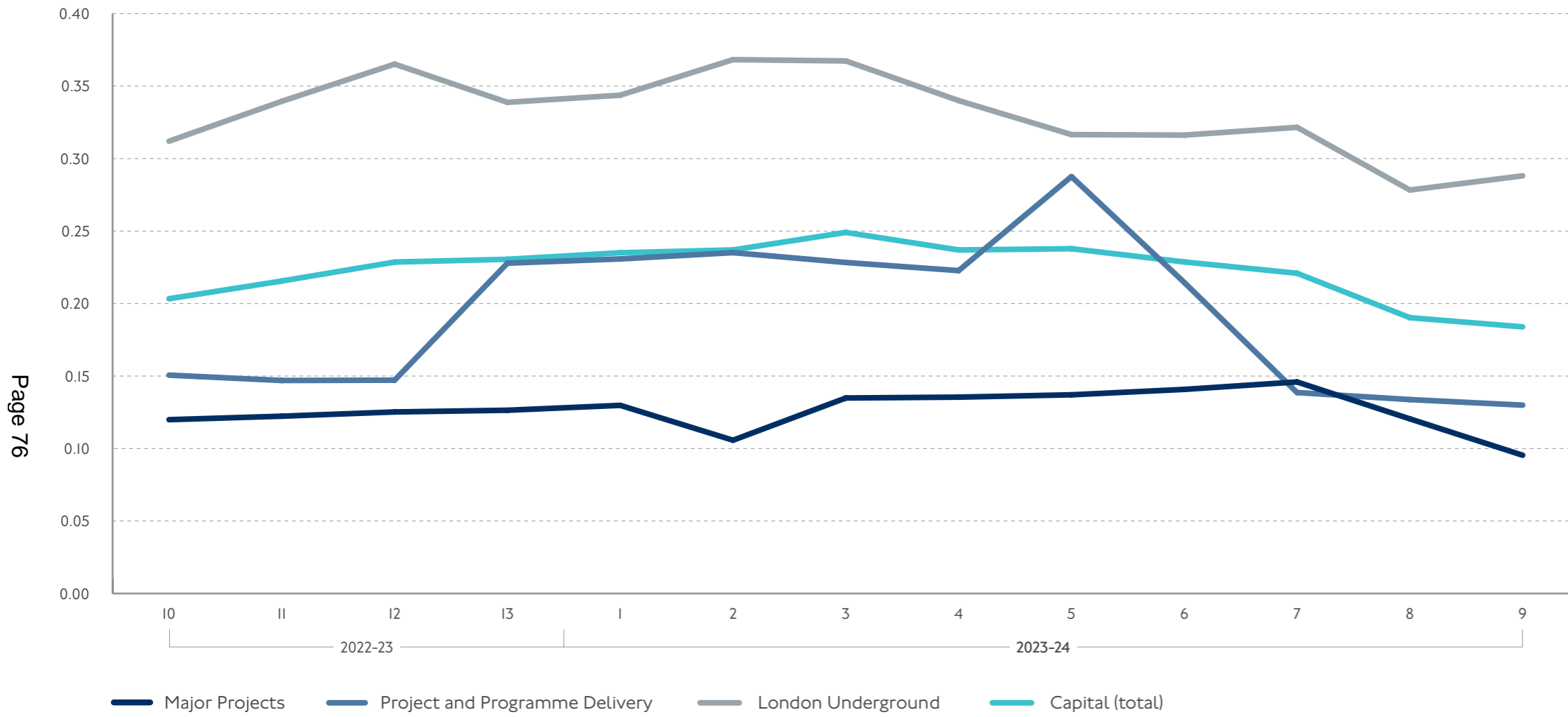
Our safety performance data

We track the number of injuries among our workforce to show our progress towards our safety ambitions

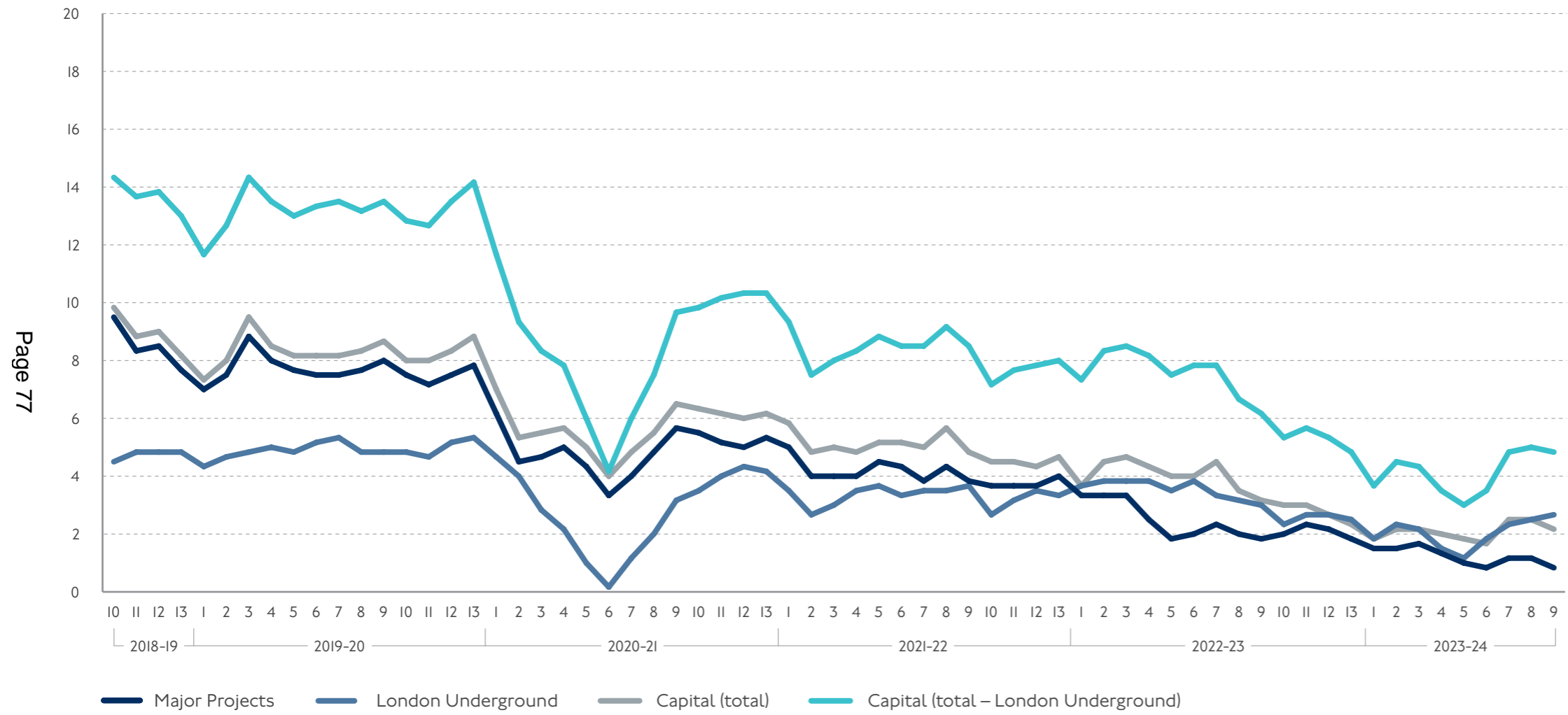
RIDDOR accident frequency rate
(per 100,000 hours worked)



Lost time injury frequency rate
(per 100,000 hours worked)



Total Capital workforce injuries
(six-period average since 2018/19)



About us

Part of the Greater London Authority family led by Mayor of London Sadiq Khan, we are the integrated transport authority responsible for delivering the Mayor's aims for transport. We have a key role in shaping what life is like in London, helping to realise the Mayor's vision for a 'City for All Londoners' and helping to create a safer, fairer, greener, healthier and more prosperous city. The Mayor's Transport Strategy sets a target for 80 per cent of all journeys to be made by walking, cycling or using public transport by 2041. To make this a reality, we prioritise safety, sustainability, health and the quality of people's experience in everything we do.

We run most of London's public transport services, including the London Underground, London Buses, the DLR, London Overground, Elizabeth line, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and the IFS Cloud Cable Car.

We manage the city's red route strategic roads and are responsible for the maintenance, management and operation of more than 6,000 sets of traffic lights across the capital. The London boroughs are responsible for all the remaining roads within their boundaries. The experience, reliability and accessibility of our services are fundamental to Londoners' quality of life. Safety remains our number one priority and we continue to work tirelessly to improve safety across the network for both colleagues and customers.

Our vision is to be a strong, green heartbeat for London. We are investing in green infrastructure, improving walking and cycling, reducing carbon emissions, and making the city's air cleaner. The Ultra Low Emission Zone, and fleets of increasingly environmentally friendly and zero-emission buses, are helping to tackle London's toxic air. We are also improving public transport options, particularly in outer London, to ensure that more people can choose public transport or active travel over using their vehicles.

That is why we are introducing the outer London Superloop bus network, providing express bus routes circling the entire capital, connecting outer London town centres, railway stations, hospitals and transport hubs.

We have constructed many of London's most significant infrastructure projects in recent years, using transport to unlock economic growth and improve connectivity. This includes major projects like the extension of the Northern line to Battersea Power Station and Nine Elms in south London, as well as the completion of the London Overground extension to Barking Riverside and the Bank station upgrade.

The Elizabeth line, which opened in 2022, has quickly become one of the country's most popular railways, adding 10 per cent to central London's rail capacity and supporting new jobs, homes and economic growth. We also use our own land to provide thousands of new affordable

homes and our own supply chain creates tens of thousands of jobs and apprenticeships across the country.

We are committed to being an employer that is fully representative of the community we serve, where everyone can realise their potential. Our aim is to be a fully inclusive employer, valuing and celebrating the diversity of our workforce to improve services for all Londoners.

We are constantly working to improve the city for everyone. This means using information, data and technology to make services intuitive and easy to use and doing all we can to make streets and transport services accessible and safe to all. We reinvest every penny of our income to continually improve transport networks for the people who use them every day. None of this would be possible without the support of boroughs, communities and other partners who we work with to improve our services. By working together, we are creating brighter journeys and a better city.

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Programmes and Investment Committee



Date: 28 February 2024

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 February 2024. It describes the work undertaken since the last report presented to the Committee in December 2023.
- 1.2. A paper is included on Part 2 of the agenda which contains exempt supplemental 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 business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from this meeting.

2 Recommendation

- 2.1 **The Committee is asked to note the Independent Investment Programme Advisory Group's quarterly report 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 February 2024 is included as Appendix 1 to this paper.

4 Management Response

Programme Structure

- 4.1 Since the approval by the Committee of the new structure for Programmes in May 2023, Programmes have progressively migrated to the new arrangements. Activity has been ongoing in individual Programmes and at a strategic level to ensure that the new structure will work as effectively as possible. IIPAG and Project Assurance have made a number of useful recommendations in recent reviews aimed at bringing greater clarity to the operation of each Programme, and these are in the process of being actioned.

- 4.2 Refinements to the governance arrangements for the new Programmes have recently been agreed which will bring greater consistency of reporting and oversight. Development of the new Programmes are reviewed regularly at Director level meetings.

Resources

- 4.3 The availability of staff resources is a recognised area of concern and is the subject of regular detailed monitoring and reporting by the Programme Management Office to a number of senior forums including Director level meetings. Specialist technical resources, for example, business, system and solution architects, within Technology and Data are a particular constraint, and this is kept under regular review. Resourcing will continue to be monitored on an ongoing basis with mitigation plans updated regularly to reflect this dynamic issue.

Cross Cutting Reviews

- 4.1 TfL welcomes the work IIPAG is undertaking on cross cutting reviews and will provide the necessary management responses to the recommendations made.
- 4.2 Procurement and Commercial will continue to action the recommendations made by IIPAG and will provide progress updates on a regular basis.

List of appendices to this report:

Appendix 1: Independent Investment Programme Advisory Group - Quarterly Report February 2024

Exempt supplementary information is included in a paper on Part 2 of the agenda.

List of Background Papers:

None

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Independent Investment Programme Advisory Group – Quarterly Report February 2024

1. Introduction

- 1.1. This report to the Committee describes the Independent Investment Programme Advisory Group (IIPAG) activities in December 2023 – January 2024. We have made no new strategic recommendations.

2. IIPAG Activity

- 2.1. We have undertaken three programme level reviews in this period covering:
- (i) Environment;
 - (ii) Technology;
 - (iii) Network Development and Third Party Pipeline.
- 2.2. We also continue to provide third line assurance for the Elizabeth Line and are currently undertaking an assurance review of the signalling software release for the new rolling stock specifically checking for any unexpected behaviours.
- 2.3. As in the last quarter, a common theme from the programme reviews has been the need to fully establish the overall governance and management of the new programmes, and to maximise any opportunities that the new structure offers. Last quarter we noted the need for a conscious management effort to embrace and integrate new elements into the overall management of a portfolio, with appropriate governance and clarity of roles and responsibilities. This issue emerged in the recent reviews as well. In at least one case dedicated resource is needed to define and lead the change to the new arrangements.
- 2.4. Two of the three reviews we undertook also raised significant concerns about resourcing. For one programme lack of resources is already affecting delivery, and for the other it poses a significant risk to delivery. Shortages in some specialist technology roles, both internally and in the supply chain, are having a real impact on delivery, but we also noted pressures in other areas including sponsorship and project management.

3. Cross-cutting work

- 3.1. We have recently completed a review of progress with improvements in Procurement and Commercial (P&C) which have been derived from the earlier Procurement & Commercial Improvement Programme and the ongoing Our TfL Programme (OTP) workstreams. We are pleased to note that progress is being made on the IIPAG recommendations that came out of three separate IIPAG reviews, and that 11 out of 19 have been closed out. A number of others are due to be closed at the end of the financial year. P&C is continuing to progress work on

improvements to Estimating and Cost Management, both of which were key concerns of IIPAG. We continue to encourage action around supplier relationship management and a commercial strategy process.

- 3.2. Our reviews of the Pathway process for projects and of the effectiveness of the first and second lines of defence are underway. We are starting a review of TfL's progress in implementing the recommendations of the IIPAG 2021 review of value for money. We are also drawing up Terms of Reference for a review of how TfL takes account in the investment programme of targets to reduce carbon emissions.

Alison Munro
Chair, IIPAG

February 2024

Programmes and Investment Committee

Date: 28 February 2024

Item: TfL Project Assurance Update



This paper will be considered in public

1 Summary

- 1.1 This paper provides an update on the project assurance work undertaken between 12 November 2023 and 6 January 2024 (Period 9 to Period 10 of 2023/24). Three programme reviews were undertaken during this time, with the Independent Investment Programme Advisory Group (IIPAG) involved in all three. In the same timeframe seven project reviews were undertaken, with IIPAG involved in three of these.
- 1.2 These reviews gave rise to a total of 48 recommendations being made, of which four were considered to be critical issues. Critical issues are those that the TfL Project Assurance team or IIPAG believe should be addressed before projects proceed to the next stage.
- 1.3 A paper is included on Part 2 of the agenda which contains exempt supplemental 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 business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from this meeting.

2 Recommendation

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

3 Background

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

4 Summary of Project Assurance Activity

- 4.1 From the reviews undertaken, TfL Project Assurance made 33 recommendations, of which two were critical issues. All of the recommendations have been agreed by the project teams concerned.
- 4.2 IIPAG made 15 recommendations, of which two 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 (ending 19 August 2023), Period 8 (ending 11 November 2023) and Period 10 (ending 6 January 2024).

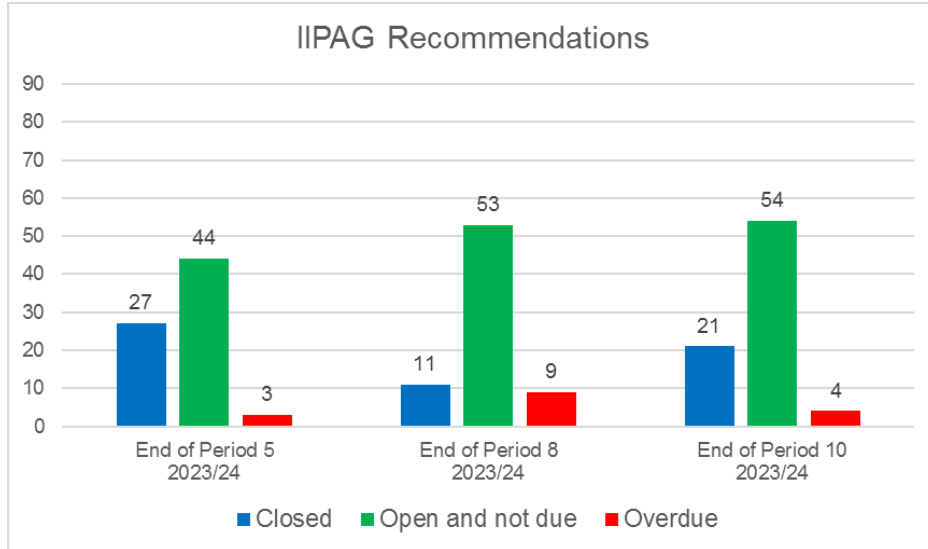


Figure 1: IIPAG Recommendations

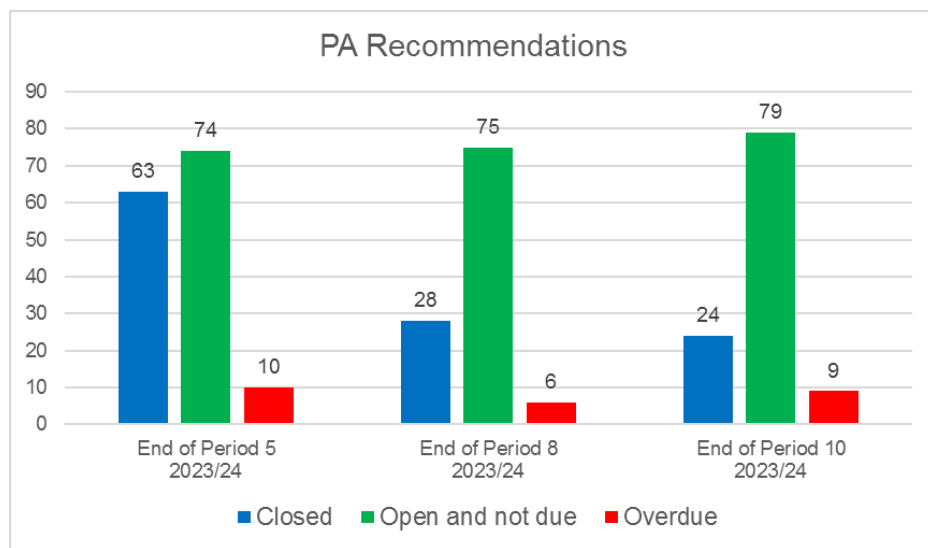


Figure 2: Project Assurance Recommendations

5.2 The following graphs show the length of time that the overdue Project Assurance and IIPAG recommendations have been overdue by, as at the end of Period 10, 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 in the previous year.



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

List of appendices to this paper:

Exempt supplementary information is included in a paper on Part 2 of the agenda.

List of background papers:

None

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



Date: 28 February 2024

Title: Environment Programme

This paper will be considered in public

1 Summary

Environment Programme					
	Existing Financial Authority	Estimated Final Cost (EFC)	Existing Programme and Project Authority	Additional Authority Requested	Total Authority
Total Expenditure	£1,179.0m	£1,110.7m	£1,012.7m	£64.3m	£1,077.0m
Income	£5.3m	£ 14.7m	£3.5m	£11.2m	£14.7m
Net	£ 1,173.6m	£1,096.0m			
The Financial Authority, Estimated Final Cost and Programme and Project Authority covers the Environment Programme for the Financial Years 2017/18 to 2027/28					

- 1.1 This paper details the request for additional Programme and Project Authority and Procurement Authority for the Environment Programme (the Programme). The paper also provides an update on the progress of projects since March 2023 and planned delivery from April 2024.
- 1.2 The Programme aims to deliver key outcomes in the Mayor’s Transport Strategy, 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 enable TfL to become net zero by 2030. In addition, our investment in Direct Vision Standards for Heavy Goods Vehicles (HGVs) delivers safety benefits aligned with the Vision Zero commitment.
- 1.3 A paper containing exempt information is included in Part 2 of this agenda. This information is exempt by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972, in that it contains information relating to the business affairs of TfL. Any discussion of that exempt information must take place after the press and public have been excluded from the meeting.

2 Recommendations

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

- (a) approve additional Programme and Project Authority of £64.3m to support the ongoing delivery of the Environment Programme giving a total Programme and Project Authority of £1.077bn;**
- (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 (Capita) and Yunex Limited to continue activities in support of existing Road User Charging schemes; and**
- (c) note that matters for which Procurement Authority are sought above include commitments that extend beyond the period of the 2024/25 Budget and 2024 Business Plan. Provision will, therefore, need to be made for those commitments in future Budgets and Business Plans.**

3 Environment Programme Performance in 2023/24

London-wide Ultra Low Emission Zone (ULEZ)

- 3.1** On 29 August 2023, the ULEZ was successfully expanded London-wide, achieving the committed public launch date. On 31 October 2023 the First Month Report was published, evaluating the impact of the scheme in its first month. Initial data showed the scheme has reduced the proportion and number of older, more polluting vehicles on London's roads. Key findings include:
- (a) London-wide compliance rate for vehicles subject to the ULEZ standards during the first month was 95.3 per cent, up from 91.6 per cent in June 2023 and 39 per cent in February 2017 when changes associated with the ULEZ began;**
 - (b) compliance rates have increased for cars and vans – 96.4 per cent of cars and 86.2 per cent of vans seen driving in the London-wide ULEZ met the standards in the first month of operation, up from 93 per cent and 80.2 per cent in June 2023 and 44 per cent and 12 per cent in February 2017;**
 - (c) there are fewer older, more polluting cars seen driving in the zone. On an average day, there were 77,000 fewer unique non-compliant vehicles seen detected in the London-wide ULEZ compared to June 2023, totalling a 45 per cent reduction;**
 - (d) there has been an overall reduction in vehicles driving in the zone. On an average day, there are 48,000 fewer unique vehicles driving each day in the London-wide ULEZ compared to June 2023; and**
 - (e) in the expanded outer London area, vehicle compliance has increased by 10 per cent since the launch of the consultation to expand the ULEZ London-**

wide. Vehicle compliance is now 95.2 per cent, up from 85.1 per cent in May 2022, and from 90.0 per cent in June 2023.

- 3.2 There continue to be incidents of vandalism on ULEZ cameras and signage. All incidents are reported to the police and arrests have been made. We continue to work closely with the Metropolitan Police Service and our contractors to report all incidents, review prevention measures and repair any damage caused.

Scrappage Scheme

- 3.3 Between the scrappage scheme launching on 30 January 2023 and 14 January 2024, over 45,000 applications were accepted and over £155m has been committed. In June 2023, the Mayor announced the expansion of the scrappage scheme to Londoners receiving child benefit and all small businesses registered in London with fewer than 50 employees. In August 2023, the scheme was further expanded, with the Mayor announcing changes that extended support to all Londoners with a non-compliant vehicle; increased grant payments for scrapping a wheelchair-accessible vehicle, van or minibus; and allowed businesses to scrap up to three vehicles.
- 3.4 In early February 2024, the Mayor agreed for a further £50m to be provided from the Greater London Authority (GLA) to allow the scheme to continue to operate in 2024, making the total funds available for the scrappage scheme £210m. Authorities for the additional funding were secured by a Chair's Action approval on 26 January 2024, reported in the Use of Delegated Authority paper on the agenda for this meeting.

Blackwall and Silvertown Tunnels User Charge

- 3.5 The Blackwall and Silvertown Tunnels User Charge system must be in place for the opening of the Silvertown Tunnel, currently planned for 2025. The power to levy charges is provided for in the Silvertown Tunnel Order 2018 (the Development Consent Order) made by the Secretary of State for Transport in May 2018. The User Charge, once determined, will be implemented via contract variations to the existing Road User Charging (RUC) operating model, with necessary system changes and contact centre support being undertaken by Capita, who commenced resource mobilisation in June 2023, as planned, to enable system design and development activity to start. Detection and enforcement infrastructure is being delivered by Yunex at both Silvertown and Blackwall Tunnels, following a contract variation. Requirements for web development are being progressed internally by TfL.

Business Operations in-house

- 3.6 As set out in previous submissions to the Committee, it is intended to bring the RUC Business Operations (BOps) in-house. Onboarding of specialist technical resources has continued via the Crown Commercial Services frameworks, supporting key activities focused on progressing the BOps system design, build and integration. In June 2023, Phase 1 of the system build was completed as forecast, including testing of key functionality such as signing up for autopay and creation of a RUC account.

RUC Re-let

- 3.7 The RUC re-let project consists of three service contracts which together form the RUC operating model:
- (a) Detection and Enforcement Infrastructure (D&EI);
 - (b) Customer Management Services (CMS) (previously referred to as the BOps service contract); and
 - (c) Enforcement Operations (EOps).
- 3.8 The project has progressed well during 2023/24, overcoming resource challenges to achieve forecast milestones for the overall procurement strategy and market engagement activities. The overarching procurement strategy was endorsed in June 2023, and has informed the individual procurement strategies for each contract. The EOps Procurement Strategy was approved in October 2023, having been informed by the outcome of market engagement activities undertaken in summer 2023. The CMS and D&EI procurement strategies are currently in development, with market engagement for D&EI and CMS undertaken in spring 2023 and autumn 2023 respectively.

Future RUC

- 3.9 Within the public consultation that took place between May and July 2022 as part of the London-wide ULEZ project, a number of high level policy questions were asked on the potential for a future RUC scheme to replace existing charges, such as the Congestion Charge, Low Emission Zone and ULEZ. However, no further work on a future RUC scheme is taking place at this time.

Direct Vision Standard Phase 2 (DVS2)

- 3.10 Public consultation took place between 14 February and 3 April 2023 seeking views on the proposed safety equipment specifications that non-compliant HGVs over 12 tonnes would need to meet from October 2024 to secure a safety permit and operate in London. The final design of this equipment, known as the Progressive Safe System, was subsequently approved by the London Councils' Transport and Environment Committee (TEC) in June 2023, achieving a key milestone for the project. London Councils TEC also approved amendments to the Traffic Regulation Order required to operate the HGV Safety Permit Scheme for DVS2. Progressive Safe System Operator Guidance and Technical Specifications were published in autumn 2023 to help HGV operators prepare for changes in permitting requirements, which will see the minimum DVS star rating threshold increase from 1 star to 3 stars from October 2024.

Electric Vehicle Infrastructure Delivery (EVID)

- 3.11 EVID continues to progress delivery of rapid and ultra rapid charge points to support projected demand in London to 2030. In the previous submission to the Committee in March 2023 we set out a target to sign the first contracts with electric vehicle charge point operators in 2023/24. The first contract was signed in

May 2023 and by the end of November 2023, a further two contracts had been signed. These contracts aim to have installed 100 rapid charging bays by summer 2025. Commencement on the first site is planned for spring 2024. Feasibility work for a second tranche of charging bays has been initiated to continue delivery of the rapid and ultra rapid chargers that London needs.

Bus Opportunity Charging Trial

- 3.12 We reported to the Committee in March 2023 that bus route 358 between Crystal Palace and Orpington would become fully electric by May 2023. However, the achievement of this milestone has been subject to significant delays primarily due to a need to accommodate electric vehicle charging infrastructure on third party land and agree associated contractual terms. Infrastructure works have now been completed at Crystal Palace, with snagging, testing and commissioning due to conclude in March 2024. This includes minor changes to the bus stand layout and driver training. Infrastructure at the Orpington end of the route is now almost complete, following works to connect to the UK Power Network system undertaken in February 2024. The charging infrastructure will be powered and ready to use when documents are approved in March 2024. The route is estimated to operate with a full fleet of zero-emission buses from June 2024 following final commissioning and testing. Lessons learnt from this pilot project are being gathered to ensure they inform any future similar schemes.

Waste Heat

- 3.13 A significant project milestone was achieved on 16 November 2023, with a preferred delivery and commercial approach confirmed to harness thermal energy from a first site in Southwark. Stakeholder engagement continues for the site and will be used to finalise the procurement strategy and compile a delivery schedule. Plans for identifying future sites are underway. As part of this aim for future sites, a further round of market engagement was concluded in December 2023, to standardise the level of information that is publicly available on our waste heat opportunities. We are currently responding to a consultation led by the Department of Energy Security and Net Zero for a new national heat zoning initiative that is expected to significantly influence our longer-term strategy.

Solar Private Wire

- 3.14 In our previous submission to the Committee, we stated it was our intention to launch an Invitation to Tender (ITT) by autumn 2023. Though we achieved approval of the procurement strategy in September 2023, the ITT is delayed until May 2024 due to the need to commission specialist resources to validate the content of procurement documentation, namely the technical specification and case study to ensure a competitive procurement process.

Zero-Emission TfL Support Fleet (ZEF)

- 3.15 The aim of ZEF is to decarbonise TfL's support fleet of approximately 1,000 vehicles to align with our objective of becoming operational Net Zero by 2030. A new delivery team was successfully mobilised in summer 2023 and the scope of the programme confirmed in December 2023. Initial workstreams have focused

on analysing telematic data to understand how the current fleet operates, to help inform decisions on leasing zero emission alternatives and associated infrastructure – namely, charging points. Some quick win opportunities are also being explored at specific locations, to integrate plans with broader activities to reconfigure these sites.

Building Decarbonisation – Heat

- 3.16 The programme aims to support an objective to decarbonise operations across our estate by 2030 by eliminating the use of fossil fuels and improving energy efficiency. A delivery team was mobilised in summer 2023. Feasibility studies for an initial eight prioritised sites were completed in March 2023 with a further 14 sites commissioned in October 2023, with the aim to complete feasibility for the 22 sites by June 2024. Grant funding has been secured through the Public Sector Decarbonisation Scheme and a second bid for funding was submitted in November 2023. If successful, this will accelerate delivery of heat decarbonisation projects at three sites by March 2026. The programme achieved a significant milestone on 20 December 2023 (Pathway Gate A), which confirmed programme scope, requirements and areas of focus for 2024.
- 3.17 Other solution-specific decarbonisation delivery in 2023 included the installation of LED lighting in 20 small London Underground stations, and solar panels on both terminals of the IFS Cloud Cable Car. In terms of benefits, the conversion to LEDs at small stations achieved a 60 per cent reduction in energy usage and associated costs, as well as making the stations brighter and more welcoming for customers. The 95 solar panels installed at the cable car terminals will save approximately £4,000 in energy costs and seven tonnes of carbon per year. The new panels will generate the equivalent of 13 households' electricity consumption, delivering a reduction in carbon emissions comparable to planting 326 trees.

4 Key Environment Programme Deliverables 2024/25

London-wide ULEZ

- 4.1 Following successful launch of the project in August 2023, transition to operations is underway ahead of project close out in 2024. Monitoring reports for the scheme six and 12 months post-delivery will be published in 2024/25 and will highlight the air quality impacts since implementation of the scheme, as well as latest compliance levels within the zone.

Blackwall and Silvertown Tunnel User Charging

- 4.2 Installation plans are continuing to be developed by our contractors Yunex, Kier and Riverlinx for the Silvertown and Blackwall Tunnels, with necessary detection and enforcement infrastructure due to be installed by June 2024. System development is underway with Capita and technical go-live is scheduled for October 2024 to allow sufficient time for testing ahead of tunnel opening. We will engage with the Silvertown Tunnel Investment Group (representatives from London's boroughs, the GLA and National Highways) on the proposed charges, discounts and exemptions in the summer. A minimum of three months will be provided for customer registration on the system. A Statement of Charges

containing detail of the charges, discounts and exemptions and rules of the schemes will also be published no fewer than 56 days before tunnel opening.

BOps in-house

- 4.3 System design, build and integration continue, with necessary testing and system releases due to take place in 2024/25. This includes completion of functionality that will allow customers to set up and manage a RUC account, register for autopay and apply for a vehicle based discount. It will also enable us to detect journeys and manage vehicle data and diversions. Commencement of data migration testing and initial integration are also planned during 2024/25. There continues to be close working with the RUC Re-let project to carefully plan, manage and track dependencies.

RUC Re-let

- 4.4 The three contracts within the RUC Re-let scope (EOps, CMS and D&EI) are scheduled go out for competitive tender in 2024. Pending the successful completion of the procurement processes, the contracts are planned to be awarded in spring 2025. This will support a minimum 12-month mobilisation period ahead of formal handover for each element by September 2026. The integration of these procurements with the in-house development of the BOps system is critical and is being closely managed to ensure a smooth transition to the new RUC operating model and provide continuity of service for all existing RUC schemes.

DVS2

- 4.5 Enhancements to the existing DVS technical solution are continuing to progress which will facilitate the increase in DVS star rating threshold from one star to three stars in October 2024. Operators will be able to pre-register for permits three months before this date. System changes will enable processing of the expected volumes of applications while also seeking to address some of the technical difficulties experienced by users of the current system, including the introduction of a permit look up tool. In June 2024 consideration will be given at London Councils TEC to the duration of the post-October grace period, informed by engagement undertaken with industry stakeholders in early 2024 to understand levels of readiness for the change in star rating.

EVID

- 4.6 For the first tranche of delivery, commencement on the first site is planned for spring 2024 and the first 39 bays (out of the 100 bay target) are scheduled for delivery by September 2024. The remaining bays are scheduled for delivery by summer 2025. The first batch of the second tranche is due to be issued to the market by summer 2024.

Bus Opportunity Charging Trial

- 4.7 Following the planned introduction of fully electric buses in June 2024, the project will be closed and benefits realisation will be undertaken. The conversion of route

358 to a fully electric fleet will provide an opportunity to inform plans to upgrade some of London's longest routes to become zero emission. As mentioned above, a lessons learnt exercise will be carried out for this pilot project.

Waste Heat

- 4.8 A review of the technical and commercial viability for the first site in Southwark will be finalised by July 2024, with the information produced used to inform the execution of the final procurement strategy. The development of a wider programme to establish a pipeline of projects will commence from summer 2024, acknowledging the need to accommodate any recommendations arising from the heat zoning consultation referenced in paragraph 3.13.

Solar Private Wire

- 4.9 The tender documents are planned to be issued in May 2024 once procurement documentation has been validated and the tender process for appointing a delivery partner is anticipated to be completed by December 2024.

ZEF

- 4.10 Following the confirmation of programme requirements in December 2023, the focus will be on developing a 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. A revised cost estimate will be produced once a schedule is approved by summer 2024. The project team will continue to seek opportunities to deliver quick wins at locations such as Acton Works Depot.

Building Decarbonisation – Heat

- 4.11 Twenty-two sites have been prioritised for feasibility studies, with the first outputs of these reports due by April 2024. Following the receipt of all studies by June 2024, a prioritisation methodology will determine an initial 10 sites to commence design activities through 2024/25. As the programme moves towards defining and phasing of delivery packages in summer 2024, a procurement and delivery strategy will be completed by autumn 2024.

Rapid Charging Infrastructure

- 4.12 Following ministerial consent, the Office for Zero Emission Vehicles agreed to repurpose previous underspend of a 2014/15 grant to deliver rapid charge points, to encourage the taxi trade to take up zero emission alternatives in line with our licensing requirements. In 2024/25 we will initiate the project and agree the best option to deliver rapid charge points that support the taxi trade.

5 Challenges and Opportunities

- 5.1 **Resourcing:** Availability and level of experience remains an issue within TfL and for suppliers, with resources needing to be prioritised across projects. This is being carefully monitored, with actions taken where possible to ensure we can attract and retain the necessary quality and quantity of resource. A specific

challenge relating to Environment projects has been our ability to access subject matter experts (SME) to support procurement activities. An example relates to launching the tender for Solar Private Wire, against a backdrop of finite support. For instance, this restricted pool of expertise has led to a need to prioritise the wider Power Purchase Agreements programme at an organisational level. Similarly in RUC, there is a SME constraint particularly with end user involvement that is critical to feed into technical requirements, tender documentation, and evaluation. This is accentuated by current recruitment freezes, the detailed knowledge requirements and the volume of workload creating competing demands across RUC and schemes outside the Environment Programme.

- 5.2 **Funding:** With clear targets being set that align with our Corporate Environment Plan, a challenge will be to match these ambitions with the funding available. This is amplified by our current financial position, coupled with relatively short timescales for achieving some of our key outcomes. An example is the decarbonisation of our buildings by 2030. In the short term, funding is available to progress activities to build a pipeline of interventions; however, a total budget of £39m is unlikely to achieve the outcomes in the available timeframe. Further work therefore must be undertaken on exploiting a variety of funding sources, namely, the submission of additional bids to third party initiatives such as the Public Sector Decarbonisation Scheme.
- 5.3 **Stakeholder Support:** The Programme remains a key driver for achievement of targets set by TfL and delivery of the Mayor's Transport Strategy. However, the outcome of national or London elections could mean reviewing strategies and therefore programme outcomes.
- 5.4 **RUC Interdependencies:** There remain complex inter-dependencies between RUC schemes, most notably the BOps in-house and RUC Re-Let projects. The successful introduction of the new BOps system is critically dependant on careful integration with the suppliers appointed via the contract re-lets. Timescales for both projects are being carefully managed to ensure the necessary mobilisation, integration and testing durations are accounted for. Project teams are continuing to work closely together to coordinate the projects effectively, including management of assumptions, requirements, scope and risks.

6 Financial Implications

- 6.1 In March 2023, £77m Programme and Project Authority was approved by the Committee. Since then, two further Programme and Project Authority requests have been approved by Chair's Action, the first request of £59m in August 2023 and the second request of £40m in January 2024. These requests covered two extensions to the scrappage scheme, deployment of mobile enforcement cameras and recruitment of additional call centre staff to support the expansion of ULEZ London-wide. Across the Programme, we are forecast to spend £309.5m by the end of the financial year.
- 6.2 The Programme conducts periodic reviews of the actual performance versus last year's submission expectation as shown in Table 1 below. There is a £29.4m variance between 2023/24 budget up to Period 11 and 2023/24 actuals up to Period 11, predominantly as a result of additional funding and related authority

approvals for the scrappage scheme. The scrappage figures have been detailed in a separate line in the table for clarity.

- 6.3 Of the £26.9m underspend in RUC, approximately half is due to cost reductions and efficiency savings on London-wide ULEZ and the replan of final installations and close out activities. The majority of the remaining variance can be attributed to the BOps in-house and tunnel user charging projects, which both underwent re-profiling of forecasts to align with revised delivery schedules. The final part of the underspend relates to wider cost reductions, efficiency savings and the close down of projects.
- 6.4 Of the £3.9m underspend highlighted in other Environment schemes, the majority is as a result of the Ash Grove project not starting as forecast due to ongoing commercial issues at the site.

	2023/24 Budget to P11	2023/24 Actuals to P11	Difference
RUC	134.0	107.0	(26.9)
Scrappage	93.7	153.9	60.2
Environment	10.7	6.8	(3.9)
Total	238.4	267.7	29.4

Table 1: Summary of Forecast Spend against Budget (£m)

- 6.5 Since the last submission to the Committee, there have been some changes to EFCs, details of which are included in the related paper on Part 2 of the agenda.
- 6.6 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 requested by this submission are in addition to existing authority already secured.
- 6.7 Total expenditure (excluding income) for which Programme and Project Authority is being sought is set out in Table 2:

Activity Areas	Current Financial Authority to 2027/28	Current Programme and Project Authority	Additional Proposed Programme and Project Authority	Authority Request (£m)						
	£m	£m	£m	17/18 to 22/23	23/24	24/25	25/26	26/27	27/28	17/18 to 27/28
Road User Charging	941.5	828.0	20.2	353.1	286.4	87.6	89.5	31.6	-	848.2
Environment	237.5	184.7	44.1	155.6	10.5	17.4	24.6	18.1	2.7	228.8
TOTAL	1,179.0	1,012.7	64.3	508.7	296.8	104.9	114.1	49.7	2.7	1,077.0

Table 2: Constituent activity areas and Programme and Project Authority requested

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 ¹and 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 of the Environment Programme in 2023/24

8.1 The annual Integrated Assurance Review of the Programme was finalised in January 2024 by the TfL Project Assurance team and the Independent Investment Programme Advisory Group. No critical issues were raised.

8.2 The Integrated Assurance Plan was updated in January 2024, and it sets out all proposed assurance reviews scheduled for projects and programmes within the Environment Programme over the next 12 months.

List of appendices to this report:

Exempt supplementary information is included in a paper on Part 2 of the agenda.

List of Background Papers:

London-wide Ultra Low Emission Zone and Scrappage Scheme (Programmes and Investment Committee Chairs Action August 2023)

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

TfL Project Assurance and Management Response.

Contact Officer: David Rowe, Director of Investment Delivery Planning

Email: DavidRowe@tfl.gov.uk

¹ Protected characteristics under the Equality Act are age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation, and marriage or civil partnership status (the duty in respect of this last characteristic is to eliminate unlawful discrimination and other prohibited conduct under the Act only)

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This paper will be considered in public

1 Summary

Technology Programme					
	Existing Financial Authority (2024/25 to 2025/26)	Forecast Spend (2024/25 to 2025/26)	Existing Programme and Project Authority (2022/23 to 2025/26)	Additional Programme and Project Authority Requested including commitments beyond 2025/26	Total Programme and Project Authority
Total Expenditure	842	848	865	227	1,092
Income	(11)	(12)	(28)	16	(12)
Net	831	836	837	243	1,080

Table 1: Summary of Technology Programme's Financial and Programme and Project Authorities (All figures in £m)

- 1.1 This submission for the Technology Programme (the Programme) brings together the former Technology and Data (T&D), Surface Technology, and London Underground (LU) Technology programmes following the restructure of Programmes within the remit of the Committee in May 2023. In July 2023, Surface Technology and LU Technology were combined to form Operations Technology (OpsTech).
- 1.2 The focus of this paper is to:
- (a) set out the background of the Programme;
 - (b) provide an update on progress of the merger of the T&D and OpsTech activity;
 - (c) summarise progress of project delivery and successes since the previous submissions to the Committee in March 2023 for T&D and July 2023 for OpsTech;
 - (d) summarise the planned delivery for 2024/25 and 2025/26 as well as key challenges and opportunities for the year ahead; and

- (e) request an additional £227m Programme and Project Authority for planned investment priorities in 2024/25 and 2025/26 as well as commitments that span into future years (from 2026/27) that need to be made before the next planned submission to the Committee in March 2025. See Table 3 and Appendix 1 for further information.
- 1.3 A paper is included on Part 2 of the agenda which contains exempt supplementary information. The information is exempt by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the business affairs of TfL and contractors. Any discussion of that exempt information must take place after the press and public have been excluded from this meeting.

2 Recommendations

- 2.1 **The Committee is asked to note the paper and the exempt supplementary paper on Part 2 of the agenda and:**
- (a) **approve an increase in Programme and Project Authority of £227m for the Technology Programme giving a total of £1,092m Programme and Project Authority;**
 - (b) **note that matters for which Programme and Project Authority is sought above include commitments that extend beyond the period of the 2024/25 Budget and 2024 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.**

3 Background

- 3.1 This section describes what the Programme has delivered over the last 12 months, how we have addressed the ongoing challenges to delivery, and how we have supported TfL customers and our colleagues across the business.

Technology underpins everything that TfL does and is integral to securing its future business

- 3.2 The Programme includes providing core Information Technology (IT) and Operations Technology (OT) services, delivering and maintaining the digital workplace, ensuring transport operations retain the technology capabilities required to operate safely and efficiently, helping TfL become financially sustainable through the support of our payments systems, and protecting the business from cyber-attacks. A significant proportion of our investment is committed to renewals, ensuring our assets stay operational and that TfL services are available and secure.

We used last year's authority to continue to deliver value across TfL and for its customers

- 3.3 Over the last 12 months, we have invested in future proofing our payments infrastructure (Projects Hina and Proteus), ensuring our operations are safe with upgrades to Passenger Help Points at 15 LU stations, rolling out Body Worn Video (BWV) cameras and Emergency Communication Devices (ECD) to customer facing colleagues, and upgrading our end-of-life wi-fi infrastructure across our estate. Further detail of our delivery over the last 12 months is provided in Appendix 2.

We have also delivered value to colleagues and customers outside of the Programme and across London

- 3.4 Over the last 12 months, we have delivered several projects from within combined and hybrid delivery teams. For example, in partnership with our supplier, we have increased access to high-speed 4G and 5G-ready connectivity on the underground. We are also delivering the expansion of contactless Pay As You Go (PAYG) beyond London and across the south east, through a Department for Transport funded project.

T&D and OpsTech are merging to create the Technology Programme, enabling greater oversight and flexibility in how we deliver value to TfL and invest in the future

- 3.5 We welcomed the recommendation by the Independent Investment Programme Advisory Group (IIPAG) that technology investment across TfL should be consolidated into one, business-wide Programme to enable greater efficiency and co-ordination of planning and delivery.
- 3.6 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 Plan is structured. Since then, progress has been made towards establishing the combined Technology Programme in governance, combining management meetings, and consolidating information for ease of reporting and escalation.
- 3.7 To enable better outcome-based planning, prioritisation, and visibility across the OpsTech elements of the Programme, six theme-based groups of projects have been developed: (1) Connectivity; (2) Cycling and Micro-Mobility; (3) Digital Asset Management; (4) Enforcement, Compliance, Safety and Security ; (5) Network and Public Transport Management; and (6) Tools for Planning, Automation and Staff.
- 3.8 The merging of T&D and OpsTech into the Technology Programme is at an early stage and ongoing work is being undertaken to ensure that the benefits outlines in section 3.5 can be realised for TfL. This submission to the Committee is a significant early step on the journey to combining the two areas.

4 Programme Delivery Performance During 2023/24

- 4.1 This section highlights the Programme's delivery performance over 2023/24, the challenges we faced, and how we addressed them.

Our Delivery Performance and Key Achievements

- 4.2 In the 2023 submissions to the Committee, the former T&D and OpsTech programmes set out key project deliverables for the financial year. The below list highlights some of the key achievements and benefits that have been realised:
- (a) we deployed SAP Ariba, our new supplier and contract management system, providing around 5,000 colleagues with one common platform and dataset for procurement and commercial, improving the way purchases are executed;
 - (b) we updated our colleagues' desktop experience, providing a simplified, consistent, people-focussed experience – optimised for hybrid working. This new platform supports continuous, iterative and rapid change, minimising business disruption, and reducing the support/administration resource requirements for delivery and maintenance;
 - (c) we deployed Multifactor Authentication across our online platforms, helping safeguard TfL customers and colleagues against personal data breaches and shielding our organisation from any accompanying Information Commissioner's Office fines;
 - (d) we delivered a range of upgrades to our TfL Go app including the integration of full bus routes and enhanced disruption information for our customers. We have also made progress on integrating Oyster and contactless payment functionality and delivering push notifications. New functionality continues to drive TfL Go growth with five million downloads so far and 837,000 users in January 2024;
 - (e) we delivered replacement Connect radio hardware base units at 295 sites by July 2023, ahead of schedule, ensuring we can deliver improved radio network connectivity for colleagues working across LU;
 - (f) we upgraded the passenger communication system for the London Cable Car, delivering improved network connectivity to enable safe operation and an enhanced customer experience;
 - (g) we plan to award a new contract in February 2024 which will deliver essential upgrades to the current iBus system including assets and continuation of service;
 - (h) we launched the new Common Operational View Incident Management System in June 2023 which provides colleagues in the Network Management Control Centre with a single, more efficient interface for managing incidents and planned works;
 - (i) we completed Phase 2 of the Cycle Hire Modernisation programme, including bug fixes and enabling customers to hire multiple bikes using the app; and
 - (j) through coverage on the Jubilee, Central, and Northern lines, our Telecoms Commercialisation Project has now provided 4G and 5G mobile coverage to 25 per cent of the LU. We have also hit the key milestone

providing 4G mobile coverage on the first four central London stations on the Elizabeth line. This increased connectivity allows customers to get the latest travel information, access social media, check their emails, make calls, and stream videos while passing through these stations.

- 4.3 A more detailed list of achievements and associated benefits realised is provided in Appendix 2.

Review of Financial Performance

- 4.4 In March 2023, £158.7m Programme and Project Authority was approved by the Committee for T&D for financial year 2023/24 and we are forecasted to spend £125.9m by the end of the financial year.

In July 2023, £107.4m Programme and Project Authority was approved by the Committee for OpsTech for financial year 2023/24 and we are forecasted to spend £82.7m by the end of the financial year.

- 4.5 There have been several delivery and financial forecasting challenges in 2023/24 which have resulted in underspend for both T&D and OpsTech, shown in more detail in Appendix 4. Key causes of the underspend include optimism bias in forecasting, particularly in risk management. This is being actively addressed with deliverability reviews undertaken across the Programme to review 2024/25 forecasts. In addition, supply chain resourcing is impacting the number of projects and the pace at which they can be delivered, particularly commercial resources that were required for projects with contractual elements.
- 4.6 The Programme conducts periodic reviews of actual performance versus last year's submission expectation as shown in Table 2. Since the last submissions to the Committee, there have been some changes to estimated final costs (EFCs), details of which are provided in appendix 3 and in the related paper on Part 2 of the agenda.

	Programme and Project Authority requested in 2023/24	2023/24 Period 9 Actuals and Forecast Spend	Difference
T&D	158.72	125.86	32.86
OpsTech	107.35	82.65	24.70
Total Programme	266.07	208.51	57.56

Table 2: 2023/24 Summary of Forecast Spend against Budget (£m)

- 4.7 To reduce the prospect of underspend in 2024/25, we have identified additional projects valued at £75.8m (£33.8m for T&D and £42.0m for OpsTech) within our work bank. These projects have been prioritised and, following a deliverability assessment, the most suitable projects will be shortlisted to utilise any funding made available if the outcomes highlighted in section 4.4 materialise. The projects that become part of our approved 'overprogramming' spend will be reviewed regularly to ensure they are deliverable and that the most impactful initiatives are funded.
- 4.8 If additional resources are required to deliver our projects, we will utilise existing channels to engage non-permanent labour (NPL). For Road User Charging and

vacancies related to expanding PAYG, we have the additional option of using the Crown Commercial Services framework.

- 4.9 An overall EFC has not been included as the Programme oversees hundreds of recurring projects, some of which have differing rates of refresh. Further detail of EFC changes by portfolio is provided in Appendix 3 and in the related paper on Part 2 of the agenda.

5 Delivering Value for Money (VfM) and Realising Benefits

- 5.1 This section provides examples of some of the initiatives we have undertaken to ensure we deliver VfM and tangible benefits to both our customers and colleagues.
- 5.2 We are procuring an Enterprise Architecture software platform to model our Programme's business capabilities and investment processes. It will be utilised across a range of activities such as business planning, reducing the current resource burden on our colleagues, and enabling them to focus more effort on delivery.
- 5.3 Working with TfL's Investment Appraisal team, we have established programme-level Benefits Management Frameworks to categorise and quantify project benefits where possible. Each project within the Programme will deliver against several core benefits which in turn contribute to TfL's Strategic Outcomes. In 2024/25 we will also exploit routine change control processes – such as Budget Change Requests and Drawdown Requests - to ensure business cases are still aligned to strategic outcomes and notable benefits will be realised.
- 5.4 We have conducted benchmarking analysis across various parts of the Programme to ensure that our spending is similar or more efficient than comparable organisations. For example, in early 2023 we were able to reduce the cost of Project Hina by £6.5m through the identification of efficiencies and successful contract negotiations with our supplier.
- 5.5 We periodically review our work bank to identify potential accelerations for critical works - opportunities to bring forward spend from future years into the current financial year - should underspend occur elsewhere or additional funding become available. This year, we were able to identify £6.1m worth of accelerations in 2024/25.

6 Strategic Case for Investment

- 6.1 Our Product Management teams work closely with service users across TfL to identify emerging business needs and determine the capabilities required to meet them. This informs our future investment opportunities and shapes our Technology Roadmap. Our Technology Roadmap outlines our contribution to the goals set out in the Mayor's Transport Strategy (MTS) and TfL's strategic priorities; the Technology 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 the Programme and Project Authority requested between 2024/25 and 2025/26, 71 per cent will be committed to asset renewal projects. Without this investment, TfL will experience several negative outcomes:

- (a) degradation in services that supply real time information for customers and station staff;
- (b) loss of productivity due to deterioration of operational processes responsible for safety, reporting, and enforcement;
- (c) potential data security vulnerabilities and breaches due to inconsistent application of security patches and upgrades; and
- (d) loss of revenue due to increased failure of payment infrastructure critical to making our revenue collection systems operable into the future.

6.3 These outcomes would also result in significant reputational damage for TfL, dissuading customers from using our service, and hindering the MTS objective of ensuring that 80 per cent of all trips in London are made on foot, by cycle or using public transport by 2041.

6.4 Our enhancements are also essential to preventing a loss of capability. For example, while many software and asset upgrades introduce new functionality and features, failure to carry them out will leave the organisation vulnerable to ever-adapting cyber threats. We need to invest in these enhancements to remain operationally compliant and secure. In recent years, however, TfL has been in a challenging financial position and we have deferred spend on enhancements to help the business meet its financial targets. As a result, spend on enhancements has significantly reduced from 66 per cent of our total work bank in 2018/19 (before the pandemic) to 22 per cent in 2024/25.

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

6.5 The Mayor of London has an ambition for London to be Net Zero by 2030. The Programme will support these goals by:

- (a) ensuring the continued 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 digital 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; and
- (c) reducing the environmental impact of TfL's technologies by executing our carbon reduction roadmap (see section 7). This work is currently being led by volunteers within our Sustainability Planning working group, however funding will be required to make significant progress.

7 Investment Plan 2024/25 and 2025/26

7.1 Several budget scenarios, for both renewals and enhancements, were considered during the Business Planning process. Technology renewals and enhancements are assessed against two separate frameworks overseen by TfL's Asset Strategy and Business Strategy Teams respectively, together with additional technology-specific criteria. The overall funding envelope for 2024/25 to 2025/26 is insufficient to deliver all projects within our work bank. To manage this gap, detailed prioritisation of projects has taken place to manage how spend is distributed within the Programme and is reviewed throughout the year.

Planned Expenditure by Investment Portfolio

7.2 The forecast in Table 3 below provides an overview of our past spend and our planned future expenditure in relation to our authority request in financial years to 2027/28 inclusive. 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. A proportion of future years spend is contractually committed, or is planned to be, before we next return to the Committee, details of which are in the related paper in Part 2 of the agenda.

	Existing Programme and Project Authority	Prior Years Spend	Planned Expenditure 2024/25	Planned Expenditure 2025/26	Future Commitments (26/27 and beyond)	Programme and Project Authority Requested	Total Programme and Project Authority
T&D	457.4	243.3	120.5	98.3	113.2	117.8	575.3
OpsTech	407.4	152.0	109.3	124.3	131.1	109.3	516.6
Total	864.8	395.3	229.9	222.6	244.2	227.1	1091.9

Table 3: Overview of financial request (all values are in £m)

7.3 Approval of the Programme and Project Authority sought for financial years 2024/25 and 2025/26 will enable our Programme to deliver high-value outcomes that will achieve benefits across TfL's strategic themes as set out in Table 4.

Theme	Business outcomes to be delivered by 2025/26
Our Customers	<ul style="list-style-type: none"> Upgrading our automatic vehicle location systems and delivering improvements to real-time travel information to support customers at times of network disruption. Introducing an integrated suite of new systems and tools to enhance road network management. Delivering an enhanced cycling experience that aligns with the physical network (Cycleways) and encourages more confident experimentation with cycle routes. Delivering 4G and 5G-ready coverage for customers of all four major mobile network operators on LU.

	<ul style="list-style-type: none"> • Developing a more personalised, data-driven TfL Go app experience that supports intelligent nudging towards sustainable transport modes. • Enhancing website travel tools that complement rather than replicate functionality in TfL Go, to provide customers with a more seamless journey planning experience. Updating train movement data on the Bakerloo line and lines within the Four Lines Modernisation programme to provide more accurate travel information to LU operational staff and customers. • Delivering a coordinated approach for managing non-docked micro-mobility to support safe, sustainable travel across London.
Our Colleagues	<ul style="list-style-type: none"> • Deploying wi-fi connectivity at LU stations and depots, supporting our colleagues' productivity and future-proofing our networks estate. • Introducing Operational Workforce Planning systems for more efficient utilisation of operational resources and self-service tooling as part of the wider transformation of our SAP Enterprise Resource Planning infrastructure up to 2027. • Preparation work for the roll out of Windows 11, including hardware refreshes, application testing, and capacity planning. • Digitising paper-based processes and enhancing existing systems to improve productivity and resilience. • Improving compliance processes for our on street operational enforcement colleagues, enabling streamlined enforcement of multiple contraventions across the road network. • Managing IT Services for the Greater London Authority, 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. • Improving our network capacity and replacing communications devices to support our operational Bus and Coach Service Delivery colleagues who increasingly rely on connected devices (computers, tablets, and mobile phones) to perform their roles. We will also introduce an enhanced support model to improve colleague efficiency.
Our Finances	<ul style="list-style-type: none"> • Expanding contactless payments to 152 stations in the south east to enable a reduction in the use of paper tickets. • Investing in asset management capability for enhanced reliability and longevity of our assets across TfL. • Improving TfL's Irregular Travel Analysis Platform which identifies fare evasion from anomalous journey patterns and sales data. • Rolling out our Surface Asset Management System to support new surface technology contracts and complete the consolidation of LU asset management systems into Metro Maximo. • Awarding the new Revenue Collection Contract (Proteus).
Safety and Security	<ul style="list-style-type: none"> • Replacing critical radio hardware units, delivering improved network connectivity across LU.

	<ul style="list-style-type: none"> • Enhancing processes through technology for driving efficiency and ensuring safety on our stations. • Renewing and extending our operational network capacity and capability across LU to ensure we can continue to run a secure and supported operational network. • Continued roll out and refresh of BWV Cameras and ECDs to colleagues in customer facing roles to reduce the risk of workplace violence and aggression and improve reporting of incidents. • Continuous investment in our cyber security for our most critical corporate and operational technology to ensure robust security from external threats. • Installing over 300 Deployable Enforcement Cameras across the road network to reduce road danger, increase bus lane compliance, and reduce congestion at junctions. • Enhancing our incident response system, supporting our colleagues' ability to respond to critical incidents on LU and improving the safety of our customers.
Our Green Future	<ul style="list-style-type: none"> • Delivering various projects (such as Laptop Refresh and Telephony Refresh) which will provide tailored IT based on each colleague's role. This will reduce the number of devices being used in the organisation and replace end-of-life devices with more efficient ones. • Bringing 450 additional e-bikes into service by July 2025 and 1,400 e-bikes into service by September 2025, providing greener travel choices for a wider customer base. • Executing our carbon reduction roadmap which involves benchmarking our current carbon footprint, acquiring resources that will allow us to effectively monitor and reduce our carbon footprint, providing Carbon Literacy training to our colleagues, introducing sustainability principles to our supplier engagement, and identifying any necessary changes to our Operating Model.

Table 4: Business Outcomes to be delivered by the Technology Programme

7.4 A detailed list of projects in scope for 2024/25 and 2025/26 is provided in Appendix 2.

8 Risks and Opportunities

Key Risks

8.1 Table 5 below outlines the key risks the Programme will face, and the steps we have taken to mitigate those risks.

Risk No	Risk Description	Mitigation Actions
1	<p>The merger of T&D with OpsTech into the Technology Programme is highly complex due to the size of the two areas, the variety of what we deliver, and diverse range of customers we support. There is a risk that the benefits of the change will not be achieved if not supported by a formal change programme.</p>	<p>A detailed review of the operating model is required to ensure we maximise the opportunities for efficiencies and meet the demands of the organisation. Initial work on the operating model has begun with a working group convened to document 'as is' processes to support any future changes. The working group has so far identified four areas of focus: Sponsorship, Project Controls, Technology Strategy, and Investment Strategy. A change programme is being taken forward in 2024/25 covering end to end technology across the elements outlined in the recommendation to ensure a smooth and effective transition.</p>
2	<p>It remains challenging to fill specialist or senior roles resulting in our management layer being overstretched. As a result, our ability to deliver challenging projects in our complex environment is strained. There is a risk that there are insufficient resources available to deliver the 2024/25 investment programme.</p>	<p>TfL is reviewing our Employee Value Proposition and Reward Strategy by ensuring the benefits TfL provide are attractive to our colleagues and potential hires. Within the Programme, we have formulated a resource strategy outlining how we are beginning to address this risk. For example, we have already increased our permanent full time employee numbers (100 per cent improvement in period 9 of 2023/24) reducing our dependency on NPL.</p> <p>We regularly review the criticality of our projects to forecast demand and ensure effective prioritisation of our resource. We are also adopting TfL's Smart resourcing tool, SmartCore, to improve our ability to visualise and track our resources. We will work more closely with our stakeholders to better maintain our service catalogue. This will provide better visibility of pipeline activities and allow us to forecast demand more accurately.</p>
3	<p>We are facing uncertainty around future funding levels whilst prices continue to increase. As a result, we have reduced costs by sweating assets beyond expected end-of-life. This has increased the risk of catastrophic asset failure,</p>	<p>We undertake regular and detailed scenario planning, modelling investment against a range of potential funding outcomes. These activities can be time consuming, reducing capacity for delivering work.</p> <p>While we have an effective and proven process for dealing with major incidents, we are undertaking work to define our technical debt and mitigations.</p>

	forcing reactive work that impacts delivery of our investment programme.	We also regularly review and maintain business continuity plans for TfL and critical suppliers.
4	Forecast optimism continues to be a challenge across the Programme. There is a risk that inflated forecasts, which overestimate the in-year financial spend, will lead to inaccurate budget setting and underspend.	Detailed deliverability reviews have been undertaken to assess 2024/25 forecasts in line with the business planning process to mitigate optimism bias. A review of risk provision was also included to ensure allocation of risk is appropriate to the scale and stage of the projects. Overprogramming remains a core part of the financial plan to mitigate underspend in-year.
5	A cyber security incident may result in operational, financial, reputational, legal, regulatory, environmental, public safety and, potentially, national economic consequences. This may also inhibit our ability to deliver projects across the Programme.	Our recently published 2023 Cyber Security Strategy outlines our ambition to maintain investment in our people, processes, and systems such that the probability and impact of a successful attack are reduced to acceptable levels. This involves providing adequate training to all relevant TfL staff and adopting industry best practice.

Table 5: Key risks and mitigations of the Technology Programme

Key Opportunities

8.2 Table 6 below sets out 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	The Mayor's target for London to be Net Zero Carbon by 2030 provides an opportunity to deliver sustainable technology and have a positive impact on the environment.	This will require investment in sustainable IT initiatives and market research – which is currently not planned. TfL will also need to adopt procurement practices that take our suppliers' carbon footprints into account.
2	We can ensure better prioritisation of projects, spend, and resources across the investment plan.	Implement the Programme in full with aligned, effective governance and prioritisation.
3	We can better exploit our data (and other technology solutions) to deliver efficiencies and drive out costs.	Adoption via Our TfL Programme of the Data Strategy and an organisation-wide push to release the benefits of TfL's data.

Table 6: Key opportunities of the Programme

9 Equalities Implications

9.1 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 ¹and 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.

9.2 Compliance with the Public Sector Equality Duty is ensured within the Programme at a project level, with all schemes undertaking Equality Impact Assessments to identify potential impacts. We also routinely engage with the Independent Disability Advisory Group (IDAG) at early stages of our projects to help inform design requirements. For example, following engagement with IDAG, we tightened our requirements on the visibility of Countdown (next-bus arrivals) signs so that they are accessible to more customers like the elderly / those with visual impairments. We have also set up an Equality Working Group with bus drivers and service controllers to engage on design of our iBus2 solution. This has influenced screen positioning, text size, and colours for improved colleague accessibility.

10 Assurance

10.1 An Assurance Review on the Programme was carried out in November 2023 by the TfL Assurance Team and IIPAG. Two critical issues were raised by IIPAG and Project Assurance on the need for a structured / formal change programme. Four further recommendations were raised, responses to which have been provided.

10.2 First line assurance will be carried out on the Programme and its constituent projects. The next Programme level assurance review will be undertaken in advance of, and reported in, the next annual submission to the Committee in March 2025.

List of appendices to this report:

Appendix 1: Summary of the Programme Costs and Funding

Appendix 2: Delivery since last Committee submission and plan to next submission by portfolio

¹ Protected characteristics under the Equality Act are age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation, and marriage or civil partnership status (the duty in respect of this last characteristic is to eliminate unlawful discrimination and other prohibited conduct under the Act only)

Appendix 3: 2023/24 Changes to EFC and rationales for significant differences in Programme EFC by portfolio

Appendix 4: Breakdown of 2023/24 forecast spend (Period 9) against forecast at previous submission

Exempt supplementary information is included in a paper on Part 2 of the agenda.

List of Background Papers:

Programme and Investment Committee papers:

Technology Programme: July 2023

Technology and Data: March 2022, March 2023

Surface Technology: March 2019; October 2020; March 2021; October 2021; July 2022

London Underground Technology: October 2020; May 2022

Programmes and Investment Committee Programme Structure: May 2023

Independent Investment Programme Advisory Group Report and Management Response

TfL Project Assurance and Management Response.

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Appendix 1 – Summary of the Programme Costs and Funding

		Portfolio		Business Plan Year					Commits 28/29+	Total
Rounded to £m			22/23	23/24	24/25	25/26	26/27	27/28		
Cost	Base Gross Draft Forecast values	(A)	186.8	213.0	304.5	317.4	285.9	225.0		1,532.6
	Management adjustment to account for schedule optimism		0.0	(4.5)	(74.6)	(94.8)	(32.9)	(19.2)		(226.1)
	Investment Programme Total Gross	(B)	186.8	208.5	229.9	222.6	253.0	205.8		1,306.5
Funding	Financial Authority	(C)	186.4	212.8	223.7	218.7	226.5			1,068.0
Authority	Existing Project Authority	(D)	179.4	266.1	234.2	102.9	72.6	9.7		864.8
	Transfers	(E)	-	-	-	-	-	-		-
	Project Authority less Transfers	(F) (D+E)	179.4	266.1	234.2	102.9	72.6	9.7		864.8
	This Project Authority request	(G) (B-F)	7.4	(57.6)	(4.4)	119.7	79.8	65.0	17.1	227.1
	Future Project Authority request	(H)					100.6	131.1		231.7
Income	Investment Programme Income*	(I)	6.8	3.1	2.1					12.2
Income	Financial Authority Income	(J)	6.8	2.6	1.9					11.3

(A) Work bank before overprogramming

(B) Costs net of the management adjustment for overprogramming

(C) Financial Authority is based on the Business Plan up until Financial Year 2026/27

(D) Programme and Project Authority based on existing approvals

(E) Transfers into or out of the Programme

(G) This project authority request for FY26/27 onwards is for commitments only

(J) Financial Authority Income is based on the Business Plan up until FY26/27

* The bulk of the income reduction is due to the Barcode Readers project which is netted off by slightly higher income on Greater London Authority and London Legacy Development Corporation work and other smaller project income.

Appendix 2 – Delivery since last Committee submission and plan to next submission by project group

T&D

Portfolio	Expected and Actual Outputs in 2023/24	Expected Outputs in 2024/25
<p>Contact Centre Operations (CCO) Notable Projects: Concessions Retender (both inflight and future), Lost Property System</p>	<p>Control our costs by continuing our outsourcing strategy Achieved: Renewed and enhanced Contact Centre Operations Framework in place. Expanded the scope of what we can contract under it, e.g. we can now outsource development and management of CCO-related technology through the framework.</p>	<p>The moving to two new suppliers for Contactless Payment Card contact handling, May 2024, to minimise dependency on the performance of a single supplier.</p> <p>The retender of the Interactive Voice Response system and self-serve telephony is due to be completed July 2024.</p> <p>The concessions management system and associated contact handling retendered and contract awarded Quarter 3 2024.</p>
<p>Cyber Security Notable Projects: Operation Technology (OT) Detection Tooling Expansion, Vulnerability Remediation, Advanced Endpoint Protection</p>	<p>Achieved: Successful OT to Information Technology (IT) proof of concept; End Point Protection enabled; Cyber Security Ezone - new pan-TfL cyber training launched.</p> <p>Achieved: Azure Information Protection Protective Marking, Phase 2, is complete with mandatory classification marking deployed across core office tools.</p>	<p>Deliver or enhance elements of our pan-TfL cyber security improvement roadmap: Coordinate and support the management of cyber security risk pan-TfL, both for IT and OT.</p>

	<p>Achieved: OneLondon Security Essentials has delivered new endpoint protection capability to OneLondon laptops, significantly reducing the risk of compromise via a thick client.</p>	<p>London Underground (LU) Cyber Security Improvements for Operational Systems: Improve LU compliance with cyber security regulation – specifically the Network and Information Systems Regulations 2018 , to be completed in financial year 2024/25</p>
<p>Data & Analytics Notable Projects: Enterprise Data Development, Self-Service Reporting Refresh</p>	<p>CLEO Framework (The CLEO Framework is the Data and Analytics strategic solution for TfL’s Enterprise Data Warehouse.) Build and solution deployment into production environment completed May 2023 as planned.</p> <p>SHE Data Storage Go-live re-planned for August 2023, achieved November 2023 due to emerging technical complexity. Project is now in early life support with project completion in January 2024.</p>	<p>CLEO Framework additional enhancements: This year we will complete phase 2 of the core CLEO migration to Azure with the as is platform hosted in Azure and then will move on to deliver phase 3 which is about modernising and implementing new framework approaches. The migration of Oyster Clicks Model will be completed by the end of this year and will move colleague in payments to a supported platform.</p> <p>Performance Data Warehouse Requirements gathering and high-level design are in progress with target completion of April 2024. This will enable, over the course of the next financial year, the completion of about a third of data pipelines that are in scope of the project and to lay foundations for a secure and GDPR compliant platform for LU service performance reporting.</p>

<p>Digital Notable Projects: TfL Go Continuous Improvement, Data and Application Programming Interface Continuous Improvement</p>	<p>Deliver a range of upgrades to our TfL Go app, including the integration of live bus updates and routes, Oyster and contactless payments and National Rail departures Achieved: From 2024 customers will be able to top-up their Oyster card, buy Travelcards, and view Oyster/contactless journey history in one app. We have also integrated Superloop into Journey Planner and delivered new strike functionality to support customers at times of disruption (a key customer pain point). Customers can now see greyed-out line sections (closures) and glowing line sections (disruptions) on the live Tube map. We've also added detailed bus route information to TfL Go, plus released live step-free access information on Electronic Service Update Boards in stations - greatly improving access to critical information for mobility impaired customers.</p>	<p>Continuous Improvement of TfL Go: 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.</p> <p>Improve the TfL website: Enhanced website travel tools to support people using our network that complement rather than replicate functionality in TfL Go. Management System and the migration of relevant website content to reduce support costs.</p> <p>Both to be delivered by Quarter 4 2024.</p>
<p>Digital Workplace Notable Projects: Laptop Refresh, Thin Client Refresh, Telephony Strategy</p>	<p>Updating Our Desktop Experience, providing a simplified, consistent, people-focused experience Achieved: Enhanced the desktop experience for smart meeting rooms across the estate; Delivered the 5ES Auditorium; Updated Display Names for all TfL employees; Procured/deployed laptop devices</p>	<p>Improve the digital maturity and productivity of our workforce. Embed a new desktop experience for our colleagues including new thin clients. Improved data management, protection, and governance.</p>

	for prioritised Citrix and RA users; Completed requirements gathering across entire Desktop service; Removed Windows XP, and circa 75 per cent of remaining Windows 7 instances; Launched Windows 11.	Maximise value and reduce costs and environmental impact. All to be delivered by Quarter 1 2025.
Enterprise Resource Programme (ERP) Notable Projects: Surface Workforce Management, SAP S4 Hana Upgrade	<p>Continue to make updates to the SAP estate across TfL Achieved: Gate 2 for Core Enterprise Resource Planning S/4HANA Project on track with significant work to baseline requirements and market tender complete by Dec 2023.</p> <p>Transform our people processes and technology to deliver a great experience for all our colleagues by replacing our Core Human Resources system with MyJourney (SuccessFactors Phase 2) Achieved: Operations Workforce Management Project: commercials, contract award, and sign-off with UKG as systems integrator to deliver Phase 1.</p>	<p>Success Factors Phase 2: Employee Central and Recruitment & onboarding modules inflight to be completed by October 2024.</p> <p>Operations Workforce Management Phase 1 Tranche 1: Completion forecasted for October 2024 – this will deliver workforce management, time, and attendance for Compliance, Policing, Operations and Security (CPOS) and Bus and Coach Service Delivery business areas.</p> <p>SAP S/4HANA: In financial year 2024/25 the project is aiming to analyse and, as much as possible, improve the business processes and remediate data quality issues on SAP before the system integrator is onboarded. The project is also aiming to implement SAP Business Technology Platform for HR relevant processes to improve the user experience, a Business Process Management tool, and a Training Tool. The project will also begin implementing a Master Data</p>

		Management solution to maintain the quality of data on SAP systems.
Hosting Notable Projects: Tech Infrastructure Refresh, New Datacentre, Payment Infrastructure Tech Refresh	Ransomware Protection Project (CyberVault) Successfully achieved the Tier 2 milestone of the platform being ready for service and the creation of a “clean room” environment to facilitate restore of data in the event of a ransomware attack. Operating Systems and Data Bases project Refreshed 88 services along with decommissioning 852 servers and 2,416 databases that were no longer in use, saving at least £1m in annual OpEx costs. Payments Asset Refresh Project Core back-office network delivered and deployed in Data Centre. Storage Tech Refresh Project Storage arrays for home drive data brought into production, completion of "Recover Point" delivery, new Data Centre Infrastructure management capability.	Deliver a cyber vault platform to secure critical data from Ransomware attacks. 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. Complete the Citrix Application Delivery Controller Refresh by June 2024. Modernise our core technical end user computing platforms such as remote access, identity, and virtual desktops infrastructure to support our digital workforce.
Networks Notable Projects: Access Network Contract Extension, wi-fi Station Rollout, Tech Refresh (Surface Scope)	Refresh wi-fi Connectivity at LU Stations and Depots, future-proofing against potential 5G data constraints Partially Achieved: Vast majority of the key infrastructure components (the Wireless Access Points (WAPs)) are now end-of-life and have become increasingly problematic to support, resulting in performance issues; 2,500 WAPs have been procured with a further 2,000 soon to be procured. Networks will complete 28 Train Crew Accommodation sites before the end of March 2024.	Completion of the new wireless local area network controllers. The detailed planning and sign off of our wi-fi coverage and performance principals that will feed into our overall design that will determine what our estate will look like. The engagement with the wider business to understand new and emerging connectivity requirements. The delivery and evaluation of our proof-of-concept sites (likely to be between three and five).

	<p>Replaced wi-fi in three floors of Albany house to test the new Cisco 9166 Access Point (AP) units and will install up to 50 more APs before April.</p> <p>We will also be installing wi-fi in Mandela Road Dial a Ride (DaR) site as well as surveying and providing costs to install the remainder of sites by the end of this financial year.</p>	<p>It is not anticipated that we will begin full rollout of the programme until March 2025.</p>
<p>Payments Notable Projects: Hina, Oval, Barcode Acceptance, Proteus, Next Generation Reader</p>	<p>Achieve a significant reduction in operational revenue collection costs by delivering a smooth transition to the future Revenue Collection Contract</p> <p>Partially Achieved: The programme is making good progress and meeting milestones despite some setbacks causing delay to a strategic milestone - the overall project completion date is held.</p> <p>Contract award for Revenue Collection estimated for August 2024.</p> <p>The Hina Project will re-develop our Card Reader hardware and software and replace the existing assets across our transport network</p> <p>Achieved: Hina reader contracted with Cubic, achieving a negotiated saving.</p>	<p>Development of the Hina complete to point of enabling the first stage of payment card acceptance (known as Europay, MasterCard, and Visa (EMV) accreditation). Milestone expected in Quarter 3 2024.</p> <p>Deliver a replacement Pin Entry Device (PED) into vanguard in January 2025, mitigating the risk of depleted PED spares.</p>
<p>T&D LU Notable Projects: Protecting Workers on the Track Safe Tack Access – Mobile App, Triapps, Computerised Track Access Control</p>	<p>Station Management System</p> <p>Achieved: Go live in stations, incorporating Logbook, Asset Checks, Station Security Checks and admin portal.</p> <p>Enhancements to Real Time Information app, which is used to report lift, escalator, and toilet issues to customers.</p>	<p>Updating Trackernet to present new information and data on the Bakerloo and lines within the Four Lines Modernisation programme:</p> <p>Both projects are replacing end-of-life hardware, reducing risks, and improving system resiliency.</p>

	<p>Improvements to Turn Up and Go app, meaning information relating to customers with accessibility needs is more available to staff.</p> <p>New Safe Track Access and Station Access apps built, to support different aspects of safe working of track and contractor staff at stations.</p>	<p>Network Operations Centre Admin Project: Current completion planned in mid-2024, with improvements being made to system that publishes disruption-related information to customers.</p>
<p>T&D Surface Notable Projects: Digital Radio Replacement, Geographical Information System Redevelopment, Bus Systems</p>	<p>Project Adiona (Replacement of the core back office systems of Busnet, Caesar and Stop Specific Time Table which are over 13 years old, and the contracts are end-of-life.) Partially Achieved: Detailed design achieved for Adiona upgrade and development complete.</p> <p>Predictive Bus Diversion Partially Achieved: The model is complete and this initiative has now moved to Bus Customer Action Plan Investment portfolio.</p>	<p>Adiona 1.0 will be delivered mid-July 2024. GIS renewals to be complete by Quarter 4 2024. Wave on Cloud Web dispatcher plug-in to be complete in Quarter 3 2024.</p>
<p>Technology Services Operations (TSO) Notable Projects: Core Support Services, IT Service Management (ITSM) Tooling Solution, GLA IT Transition</p>	<p>Access & Wide Area Network Performance Review: Partially Achieved: Planned complete May 2023, delayed due to technical complexities and third-party resource constraints. All remediation works and early life support completed November 2023.</p> <p>Joiners, Movers, Leavers Project: Achieved: Development and testing completed November 2023 and project forecasts completion in January 2024.</p> <p>GLA IT Shared Service Technical Transition: Partially Achieved: Due to scope changes required by GLA and Mayor's Office for Policing and Crime, timelines across the project were extended namely;</p>	<p>Deliver ITSM Tooling Solution Procurement Deliver TSO Process efficiencies Deliver critical network initiatives including Firewall Management platform as well as contract retenders in future years.</p>

	<ul style="list-style-type: none"> - Network drive migration was scheduled to complete April 2023 but completed October 2023 - O365 Migration contract award planned for February 2023 completes Nov 2023 - Printer rollout planned for May 2023 now completes January 2024. 	
Telecomms Commercialisation Programme (TCP) Notable Projects: TCP – Emergency Services, Elizabeth Line Acceleration	<p>Deliver full LU 4G and 5G-ready coverage for customers of all four major mobile network operators, delivering significant ongoing revenues for TfL.</p> <p>Partially Achieved: We have moved to a joint 4G/5G programme, accelerated the Elizabeth line and added the Dockland Light Railway and London Overground to the scope. A plan is being put in place working with Rail for London Infrastructure to introduce connectivity on the Elizabeth line stations (8) and tunnels (22 sections).</p> <p>Deliver new Emergency Services Network (ESN) giving first responders immediate access to life-saving data, images, and information in emergencies in the frontline</p> <p>Partially Achieved: ESN is in the project delivery stage.</p>	<p>Deliver ESN services: Transition in London from Airwave to ESN from 2024 is dependent on the availability of ESN services on the Underground by this date.</p> <p>Enable Commercial Mobile Services (CMS) for revenue generating potential: Potential to monetise CMS and provide TfL an additional revenue stream.</p>

OpsTech

Portfolio	Expected and Actual Outputs in 2023/24	Expected Outputs in 2024/25
Connectivity Notable Projects: Bus and Coach Service Delivery Technology	BCSD TIP: Network connectivity upgrade at five trial bus station sites; initiation of delivery at a further 31 sites.	BCSD TIP Network Renewal: Continued delivery of high-speed broadband connectivity to the 36 bus and coach stations by Autumn 2025.

<p>Improvement Programme (BCSD TIP) Network Renewal; Connect; Connectivity Asset Renewal Programme (CARP);</p>	<p>Delayed: Improved network connectivity / wi-fi across the five trial bus stations is underway which will provide improved connectivity for colleagues in their role supporting customers; initiation of further 31 sites has commenced with initial surveys complete.</p> <p>Connect: Completion of next stage of Connect Programme, radio unit delivery and hardware / software upgrades.</p> <p>Achieved: Roll out of radio hardware base units at 295 sites by July 2023, ahead of schedule, delivering progress towards improved radio network connectivity for colleagues working across the LU.</p> <p>CARP: Progression of the CARP Programme including: Gate A, equipment order, design and delivery plans. This includes</p> <p>Achieved: CARP: Programme assurance review and commencement via Gate A completed in November 2023.</p>	<p>Connect: Roll out of new radio handsets to the 295 base stations</p> <p>CARP: 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.</p>
<p>Enforcement, Compliance, Safety and Security</p> <p>Notable Projects: CPOS Enforcement, Compliance and Operational Safety (ECOS) ; CPOS Data Futures; Operation Staff Safety (OSS) Programme; Deployable Enforcement Cameras (DEC); Ending Violence Against Women and Girls (EVAWG), BCSD TIP Station Security; Station Security Technology Integration Programme (SSTIP);</p>	<p>ECOS: CPOS operational officers to have mobile access to four areas: Taxi and Private Hire (TPH) appeals, rail revenue inspection, transport safety enforcement and prosecutions and penalty fares process.</p> <p>Partially Achieved: Mobile access to two areas (Bus Revenue Inspection and Transport Support and Enforcement officers) by March 2024, Delay to delivery of TPH Lara into 2024/25 due to delays to TPH re-let project meaning that inspections have not been included.</p>	<p>ECOS: Complete development and in-sprint testing by October 2024.</p>

<p>Traffic Order Management Enforcement solution (TOME).</p>	<p>CPOS Data Futures: Development of the CPOS Data Hub, adding data feeds throughout 2023/24 and 2024/25. Commence development (2023/24) and implement (2024/25) a replacement reporting solution for internal stakeholders by December 2024.</p> <p>Achieved: Delivered key data feeds and commenced development of the reporting solution ahead of implementation.</p> <p>OSS</p> <p>-Bodyworn Video cameras: Options analysis for non-oyster camera check out method and delivery of a system that can automatically process and label video footage (Auto-tagging) which is currently done manually and is very time consuming.</p> <p>Achieved: Options analysis and auto-tagging completed.</p> <p>-Pan TfL Work-related Violence and Aggression (WVA) Case Management and Reporting: Requirements scoping, options analysis and option selection to be completed.</p> <p>Achieved: Scoping undertaken for both projects; decision to proceed with 'buy' option for Case Management.</p> <p>-Emergency Communication Devices (ECD): Delivery of remaining 300 ECD in phase 1 and development of a future proofed solution in phase 2.</p> <p>Partially Achieved: Delivery of 254 devices and remainder in progress meaning that colleagues have a simpler, discreet and more direct emergency support. Phase 2 delayed due to resource limitations.</p>	<p>CPOS Data Futures: Delivery of the reporting solution.</p> <p>OSS:</p> <p>-Pan TfL WVA Case Management and Reporting: Contract award and implementation of the new Case Management system.</p> <p>-ECD: early market engagement, procurement and contract award for phase 2.</p> <p>DEC:</p> <p>-Continuation of delivery of cameras within Phase 2</p> <p>-Attended Parking Enforcement Cameras: Completion of 10 site trial</p>
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	<p>DEC: Project close of phase 1; installation of 265 sites in 2023/24.</p> <p>Partially achieved/delayed: Phase 1 project closed; Phase 2 delivery slower than expected due to revised methodology for delivery and inability to enforce cameras in bus lanes.</p> <p>BCSD TIP Station Security: Phase 1 option selection and detailed design for a new station security check process and incident reporting system. The delivery of which will be undertaken in 2024/25; as well as starting delivery for an E-Log Book and initiating Phase 2 - which will focus on Customer safety and security.</p> <p>Partially achieved / Delayed: Delayed due to project requirements needing to be redefined following project pause in 2021. Following restart, requirement capturing has commenced.</p> <p>SSTIP: Critical connectivity upgrades to TfL's CCTV estate to improve GDPR compliance and our ability to respond to major incidents. Continued installation of Critical incident management CIM.</p> <p>Achieved: Design of all 27 CIM completed with 5 installed; 10 of 21 stations with remote CCTV live.</p> <p>EVAWG: -Passenger Help Point 15 sites installed and went live, re-routing emergency calls to the LU control centre.</p>	<p>and feasibility report which looks specifically at parking enforcement.</p> <p>BCSD TIP Station Security: Option Selection, detailed design and commencement of delivery. Defining and initiation of phase 2.</p> <p>SSTIP: Delivery of CIM network on Circle, District and Hammersmith and City lines including go-live and completion of CCTV elements including handover to maintenance.</p> <p>EVAWG: PHP: Re-routing emergency calls at a further 150 stations.</p> <p>TOME: Completion of contract and implementation of first phase of solution.</p>
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	<p>TOME: Completion of scope and options selection, the requirements build and procurement activities by December 2023.</p> <p>Partially achieved/Delayed: Completion of scope and option selection. Procurement activity more complex than originally planned and delayed to 2024/25.</p>	
<p>Cycling and Micro-Mobility</p> <p>Notable Projects: London Cable Car (LCC) Passenger Communication System (PCS); Cycle Hire Modernise & Electrify; Micromobility Rental Programme</p>	<p>LCC PCS: Complete delivery and handover to operations.</p> <p>Achieved: LCC PCS upgraded and handed over to operations, delivering improved network connectivity for safe operations and a good customer experience.</p> <p>Cycle Hire Modernise: Complete delivery of the back-office upgrade.</p> <p>Partially Achieved / Delayed: Cycle Hire Modernise; Further software releases complete to improve system performance and customer experience. Completion of the project delayed until 2024/25 due to supplier delays.</p> <p>Ongoing development of the Micro-Mobility Rental Programme and its projects (Cycle Hire Re-let, Non-Docked Procurement, E-Scooter Phase 2).</p> <p>Achieved: Micro-Mobility Rental Programme; 23/24 outputs delivered, including launch of Cycle Hire Re-let competitive tender and contract award for E-Scooter Phase 2.</p>	<p>Cycle Hire Modernise Complete delivery of remaining back-office upgrade, including GDPR compliance</p> <p>Cycle Hire additional e-bikes: Additional 450 e-bikes into service by July 2025 and total of 1,400 e-bikes into service by September 2025</p> <p>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; - Non-Docked Procurement.</p>
<p>Digital Asset Management</p>	<p>AMIS: Complete delivery of AMIS migration.</p>	<p>AMIS Complete delivery of AMIS migration and close the project.</p>

<p>Notable Projects: Asset Management Information System (AMIS), Digitising Asset Management (DAM) Programme, Remote Monitoring to Next Generation Remote Monitoring (RM to NGRM)</p>	<p>Delayed: AMIS migration delayed to May 2024 due to performance issue of critical mobile sync functionality.</p> <p>DAM Programme: Issue a tender pack for a new Decision Support system in September 2023, and procurement of specialist consultant resources to support design and delivery of the long-term digital strategy.</p> <p>Partially Achieved: DAM split into programme development activities and priority tactical projects progressed in parallel. DAM Programme development; Issue of tender for specialist consultancy delayed to May 2024 due to resource availability; Landscape review undertaken to inform tender. DAM Tactical Projects; Tender pack for Decision Support Tool to support investment decision making delayed until April 2024 due to resource constraints.</p> <p>RM to NGRM: Software development and procurement activities to award contracts for equipment purchase and to deliver connectivity to 881 traffic signal sites.</p> <p>Partially Achieved: RM to NGRM; Software development nearly complete. Hardware purchasing delayed due to protracted negotiations for the connectivity solution with Capita.</p>	<p>DAM Programme DAM Programme Development; Procure specialist consultancy to support programme development activities. DAM Tactical Projects; Complete capture of necessary fire precaution data for buildings; Award contract and begin implementation for a Decision Support Tool to improve investment decision making.</p> <p>RM to NGRM Award contract for hardware purchase and connectivity rollout.</p>
<p>Network and Public Transport Management</p> <p>Notable Projects: BCSD TIP Financial and Commercial, Bus Business Intelligence Reporting</p>	<p>BCSD TIP Financial & Commercial: Project initiation of system to enable financial efficiencies / commercial opportunities to detail design stage. Achieved: BCSD Initiation planned for early 2024.</p>	<p>BCSD Financial & Commercial Optioneering and detailed design to be undertaken.</p> <p>BBIR</p>

<p>(BBIR), Countdown 3, iBus2, Future Bus Systems 2 and 3, Passenger Incident Management Systems (PIMS), Surface Intelligent Transport System (SITS), Tunnels Controls System, TfL's Video Management System (TVMS)</p>	<p>BBIR: Contract variation in July 2023 to provide an interim solution and enhancement of the existing reporting tool for extracting bus data until iBus2 is completed in 2027.</p> <p>Delayed: Contract variation for BBIR delayed from July 2023 to March 2024 due to further options analysis being undertaken. Increase in OpEx support costs during 2025/26 as a result.</p> <p>Countdown 3: Contract award for procurement of new contract for supply, installation and maintenance of Countdown signs and communications upgrade to existing signs by December 2023.</p> <p>Delayed: Commercial tendering process for Countdown 3 has been delayed by a few months to provide additional time for bidders to submit robust submissions that offer value for money for TfL. Contract award now planned for August 2024.</p> <p>iBus2: Contract award for upgrade to current iBus system including assets and continuation of service by March 2024.</p> <p>Achieved: iBus2 contract award expected to be secured in February 2024.</p> <p>Future Bus Systems 2: Contract award for the renewal of existing bus contracts management system by March 2024.</p> <p>Delayed: Contract award for replacement of Bus Contract Management System delayed from March 2024 due to lack of resources and review of potential for in house development.</p>	<p>Contract variation in April 2024 to provide the interim solution. Proof of concept to be developed to work in parallel to provide transition from iBus to iBus2.</p> <p>Countdown 3 Contract award recommendation to upgrade London's on street Countdown signs by June 2024 followed by mobilisation, detailed design, service readiness and operational commencement by the end of 2024.</p> <p>iBus 2 Supplier to be mobilised and detailed design and testing to be completed by November 2024 ahead of operational commencement in February 2026.</p> <p>Future Bus Systems 2 Contract award by October 2024. After which, detailed design carried out with project go-live in April 2026.</p>
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	<p>PIMS: Completion of option selection stage for this project which aims to renew capability for our control centres to manage passenger incidents effectively, including sharing information with third parties.</p> <p>Partially Achieved: Requirements gathering ongoing – external spend on project has been paused to focus on finalising this activity.</p> <p>SITS:</p> <p>-Real Time Optimiser (RTO): Core development of the RTO system to be complete by December 2023 with go-live and migration to the new system by March 2024.</p> <p>Achieved: On track for go live in March 2024.</p> <p>-Common Operational View (COV) Incident Management System (IMS): Completing the build of COV IMS and final features (RTO, Video Management System (VMS) and Decision Support Service (DSS). Old system to be decommissioned in June 2023 following go-live in April 2023.</p> <p>-Achieved: System went live in June 2023. VMS and DSS were not required for go live and are not completed.</p> <p>-Data Service Hub (DSH): Automatic number Plate Recognition (ANPR) and iBus data will be transferred from the existing platform to the Data Service Hub and re-tendering for a Data as a Service feed to support real time demand</p> <p>Partially Achieved: ANPR, iBus and Inrix data transfer delayed due to resource pressures and design complications.</p>	<p>PIMS Continue requirements gathering and undertake market engagement ahead of tender process in 2025/26.</p> <p>SITS:</p> <p>-RTO: Migration to full live environment by May 2024. Commence RTO roadmap projects.</p> <p>-COV IMS: Complete system development including additional ULEZ scope.</p> <p>-DSH: Complete data ingestion for ANPR, RTO, Inrix enriched and iBus.</p> <p>-Video Analytics: Procurement for video analytics solution and commence solution development.</p> <p>-Data as a Service Re-Let: Procurement of a new service for the real time journey time data that feeds into COV IMS.</p> <p>-Data Roadmap: Start Proof of Concept.</p>
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	<p>-Predictive: Re-starting project, completing option selection and commencing tender process ahead of delivery in 2024/25.</p> <p>Partially achieved: Option selection nearing completion, procurement delayed to 2024/25.</p> <p>Tunnels Controls System: Development of requirements, options, business case and procurement strategy</p> <p>Achieved: Options analysis undertaken and initial option selection confirmed. Procurement strategy in development.</p> <p>TVMS: Procurement of contract for software system to view and operate CCTV cameras owned by TfL and our partner organisations.</p> <p>Partially achieved/delayed: Publication of tender in November 2023; tender release delayed due to internal resource constraints.</p>	<p>-Predictive: Complete option selection and market sounding exercise.</p> <p>Tunnels Controls System: Continue preparation for tender of new system</p> <p>TVMS: Preferred supplier Invitation to Submit Final Tender for acceptance by November 2024</p>
<p>Tools for Planning, Automation & Staff</p> <p>Notable Projects: Access Planning System (RailSys), Assisted Transport Services (ATS) DaR Booking and Scheduling, BCSD TIP, Planning Process Optimisation, SAFE 2, Sentinel.</p>	<p>Access Planning System (RailSys): Delivery of the new access planning system which will improve our ability to plan and co-ordinate works on the LU network - and improve reporting. Delivery and project close will conclude in March 2025.</p> <p>Achieved: Design and development of additional functionality and automating of manual reports underway, requirements for publications complete.</p> <p>ATS DaR Booking and Scheduling: Design and delivery of the new booking and scheduling system ahead of project close in 2024/25.</p> <p>Achieved: Project is on track to complete in 2024/25 which will deliver benefits for customers</p>	<p>Access Planning System (RailSys): User acceptable testing planned for April 2024, with project go-live due for September 2024 followed by project close.</p> <p>ATS DaR Booking and Scheduling: Delivery due to complete in April 2024 with project close in May 2024.</p>

	<p>Dial a Ride and colleagues once the system has gone live.</p> <p>BCSD TIP Device Refresh: Delivery of a strategic support model for staff devices and purchase of additional devices. Achieved: New devices purchased for operational staff.</p> <p>Planning Process Optimisation: Project initiation Achieved: Project initiated and feasibility study undertaken.</p> <p>SAFE 2: Contract award, option selection and delivery of updated software to improve cyber security of Surface Transport Incident Management System Partially achieved: Contract award expected before the end of 2023/24 but delivery has been delayed to summer 2024/25.</p> <p>Sentinel: Project initiation and commencement of procurement activity to align with Network Rail replacement of Sentinel system, prior to supporting delivery in 2024/25. Delayed: Project initiation delayed due to ongoing Network Rail study into current system and feedback from report expected late Feb</p>	<p>Planning Process Optimisation: Scope definition, agreement of delivery approach and undertaking procurement activities.</p> <p>SAFE 2: Delivery of updated software in summer 2024 and benefits realisation.</p> <p>Sentinel: Scope definition, agreement of delivery approach and procurement preparation.</p>
<p>Pipeline Notable Projects: Various</p>	<p>Initiate the development of technology renewals and enhancements projects. Eight projects initiated, including BVW Phase 3, Digital Traffic Enforcement System /Parking</p>	<p>Pipeline initiatives with the greatest contribution to TfL's strategic outcomes and that are most time critical have been prioritised for</p>

	<p>Enforcement Solution, TPH Assessment Centre Expansion and Planning Process Optimisation, delivering safety, customer, staff tools and financial outcomes and benefits.</p> <p>TfL- resourcing challenges have limited the number of projects initiated. This is mitigated and managed as part of ongoing pipeline prioritisation.</p>	<p>2024/25. Other initiatives will be monitored as opportunities should additional funding and resource become available. The initiatives deliver core outcomes across all OpsTech themes.</p>
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Appendix 3: 2023/24 Changes to EFC and rationales for significant differences in the Programme EFC by portfolio (all values in £m)

Portfolio	Current EFC (Period 9 2023/24)	Previous Submission EFC	Difference	Change (%)	Rationale for most significant changes
Payments	697.7	618.5	79.2	12.8%	N/A
Enterprise Resource Programme (ERP)	126.9	100.1	26.7	26.7%	Consolidated multiple business needs for ERP Central Programme Management and Business Recharges into one budget. Budget and delivery of the Operations Workforce Management was moved from Operations (London Underground (LU) and Surface) into T&D.
Networks	168.7	138.2	30.5	22.1%	N/A
Hosting	227.5	196.6	30.9	15.7%	N/A
Digital Workplace	91.1	70.8	20.3	28.7%	The costs required to modernise operational systems are significantly higher than forecast due to additional network complexity, increased obsolescence, and higher component costs. Some refresh and lifecycle costs were not accurately factored into the previous business plan.
Telecomms Commercialisation Programme (TCP)	9.1	8.6	0.6	6.5%	N/A
Technology Service Operations (TSO)	40.0	26.8	13.3	49.6%	Contract retendering for our core business critical services, the prioritisation of initiatives which are of

					strategic importance to the Mayor's Office, the introduction of new projects and the rephasing of our bigger project commitments into financial year 2024/25 and financial year 2025/26 following a pause to enable a review and amendment of their strategic directions to ensure the programme delivers value for money.
Cyber Security	102.5	138.9	(36.4)	(26.2%)	The reduction in forecast is due to the delivery constraints within the portfolio; the availability of key resources for project delivery in addition to Business-As-Usual operational activities.
Data Analytics	42.8	35.8	7.1	19.8%	N/A
T&D LU	52.8	53.0	(0.2)	(0.4%)	N/A
Digital	92.8	66.8	26.0	38.9%	We have been asked to accelerate the delivery of the TfL Go app's future functionality (with a focus on personalisation). We are also enhancing app payment functionality and expanding our core app delivery team.
T&D Surface Transport	64.4	84.4	(20.0)	(23.7%)	N/A
Contact Centre Operations (CCO)	19.0	13.9	5.1	36.5%	Increase due to costs associated with a re-tender and a new Concessions system.
Telecommunications	17.5	17.5	0.0	0%	N/A
Other Tech & Data	20.9	379.4	(358.6)	(94.5%)	N/A
Overprogramming	(102.4)	(85.0)	(17.4)	20.5%	N/A

Total T&D	1,671.3	1,864.2	(192.9)	(10.3%)	
Enforcement, Compliance, Safety & Security	151.0	156.8	(5.7)	(3.7%)	EFC changes across a number of projects due to deferral of projects/scope, commencement of new projects, commercial changes, transfer of projects within the portfolio and efficiency savings.
Network & Public Transport Management	337.1	323.2	13.9	4.3%	EFC changes across a number of projects due to increase/decrease in scope, extension of contracts, commercial savings, transfers of projects within the portfolio and efficiency savings.
Connectivity	212.2	172.7	39.4	22.8%	Scope and cost definition of Connectivity Asset Renewal Programme during early stage of project.
Tools for Planning, Automation and Staff	37.4	35.6	1.8	5%	Scope and cost definition of early-stage projects such as Sentinel and Performance Data Warehousing.
Cycling and Micro-Mobility	117.7	109.8	7.9	7.2%	Scope and cost definition of early-stage projects such as Cycle Hire Re-let, including commercial review and commencement of new Micro-Mobility projects.
Digital Asset Management	81.2	42.8	38.4	89.6%	Scope and cost definition of early-stage projects which were previously at initiation stage e.g. Digitising Asset Management programme and increased costs due to prolongation of delivery of Asset Management Information System project.

Transferred	0.2	1.2	(1.0)	(83.1%)	Transfer of Operational wi-fi and Stations and Buildings projects out of the portfolio.
Overprogramming	(164.1)	(160.4)	(3.7)	2.3%	N/A
Pipeline Projects	453.3	463.8	(10.4)	(2.2%)	N/A
Closed Projects	454.2	503.2	(49.0)	(9.7%)	Future Voice and Data Provision closed with £49m savings.
Total OpsTech	1,680.1	1,648.6	31.5	1.9%	
Total Technology	3,351.4	3,512.8	(161.4)	(4.6%)	

Note: Previous submission forecast spend is Period 10 financial year 2022/23 for T&D and Period 11 financial year 2022/23 (as used for the Budget) for OpsTech. Further detail, which includes commercially sensitive information, can be found on Part 2 of the agenda.

Appendix 4 – Breakdown of 2023/24 forecast spend (Period 9) against forecast at previous submission (£m)

Programme / Theme	2023/24 forecast at last submission	Period 9 2023/24 Actual / Forecast	Difference
Payments	91.88	58.19	(33.70)
Enterprise Resource Programme	15.15	12.14	(3.00)
Networks	12.81	12.97	0.16
Hosting	10.73	10.62	(0.11)
Digital Workplace	7.64	10.43	2.79
Telecomms Commercialisation Programme	6.06	3.83	(2.23)
Technology Service Operations	3.34	2.84	(0.51)
Cyber Security	6.80	4.54	(2.25)
Data Analytics	3.57	3.48	(0.09)
T&D LU	3.70	1.97	(1.74)
Digital	4.52	5.79	1.27
Surface Transport	2.33	0.86	(1.47)
Contact Centre Operations	1.01	0.74	(0.27)
Telecommunications	0.00	0.02	0.02

Other Tech & Data	3.67	(2.47)	(6.14)
Overprogramming	(14.50)	(0.10)	14.40
Total T&D	158.72	125.85	(32.86)
Enforcement, Compliance, Safety & Security	38.76	27.96	(10.80)
Network & Public Transport Management	50.60	32.03	(18.56)
Connectivity	10.81	6.67	(4.14)
Tools for Planning, Automation and Staff	11.86	6.68	(5.18)
Cycling and Micro-Mobility	12.66	5.39	(7.27)
Digital Asset Management	13.64	7.19	(6.45)
Pipeline	0.00	1.01	1.01
Transferred*	8.25	0.00	(8.25)
Overprogramming	(39.23)	(4.29)	34.95
Total OpsTech	107.35	82.65	(24.70)
Total Technology	266.07	208.51	(57.56)

Note: The previous submission forecast spend is from Period 10 of financial year 2022/23 for T&D and Period 11 of financial year 2022/23 (as used for the Budget) for OpsTech.

* Surface & LU Workforce Management Projects and the Connectivity wi-fi project. All of these projects transferred from OpsTech into T&D.

Programmes and Investment Committee



Date: 28 February 2024

Title: The Growth Fund

This paper will be considered in public

1 Summary

The Growth Fund				
Existing Financial Authority	Estimated Final Cost (EFC)	Existing Programme and Project Authority	Additional Authority Requested	Total Authority
£ 557.65m	£ 137.3m	£ 0	£ 0	£ 0
Authority Approval: This paper is for noting				
Outputs and Schedule: The main purpose of the Growth Fund was to unlock new homes and jobs in areas where transport was constraining development over its lifecycle of 2012-2023.				

- 1.1 The Growth Fund (the Fund) was established in 2012 aiming to unlock housing and regeneration opportunities across London. The Fund had two phases and in total had £557.65m of Financial Authority over 11 years, to contribute to 35 projects. Nine projects were completed, 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 also supported other Mayor’s Transport Strategy (MTS) priorities including significant mode shift and carbon reduction. The 2022 Business Plan formally concluded the Growth Fund and in its place established a new Sustainable Housing and Accessibility (SHA) Fund which forms part of the Network Development and Third Party Pipeline Programme.
- 1.2 This is the final update to the Committee covering the Growth Fund. The focus of this paper is to:
- (a) provide oversight and assurance to the Committee on the management of the Fund and projects delivered during its two phases;
 - (b) summarise the Fund’s critical role in delivering strategic objectives of the MTS, London Plan and TfL; and
 - (c) identify lessons learnt, and the steps taken over the lifecycle of the Fund to enhance delivery and ensure robust management of the newly established SHA Fund.

2 Recommendation

2.1 The Committee is asked to note the paper.

3 Background

- 3.1 The Fund was established in 2012 by the then Mayor, originally identifying £355m over 10 years to support jobs and housing growth. The TfL 2016 Business Plan allocated a further £200m and in July 2017, the Committee approved Programme and Project Authority for the next phase of the Fund. In 2018, the Business Plan allocated a further £100m to the subsequent five years from 2022/23 to 2026/27, although this was later paused given financial uncertainty during the coronavirus pandemic.
- 3.2 The first Fund phase saw £137m of TfL funding towards seven projects unlocking approximately 38,300 new homes and more than 24,700 new jobs. The projects have underpinned many of London's most important regeneration projects and included: Barking Riverside Extension, Elephant and Castle Northern Roundabout, Stratford – Angel Road (North), Tottenham Hale station improvements, West Ham station upgrade, White Hart Lane station enhancements and Woolwich station on the Elizabeth line.
- 3.3 The latter part of phase one and particularly the second phase of the Fund (which had a £200m allocation) were significantly affected by the impacts of the pandemic on our passenger numbers and resultant available capital funding. Only £3.05m was spent towards two completed projects (at Ilford station and Tolworth Roundabout, unlocking 1,950 homes, 1,550 jobs and £6.75m in third party funding) due to the Fund pausing pending financial certainty. A number of the remaining projects are currently still in development and will be required to rebuild their funding packages from funding sources within and outside TfL potentially including the Fund's successor fund detailed below.
- 3.4 The 2022 Business Plan closed the Growth Fund by removing the allocations for future years in the Business Plan and, in its place, created a new SHA Fund, which forms part of the Network Development and Third Party Pipeline Programme. The SHA Fund recognises the transformational role of the Growth Fund and our critical role to support the sustainable delivery of new homes for Londoners. The SHA Fund has also learnt lessons from Fund projects with tighter prioritisation criteria (set out in Appendix 1) and a clear focus on delivering step-free access improvements as well as housing. The funding is more limited and aimed at medium scale schemes but maintains its strong emphasis on leveraging third party funding to enable TfL to deliver important enhancements that would otherwise not be possible. The current allocation from the 2024 Business Plan is for £128m through to 2029/30 and this funding is expected to leverage £1-£2 in third party funding for every £1 spent by TfL.
- 3.5 In 2020, most Fund projects were halted as we paused uncommitted capital projects. Thereafter, the focus shifted towards securing additional funding sources. The Spatial Planning team supported projects with contractual obligations, third party engagement and case-making for external funding.

- 3.6 The Fund objectives (set out in Appendix 1) facilitated projects to progress amid challenging circumstances. Initial TfL funding often acted as bridge or match funding, instilling developer confidence to invest, for example, in integrated station boxes or step-free access within broader schemes. This approach expedited projects that might otherwise have faced viability issues or protracted negotiations.
- 3.7 Significantly, the Fund enabled us to collaborate with the Greater London Authority and boroughs to unlock and optimise sustainable development and sustainable travel choices. Support for car-free and car-lite approaches spurred mode shift towards public transport and active travel, cutting carbon emissions and augmenting TfL revenue through increased patronage (detailed in section 7).

4 Growth Fund Phase 1

- 4.1 The first phase of the Fund was allocated to 15 projects from 2012; £134m was spent on seven completed projects - Barking Riverside Extension, Elephant and Castle Northern Roundabout, Stratford – Angel Road (STAR), Tottenham Hale station improvements, West Ham station upgrade, White Hart Lane station enhancements and Woolwich Elizabeth line station. These projects have unlocked approximately 38,300 homes and more than 24,700 jobs while leveraging approximately £276m third party funding.
- 4.2 A number of projects remain in development while the rest were paused (e.g. Beam Park), re-scoped (e.g. Metropolitan Line Extension (MLX)) or were cancelled (e.g. Croydon Fiveways). A summary of phase 1 projects is given in Table 1 with a map of project locations in Figure 1 (further detail is set out in Appendices 2-4).

Table 1: Phase 1 progress summary table

Status	Projects	Homes	Jobs	Growth Fund contribution	Third party funding
Completed/being built (7)	Barking Riverside Extension, Elephant & Castle Northern Roundabout, Tottenham Hale station Improvements, West Ham station upgrade, White Hart Lane station enhancements, Woolwich Elizabeth line station, and Stratford – Angel Road (North)	38,300	24,700	£134.3m spent on seven projects out of the £355m allocation for 15 projects overall	More than £276m

In progress (2)	Bromley-by-Bow Junction, and crossings, Elephant & Castle Northern Line Ticket Hall	8,800	8,000	£81.4m allocation was absorbed into departmental budgets and was not reserved to these projects	£121m (expected future contributions)
Total		47,100	32,700	£215.7m	£397m

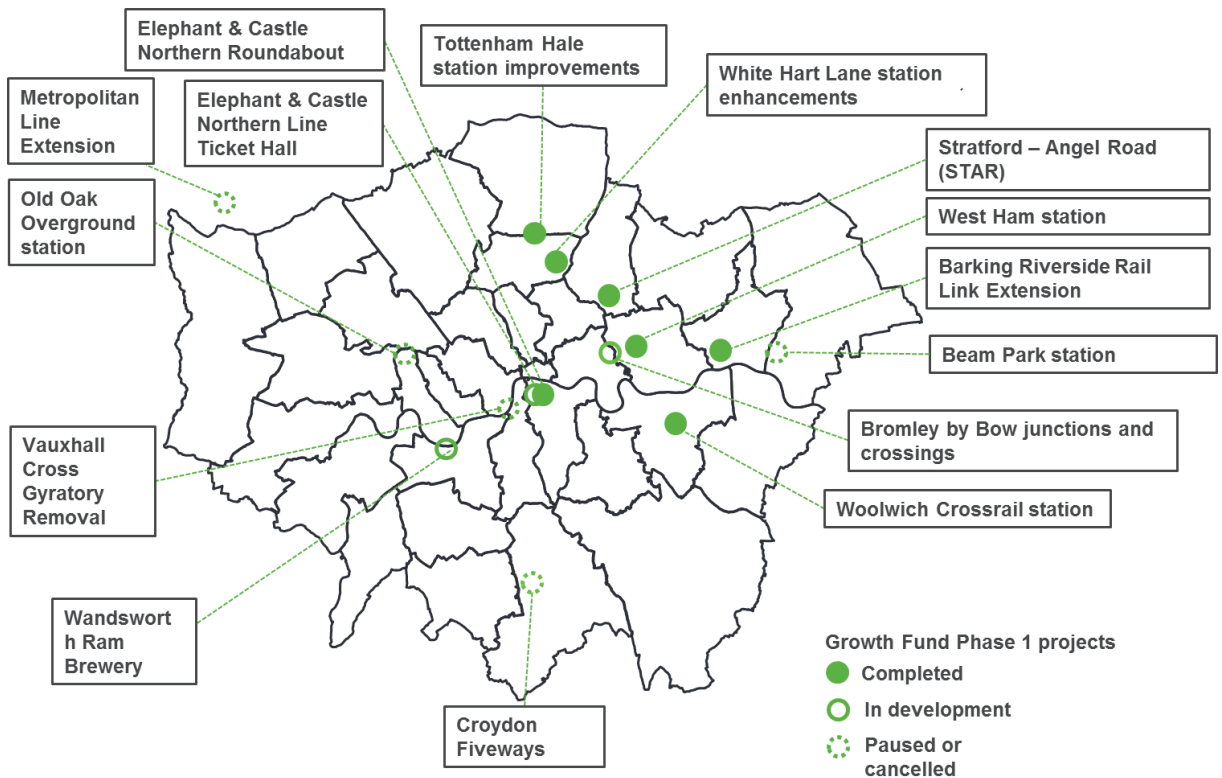


Figure 1: Growth Fund Phase 1 map

- 4.3 An example of a scope change was the cancellation of the MLX project in January 2018. The £16m Fund monies allocated to the project were instead invested in an additional train which was ordered for MLX as part of the Four Lines Modernisation project contract for new trains. That train has been delivered and is in passenger service.
- 4.4 The Fund has delivered significant benefits across London: unlocking new homes and jobs, delivering new public transport capacity, and leveraging third party funding. Highlights include:
- (a) Woolwich Elizabeth line station (figure 2) received nearly £24m from the Fund, unlocking around £100.4m in third party funding from Berkeley Homes and other developers. The new station has enabled around 3,500 homes and stimulated Woolwich Town Centre’s regeneration as part of the new Elizabeth line. It also supports projects including Royal Arsenal Riverside (5,000 homes, hotel, office, retail and a community centre), Spray Street, Thomas Street and Woolwich Estates through better transport links;

- (b) Barking Riverside Extension (figure 3) secured £30m from the Fund, leveraging £172m in third party funding for a new rail link serving 10,800 new homes in Barking Riverside. The new electric rail link is part of wider sustainable transport provision, including a new cycle route and bus programme. Schools, commercial and community areas also benefit;



Figure 2: Woolwich Elizabeth line station

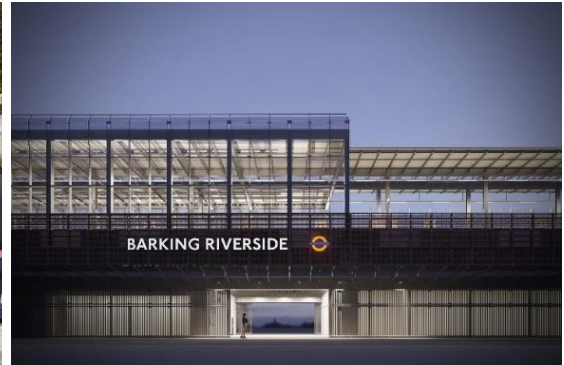


Figure 3: Barking Riverside Extension

- (c) Upgrades at Tottenham Hale (figure 4) and White Hart Lane (figure 5) stations increased capacity, accessibility and opened additional access routes to support the growth in the Tottenham Hale area. The Tottenham Hale project doubled the ticket hall's size, created a landmark entrance and has helped bolster the development of the Tottenham Hale district, accommodating 5,000 homes and 4,000 jobs. The station now serves as a focal point and a gateway to Tottenham and Upper Lea Valley – a major Opportunity Area. The Tottenham Hale station upgrade also supported step-free access, better interchange between London Underground and London Overground and encourages active travel;
- (d) White Hart Lane project delivered a new station building and access through a viaduct. It supports planned development and regeneration of North Tottenham as supported by the borough and Mayor. It encourages 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;



Figure 4: Tottenham Hale station improvements



Figure 5: White Hart Lane station enhancements

- (e) Elephant & Castle Northern Roundabout (figure 6) was transformative, improving pedestrian and cycle connectivity, safety and the urban environment while supporting wider regeneration of the area, with 5,000 new homes and 4,000 jobs, and £3bn investment. The roundabout's transformation catalysed multiple projects: notably the redevelopment of the Elephant & Castle Shopping Centre. Coupled with the Elephant & Castle station upgrade, it will provide an accessible transport interchange, promoting active travel and public transport. Developed alongside the Elephant & Castle Opportunity Area, it contributes to the Mayor's principles of Good Growth set out in the London Plan, offering improved public transport interchange, support for modal shift via surface crossings and cycle facilities and connecting to Cycleways; and
- (f) West Ham station upgrade (figure 7) when complete will add a new western entrance serving a town centre development funded by Berkeley Homes near Stephenson Street. The new entrance is essential due to poor access from the current entrance on Manor Road. The land was previously unused but is being transformed into a thriving residential and retail town centre containing community facilities including a new secondary school. The development is forecast to generate a minimum of 3,500 new homes and 500 new jobs. The initial £6m Fund allocation helped assemble significant third party funding from developers but, eventually, the Growth was able to reduce its allocation to just £0.1m as the costs were covered almost entirely by third parties.



Figure 6: Elephant & Castle Northern Roundabout



Figure 7: West Ham station upgrade

5 Growth Fund Phase 2

- 5.1 A second round of funding of £200m (Phase 2) was allocated in 2017 but was severely impacted by the coronavirus pandemic. £3.05m of Fund monies have been spent to complete two projects at Ilford station and Tolworth Roundabout, unlocking 1,950 homes and 1,550 jobs as well as £6.75m in third party funding. In addition, circa 0.1m has been spent to develop Walthamstow Central station. The following projects: Catford Town Centre, North Acton station, Surrey Quays station, Leyton station, Colindale station, Walthamstow Central station, Pontoon Dock station, Thames Wharf DLR station and A13 Renwick Road were paused during the pandemic. We have managed to progress a number of these now into delivery by securing additional third party funding (e.g. Surrey Quays and Colindale stations) while others are in the pipeline for potential allocations from

the SHA Fund, and a few where the business case is less strong and / or associated development is on hold are paused or cancelled. A summary of phase 2 projects is given in Table 2 with a map of project locations in Figure 8 (further detail in Appendices 2-4).

Table 2: Phase 2 progress summary table

Status	Projects	Homes	Jobs	Growth Fund contribution	Third party funding
Completed/being built (2)	Ilford station and Tolworth	1,950	1,550	£3.05m spent on two projects out of the £200m allocation for 19 projects overall	£6.75m
In progress (9)	Catford Town Centre, North Acton station, Surrey Quays station, Leyton station, Colindale station, Walthamstow Central station, Pontoon Dock station, Thames Wharf DLR station and A13 Renwick Road	34,000	50,900	around £100k of the £116.80m allocation to support project development	£214.15m (expected future contributions)
Total		35,950	52,450	£3.15m	£220.90m

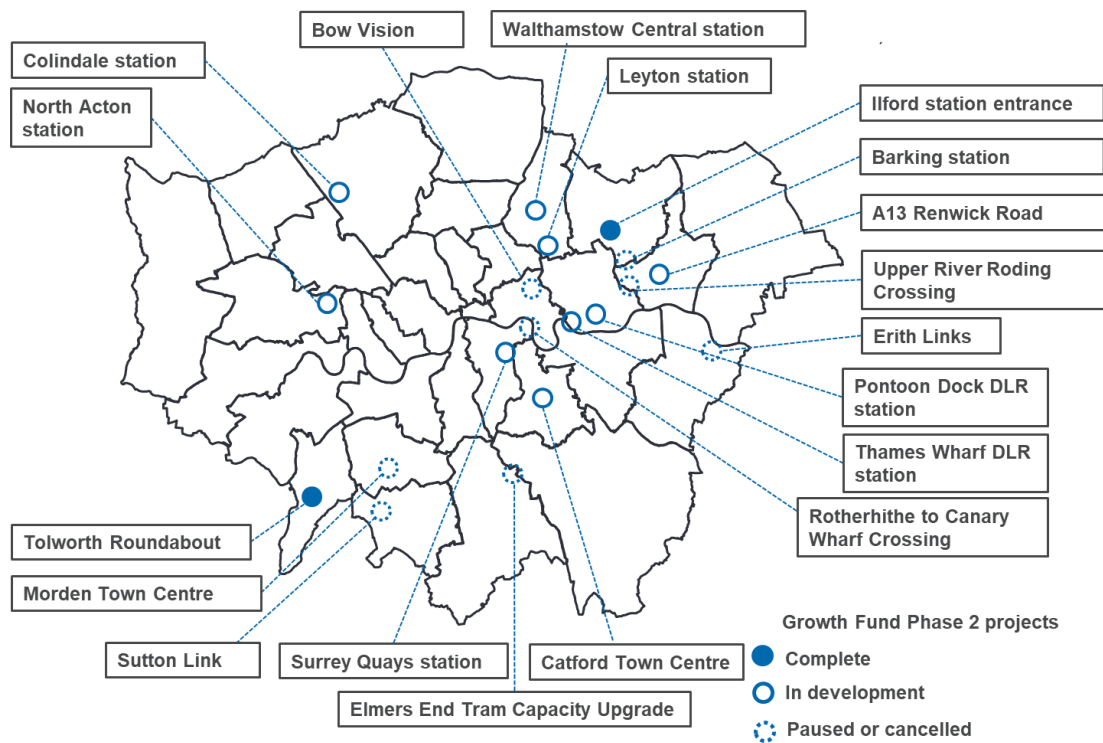


Figure 8: Growth Fund Phase 2 map

- 5.2 Initially, Phase 2 funds were allocated to two Mayoral Strategic Schemes - Rotherhithe/Canary Wharf Crossing (R2CW) and Sutton Tram - before progressively funding 15 additional projects at Catford Town Centre, Morden Town Centre, Surrey Quays station, Ilford station entrance, Colindale station, Walthamstow Central station upgrade, Pontoon Dock station upgrade, Barking station, Tolworth Roundabout, A13 Renwick Road, Thames Wharf DLR station, Erith Links, Bow Vision, Elmers End Tram Capacity upgrade, and Upper River Roding Crossing. North Acton and Leyton station upgrades were not formally part of the Fund but were often considered in tandem due to being strong deliverers of Fund objectives and being contenders for reallocated Fund money.
- 5.3 The second phase was earmarked to deliver more than 76,850 new homes and 84,940 jobs. However, thus far only two Fund projects are complete or nearing completion.
- 5.4 Ilford station (figure 9) is one of the phase 2 completed projects. The project levered £1.75m in external funding and unlocked 1,000 homes. The new southern entrance on the Elizabeth line has supported the significant growth and development in the area, accommodating the increasing passenger demand, helping reduce pressure on the main station entrance and benefiting bus passengers alighting at stops along Ilford Hill.

5.5 Tolworth Roundabout (figure 10) is also nearing completion having used Growth Fund monies to cover risk, provide assurance and commitment to external parties, leveraging £5m in third party funding and unlocking approximately 950 homes. The project improves junction capacity and bus performance by adding an additional lane on the Kingston Road (A240) on the approach to Tolworth Roundabout and realigns the carriageway on the roundabout. This will facilitate the expected increased demand from the new housing developments by Meyer Homes (950 units; planning approved August 2018) and Lidl's new HQ (planning approved 2017) that will bring 750 jobs into the area.



Figure 9: Ilford station entrance

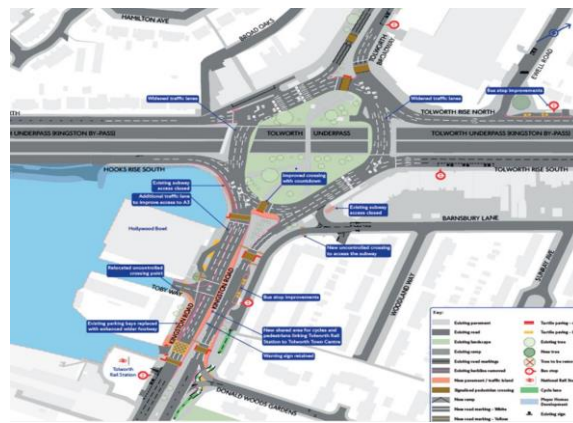


Figure 10: Tolworth Roundabout

5.6 The phase 2 pipeline was kept under review with a view to redirect allocations wherever possible from deprioritised projects to other schemes in requirement of funding. Projects including Sutton Tram, R2CW, Upper River Roding and Elmers End were eventually deprioritised and not all of the allocated funding was able to be recouped and reallocated. A plan was prepared to reallocate Fund money from the Sutton Link project, to spend on another six growth enabling projects provisionally holding the funding in a holding pot titled New Growth Areas. This approach was prepared in advance of the Department for Transport's financial settlement in 2022 and was proposed to be subject to further review, prioritisation and governance.

6 Impact of the coronavirus pandemic

6.1 The coronavirus pandemic's impact on Fund phase 2 was substantial. In 2020, the revised Budget deemed that all Fund projects were aligned with Mayoral objectives but contingent on additional funding. Thus, despite strong commitments and significant third party funding, further third party support was required to complete funding.

6.2 We pursued additional funding avenues while supporting Fund projects with obligations and urgent milestones with case-making and programme-level support. An example is the recent successful TfL/Greater London Authority bid to the Levelling Up Fund (LUF) for £43.1m enabling step-free access upgrades at Colindale and Leyton stations.

7 Impacts of the Growth Fund over its lifecycle

7.1 The Fund was transformational, clearly demonstrating the benefits of third party funding in meeting MTS goals. Its impacts and outcomes include:

- (a) 41,750 homes and 17250 jobs additional homes and jobs through projects which were originally part of the Fund;
- (b) third party funding levered – nine completed projects levered approximately £363m third party contributions, offering high value per pound of our investment. The other Fund projects in development also levered significant third party funding, including our successful £43.1m bid to the LUF to upgrade Colindale and Leyton stations;
- (c) car-free and car-lite development – projects unlocking development provide benefits aligned to TfL’s aims and goals. Using London travel demand survey averages, the Fund’s effects can be estimated:
 - (i) mode shift away from cars – reduction of approximately 23m car trips per annum as a result of 41,750 new car-free and car-lite homes;
 - (ii) mode shift towards public transport and active travel – 41,750 homes are estimated to translate to 7.5m bus trips, 3.8m rail trips, 835,000 cycling trips and 4.8m walking trips per year, yielding significant benefits per year;
 - (iii) reduced carbon emissions – the 41,750 homes translate into carbon reductions saving approximately 24,000 tonnes per annum due to mode shift away from cars; and
 - (iv) additional TfL revenue – mode shift estimates point to £18m additional TfL revenue per annum from increased public transport patronage; and
- (d) around nine Boroughs and seven Opportunity and Growth Areas have benefitted from complete Fund projects, with wider regeneration and Good Growth in each location. Good Growth is the principle that underpins the London Plan and emphasises the need to design and develop London sustainably while responding to the needs of all Londoners.

8 Lessons Learnt

8.1 Several lessons have been learnt from the Fund which are being taken into consideration in current and proposed projects. This includes:

- (a) reliance on third parties for delivery of homes, development and transport scheme components posed challenges and risks to Fund projects. Experience since 2012 demonstrated that dependence on developers, as well as other third party funding and requirements (such as Compulsory Purchase Orders), could lead to slippage. Effective management of the

- Fund itself was deemed crucial to reduce programme risk and reallocate funding if needed;
- (b) the funds for phase 1 were held in the respective business areas for each project. This hindered active Fund management and the ability to control exposure to risk;
 - (c) Phase 2 resolved this by centralising funds in the City Planning budget and adopting an 'active management approach' whereby:
 - (i) the portfolio was regularly checked and re-evaluated to ensure deliverability;
 - (ii) new Delivery Service Agreements (DSA) were created with milestones, reporting and monitoring;
 - (iii) funding was transferred upon establishing project certainty and DSAs were used to tie the use of the Growth Fund monies to achieving the agreed project objectives; and
 - (iv) an overprogramming approach was adopted to counter delays, third party reliance and risks;
 - (d) balancing priorities is vital – there are limited provisions for growth and accessibility projects in the 2024 TfL Business Plan as well as in the 2022 and 2023 TfL's funding settlements with the Government with all three emphasising third party funding benefits. In addition to these core Fund and now SHA Fund priorities, the new SHA Fund prioritisation criteria incorporates broader national and London level strategic goals such as levelling up London by investing in diverse areas of the city, benefitting deprived areas and decarbonisation in order to maximise benefits and to invest more sustainably and inclusively in London.
 - (e) flexibility matters – both phases faced project changes, stressing the need for programme flexibility. Anticipating risks and delays by creating scenarios and allowing fund reallocation between projects emerged as lessons which have been reflected in SHA Fund planning;
 - (f) TfL must be nimble and flexible in responding to potential bidding opportunities where deadlines are short and there is the need for teams to mobilise at short notice. Going forward, TfL may require more externally facing business cases to unlock different funding streams from central and local Government funds. The new Third Party Funding Working Group (reporting to the Network Development and Third-Party Pipeline Programme) will develop a Third Party Funding Action Plan to increase our chances of securing additional investment. The Action Plan will enable TfL to engage delivery teams as early as possible in order to manage cost uncertainties, make efficient and coordinated decisions around bidding for funding and capture opportunities as they arise and deliver more for Londoners; and

- (g) a robust monitoring and evaluation approach was developed but paused by the coronavirus pandemic. The approach is recommended to be repurposed and applied to the SHA Fund.

9 Equalities Implications

9.1 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 ¹and 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.

9.2 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.

9.3 At a Programme level, the Fund increased public transport accessibility by funding six step-free station upgrades to completion and aiding 10 additional projects' development to continue the Step-Free Access Programme.

9.4 Fund projects were targeted in areas seeing rapid growth, regeneration and development linked to unlocking new homes and jobs. The Fund targeted Good Growth in nine boroughs in London, spanning seven Opportunity Areas.

9.5 By 2020, a more inclusive approach to the Fund was adopted, with a focus on targeting diverse areas and assessing transport investment's impact on communities. Indices of Multiple Deprivation scores began informing the prioritisation criteria for the Fund and now guide the SHA Fund objectives.

10 Establishing the next phase of work – Sustainable Housing and Accessibility Fund

10.1 The 2022 Business Plan recognised the need to leverage third party funding, and to prioritise step-free access and sustainable transport investment. In the current financial climate, active efforts are required to secure third party funds from diverse sources. Consequently, the Sustainable Housing and Accessibility Fund (SHA Fund) will replace the Growth Fund (as set out in the 2023 Business Plan). It will continue our work towards leveraging third-party funding, investing in projects which unlock housing and Good Growth and delivering accessibility

¹ Protected characteristics under the Equality Act are age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation, and marriage or civil partnership status (the duty in respect of this last characteristic is to eliminate unlawful discrimination and other prohibited conduct under the Act only)

improvements and wider benefits to TfL around equality, decarbonisation and revenue generation.

10.2 Objectives of the new SHA Fund are to:

- (a) support sustainable transport schemes directly facilitating economic growth by unlocking homes and supporting sustainable development in line with Good Growth;
- (b) support sustainable transport schemes that increase accessibility for customers with limited mobility;
- (c) provide funding confidence to progress projects and leverage third party funding for schemes with strong value for money;
- (d) support transport outcomes contributing to environmental, place-making and equality benefits; and
- (e) support schemes that are deliverable within the TfL Business Plan period.

10.3 A SHA Fund Steering Group has been formed to enable regular discussion on capital allocation, feasibility funding and leveraging third party funding. Through this forum, Spatial Planning and Investment Delivery Planning work with teams across Customer and Strategy, Finance, Operations, Capital and Places for London to assess opportunities and make recommendations to the Investment Group. The work is reported through the new Network Development and Third-Party Pipeline Programme.

10.4 In addition, this forum sponsors wider activities capturing lessons learnt from past bidding experiences (e.g. our experience with bidding to the Government's LUF) and is creating a consolidated and co-ordinated third party funding strategy. This forum can also facilitate knowledge sharing and support a clear decision-making process for agreeing project prioritisation and allocation of funding.

List of appendices to this report:

Appendix 1: Sustainable Housing and Accessibility Fund Prioritisation criteria

Appendix 2: Phase 1 and 2 completed project tables

Appendix 3: Phase 1 and 2 in progress project tables

Appendix 4: Phase 1 and 2 paused and cancelled project tables

Appendix 5: Growth Fund objectives

List of Background Papers

Network Development and Third Party Pipeline Programme

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Appendix 1: Sustainable Housing and Accessibility Fund Prioritisation Criteria

SHA Fund – draft prioritisation criteria

Housing and Good Growth		Accessibility	Sustainable transport		Spatial coverage		Sustainability	Equality	Third party funding	Value for money		Deliverability
No. of new homes unlocked	No. of new homes and jobs supported	Step Free Access Prioritisation score	Total increase in Public Transport (PT) journeys and active travel journeys*	Scale of opportunity	Opportunity Area/Growth Area	Borough	Indirect through mode shift/ car free homes*	IMD quintile	% (minimum amount) and status (confirmed/unconfirmed funding)	BCR	Additional revenue generated*	Deliverable within the Business Plan period
<100	<1000	Low	PT ↑ <u>Xm</u> Active travel ↑ <u>Xm</u>	Stand-alone intervention/ only delivering SFA	name	name	Car ↓ 0.06m CO2 ↓ 0.58 tonnes	4-5	Unconfirmed match funding	Low	£0.04m	10-15 years
101-500	1001-5000	Medium	PT ↑ <u>Xm</u> Active travel ↑ <u>Xm</u>	Medium sized intervention linked to local developments	name	name	Car ↓ 0.06m-0.30m CO2 ↓ 0.58 tonnes – 2.9 tonnes	3	Confirmed or provisionally confirmed match funding (ideally >30%)	Medium	£0.04-£0.22m	5-10 years
>500	>5000	High	PT ↑ <u>Xm</u> Active travel ↑ <u>Xm</u>	Large scale intervention stimulating local and wider regeneration and unlocking long term capacity	name	name	Car ↓ >0.30m CO2 ↓ >2.9 tonnes	1-2	Confirmed match funding (the greater % the better – ideally >30%)	High	£>0.22m	0-5 years

Modest	
Significant	
Transformational	
Neutral	

*Calculated using Growth and Masterplanning team's analysis on decarbonisation and car-free development



Appendix 2 : Phase 1 and 2 completed project tables

The projects contained in these tables were reported to the Committee via their respective programmes.

Table 1.1: Phase 1 completed projects

Scheme	Growth Fund original allocation	Status of Growth Fund contribution	Third party funding leveraged	Estimated Final Cost	Homes unlocked	Jobs supported	Status
Barking Riverside Extension	£30.00m	£30m allocated and spent	£182.00m	£287.00m	10,800	2,200	Complete
Elephant & Castle Northern Roundabout	£15.00m	£15m allocated and spent	£10.00m	£25.00m	4,000	5,000	Complete
Tottenham Hale Station Improvements	£28.20m +£5.00m for link bridge in phase 2	Increased - £5m was allocated on top of the original c£28m in phase 2	£17.00m	£45.00m	5,000	4,000	Complete
West Ham station	£0.10m	Reduced GF contribution as we levered third party funding to cover our cost	£3.00m	£3.00m	2,500	500	Being built
White Hart Lane Station Enhancements	£22.00m	£22m allocated and spent	£9.00m	£31.00m	3,500	8,000	Complete
Woolwich Crossrail station	£24.00m	£24m allocated and spent	£55.00m	£79.00m	3,500	unconfirmed	Complete

Stratford – angel Road (STAR)	£10.00m	£10m allocated and spent		£52.40m	9,000	5,000	Complete
Total	£134.30m	£134.30m spent	276.00m	£522.40m	38,300	> 24,700	

Table 1.2: Phase 2 completed projects

Scheme	Growth Fund original allocation	Status of Growth Fund contribution	Third party funding leveraged	Estimated Final Cost	Homes unlocked	Jobs supported	Status
Ilford Station entrance	£0.75m	£0.75m Allocated and spent	£1.75m	2.50m	1,000	800+	Complete
Tolworth Roundabout	£2.30m	£2.30m allocated and spent	£5.00m	£7.30m	950	750	Being built
Total	£3.05m	£3.05m spent	£6.75m	£9.80m	1,950	1,550+	

Appendix 3: Phase 1 and 2 in progress project tables

These tables represents a retrospective view of project information from the time period of the project being in consideration to receive funding from the Growth Fund. The projects were reported to the Committee via their respective programmes.

Table 2.1: Phase 1 in progress projects

Scheme	Growth Fund original allocation	Status of Growth Fund contribution	Third party funding (expected future contributions)	Estimated Final Cost	Homes unlocked	Jobs supported	Status
Bromley-by- Bow junctions and crossings	£11.40m	allocation was absorbed into departmental budgets and	£11.00m (potentially more)	£23.00m	2,800	3,000	In progress

		not ringfenced for these projects					
Elephant & Castle Northern Line Ticket Hall	£70.00m	allocation was absorbed into departmental budgets and not ringfenced for these projects	£110.00m	£180.00m	6,000	5,000	In progress
Total	£81.40m	£81.4m Growth Fund monies were transferred to the business area and absorbed by their budget – unclear if all funding was ultimately used for Growth Fund projects.	£121.00m	£203.00m	8,800	8,000	

Table 2.2: Phase 2 in progress projects

Scheme	Growth Fund original allocation	Status of Growth Fund contribution	Third party funding (expected future contributions)	Estimated Final Cost	Homes unlocked	Jobs supported	Status
Catford Town Centre	£15.00m	Allocated but unspent	£45.00m	£60.00m	2,000	0	In development

North Acton station	£16.00m	Allocated but unspent	£10.00m	£22.00m	2,600	1,500	In development
Surrey Quays Station	£16.00m	Allocated but unspent	£63.62m	£63.32m	3,500	25,000	In development (Housing Infrastructure Fund)
Leyton Station – not formally part of the programme	£9m	Allocated but unspent as we secured LUF funding after the coronavirus pandemic	£23.19m	£23.19m	2,400	0	In development (LUF)
Colindale Station	£6.00m	Allocated but unspent . More funding was required but not needed as we secured LUF funding after the coronavirus pandemic	£37.74m	£37.74m	10,000	500	In development (LUF)
Walthamstow Central station	£15.00m	Allocated but unspent for construction of phase 1 works to the station expansion. c£100k spent on development	£1.50m	£28.00m	2,000	1,000	In development

		work.					
Pontoon Dock DLR station	£5.30m	Allocated but unspent	£7.60m	£12.90m	3,000	20,000	In development
Thames Wharf DLR station	£10.00m	Allocated but unspent	£20.00m	30.00m	4,500	700	In development
A13 Renwick Road	£24.50m	Allocated but unspent	£5.50m	30.00m	4,000	2,200	In development
Total	£116.8m	£100k spent	£214.15m	£307.15m	34,000	50,900	

Appendix 4: Phase 1 and 2 paused and cancelled project tables

These tables represents a retrospective view of project information from the time period of the project being in consideration to receive funding from the Growth Fund. The projects were reported to the Committee via their respective programmes.

Table 3.1: Phase 1 paused/cancelled projects

Scheme	Growth Fund original allocation	Status of Growth Fund contribution	Third party funding (expected contributions)	Estimated Final Cost	Homes unlocked	Jobs supported	Status
Beam Park Station (new station)	£9.10m	Allocated but unspent thus far – this may be required in the future again	£32.60m	£41.80m	3,000	Unconfirmed	Paused/ Cancelled
Croydon Fiveways	£43.00m	Absorbed into the project's business area budget	£25.00m	£68.00m	10,000	7,500	Paused/ Cancelled
Old Oak Overground stations	£3.20m	Absorbed into the project's business area budget	Unconfirmed	c£280.00m	25,500	65,000	Paused/ Cancelled

Vauxhall Cross Gyrotory Removal	£38.00m	Absorbed into the project's business area budget	£12.00m	£50.00m	3,500	8,000	Paused/ Cancelled
Wandsworth Ram Brewery Transformation	£33.00m	Contribution was held outside of Growth Fund – status unknown	£47.00m	£80.00m	600	300	Paused/ Cancelled
Metropolitan Line Extension	£16.00m	£16m spent and used to fund extra train	Unconfirmed	£358.00m	1,500	Unconfirmed	Paused/ Cancelled
Total	£142.30m	£16m spent	£116.60m	£877.80m	44,100	80,800	

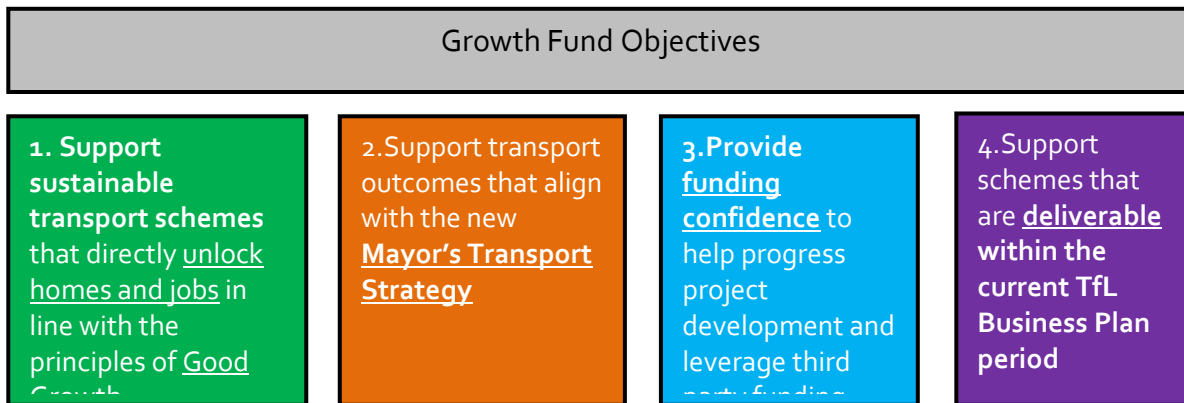
Table 3.2: Phase 2 paused/cancelled projects

Scheme	Growth Fund original allocation	Status of Growth Fund contribution	Third party funding (expected contributions)	Estimated Final Cost	Homes unlocked	Jobs supported	Status
Rotherhithe to Canary Wharf crossing	£100m	Not allocated or spent	Unconfirmed	£200m	4,500	15,000	Paused/ Cancelled
Morden Town Centre	7.50m	Allocated but unspent	£54.50m	£120m	2,000	2,140	Paused/ Cancelled
Sutton Link	£70.00m	Allocated but unspent	Unconfirmed	470.00m	10,000	350	Paused/ Cancelled
Barking station	£15.00m	Allocated but unspent	£5.00m	£20.00m	1,000	4,000	Paused/ Cancelled
Erith Links	£7.00m	Allocated but	£4.00m	£11.00m	2,000	Unconfirmed	Paused/

		unspent					Cancelled
Bow Vision	£11.4m	Allocated but unspent	c£11.00m	£23.00m	2,800	3,000	Paused/ Cancelled
Elmers End Tram Capacity Upgrade	£3.3m	Allocated but unspent	£0m	£9.3m	18,600	8,000	Paused/ Cancelled
Upper River Roding Crossing	£5.00m	Allocated but unspent	£1.00m	£10.00m	Unconfirmed	Unconfirmed	Paused/ Cancelled
Total	£219.20m	£0m spent – funding was either never allocated or it was allocated but cancelled at the time of the coronavirus pandemic	£75.50.00m	£863.30m	40,900	32,490	

Appendix 4: Growth Fund objectives

The key objectives of the Growth Fund are set out below.



1.1 The types of projects funded by the Growth Fund included the following:

a) UNLOCKING

- (i) NEW INFRASTRUCTURE - New stations and links to unlock areas of major growth potential, and support place-making, regeneration and sustainable travel outcomes e.g. Woolwich Crossrail, Beam Park and Thames Wharf stations
- (ii) ENHANCE INFRASTRUCTURE - Station upgrades in areas of significant growth, to help address congestion problems, improve passenger experience, deliver Step Free Access and catalyse regeneration eg White Hart Lane; Walthamstow Central. Schemes on the TLRN and borough roads that tackle constraints on development, and also support the delivery of Healthy Streets outcomes including bus improvements, urban realm and active travel e.g. Renwick Road

b) ENABLING

- (i) CONNECTIVITY / PLACE MAKING - Town centre packages including a range of different measures to regenerate town centres, improve bus, cycle, walk access and deliver a step change in place quality, alongside and facilitating significant development e.g. Colindale, Morden

Programmes and Investment Committee



Date: 28 February 2024

Title: Network Development and Third Party Pipeline Programme

This paper will be considered in public

1 Summary

Project	Existing Financial Authority	Estimated Final Cost (EFC)	Existing Programme and Project Authority	Additional Authority Requested	Total Authority
Bus Transit between Thamesmead, Woolwich and Abbey Wood	£ 3.9m	£ 23m	£ 0m	£ 1m	£ 1m
DLR to Thamesmead		£ 900m - £ 1.1bn	£ 0m	£ 2.5m	£ 2.5m
Sustainable Housing and Accessibility Fund	£ 128m	£ 74m ¹	£ 0m	£ 9.5m	£ 9.5m

Table 1: Summary of authority requests

Authority Approval: The Committee is asked to approve Programme and Project Authority of £1m for the Bus Transit between Thamesmead, Woolwich and Abbey Wood (£1m funding from central Government) and £2.5m for DLR to Thamesmead (of which £1.2m-£1.5m funding is from third parties).

The Committee is also asked to approve £9.5m Programme and Project Authority for step-free access projects from the Sustainable Housing and Accessibility Fund (SHA Fund) and for the funding to be transferred to the Rail and Stations Enhancement (R&SE) Programme².

Outputs and Schedule: The Programme and Project Authority being requested here would deliver feasibility and concept designs for the Bus Transit between Thamesmead, Woolwich and Abbey Wood project by March 2025 and an Interim Outline Business Case for the DLR to Thamesmead project by March 2025. The SHA Fund has been established to leverage third party funding, prioritise step-free access and sustainable transport investment. The requested Programme and Project Authority for the SHA Fund will enable the delivery of step-free access at Northolt in 2026, as well as concept designs for capacity upgrades and step-free access at North Acton and West Hampstead by spring 2025.

¹ The EFC is lower than the Existing Financial Authority because the EFC reflects current project allocations. It is expected that the full £128m will be allocated in due course.

² The SHA Fund is strategically managed by this Programme and allocated to Programmes at the point at which funding is required.

- 1.1 This paper is the first submission to the Committee on the newly established 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. This paper provides an overview of the Programme and summarises the status of projects within it.
- 1.2 This paper also sets out the Programme and Project Authority requests for specific projects to cover planned costs for 2024/25 and 2025/26, where financial commitments will be made beyond the end of 2024/25. Where authorities are only currently being sought for early stages of projects, as described, further full authorities will need to be sought in due course based on the total programme cost. All the projects for which Programme and Project Authority is sought and which would be funded using SHA funds sit within the R&SE Programme and will provide the Committee with further updates and additional authority requests through that programme.

2 Recommendation

2.1 The Committee is asked to note the paper and:

- (a) **approve Programme and Project Authority of £3.5m for the Thamesmead and Beckton Riverside programme (including £1m for the Bus Transit between Thamesmead, Woolwich and Abbey Wood to deliver a concept design, and Programme and Project Authority of £2.5m for the DLR to Thamesmead project to develop an Outline Business Case);**
- (b) **approve Programme and Project Authority of £9.5m from the Sustainable Housing and Accessibility Fund to deliver step-free access at Northolt station and concept designs for capacity upgrades and step-free access at North Acton and West Hampstead and, in relation to such sum, approve its removal from the Network Development and Third Party Pipeline Programme and an equivalent increase in the Programme and Project Authority of the Rail and Station Enhancements Programme.**

3 Background

- 3.1 The Network Development and Third Party Pipeline 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 projects within this Programme cover a range of scales and meet several criteria, including major projects with a significant estimated final cost (typically over £50m but do differ in scale; strategic in nature (included within the London Plan and Mayor's Transport Strategy (MTS)) or have a range of stakeholders with potentially competing interests or predicted to be complex in delivery; and are new proposals to enhance our network and/or serve wider regeneration or development aspirations and proposals. The Programme also considers some more targeted enhancements with a collective contribution to strategic objectives and outcomes. In all cases, non-TfL funding contributions to develop and deliver the projects would be sought from third parties. This may be from developers, boroughs or central Government.
- 3.3 These projects are likely to involve a programme of public engagement and consultation, the outcomes of which will require full evaluation, and which may lead to design or other changes as part of a considered response to representations received.
- 3.4 The Programme also manages funds such as the SHA Fund, identifies projects that could be eligible for Community Infrastructure Levy funding and oversees larger scale s106 developer planning contributions, as well as the wider Interchange Programme and business cases. It will develop and implement a Third Party Funding Action Plan to manage external funding and bidding opportunities.
- 3.5 Programme review meetings are now established to provide investment planning, performance and long-term strategic direction to the projects within the Programme and lead on securing third party funding across TfL. Each project has its own separate governance, but they are brought together under this Programme to maximise opportunities for implementing lessons learnt, continuing review to ensure that these projects remain the right priorities for London, providing a consistent approach to core stakeholders and a strategic, aligned approach to third party funding bidding opportunities.
- 3.6 The key projects within the Programme are summarised in sections 4 and 5 and Appendix 1 includes a summary of the key deliverables for this financial year.

4 Network Extensions

- 4.1 Network Extensions covers a pipeline of projects that could become major projects if they were to proceed past single option selection or could be significant enough a warrant being a new standalone Programme. Beyond the opening of the Silvertown Tunnel in 2025, there are currently no new major extensions fully committed in terms of powers to build, operate and maintain or that are funded for implementation. Further interventions are needed to support sustainable growth in new homes and jobs and achieve MTS outcomes.
- 4.2 The potential projects in this pipeline are all at relatively early stages of scheme development but collectively have the potential to unlock up to 300,000 new homes. This includes 200,000 homes from Crossrail 2; 50,000 homes from the Bakerloo Line Extension (BLE); 25-30,000 homes from DLR to Thamesmead; 3,000 from Bus Transit to Thamesmead; and 15,000 homes from West London Orbital (WLO).

- 4.3 A summary of the key benefits and status of the Network Extensions is provided below.

Thamesmead and Beckton Riverside Programme

- 4.4 The Public Transport to Thamesmead Programme completed outcome definition in early November 2023. This identified a DLR extension from Gallions Reach to Thamesmead, via Beckton Riverside, alongside a bus transit corridor connecting Thamesmead with Woolwich and Abbey Wood, as the single preferred option to support up to 30,000 new homes, 10,000 new jobs, two additional town centres, regeneration opportunities and strategic cross-river connectivity.
- 4.5 These will now be taken forward as two separate but coordinated schemes – Bus Transit between Thamesmead, Woolwich and Abbey Wood and DLR to Thamesmead, outlined below.

Bus Transit between Thamesmead, Woolwich and Abbey Wood

- 4.6 The new high frequency service connecting the large-scale regeneration site at Thamesmead with wider transport connections at Abbey Wood and Woolwich would support the first phase delivery of new homes. As part of the Autumn Statement in November 2023, the Government announced that, subject to the business case approval, it will provide us with £23m to design and implement a Bus Transit between Thamesmead, Woolwich and Abbey Wood. This is part of the Government's vision for a new Docklands 2.0. The funding allocation is from the Brownfield, Infrastructure and Land (BIL) Fund and will fund development and delivery of the scheme. A condition of this funding is that it is to be spent by the end of financial year 2025/26.
- 4.7 The initial £1m to be released for 2024/25, for which we are seeking Programme and Project Authority, will be used to complete feasibility and concept designs by March 2025.
- 4.8 We are continuing to work with Homes England on the specific terms for receiving the BIL funding, which is likely to be phased with conditions for release. The detailed scope of the scheme, for implementing within the time constraints of the Government funding, is currently being defined. It will be aligned with the principles of Good Growth and the Healthy Streets Approach.
- 4.9 The main objectives of the scheme are to provide a high-quality bus service in Thamesmead, opportunities for active travel through enhanced connectivity and to support the delivery of housing in both the interim and longer term phases of development. A scheme overview is provided in Appendix 2.

DLR to Thamesmead

- 4.10 The 3.5km extension of the DLR network from Gallions Reach would include a new station at Beckton Riverside and cross river tunnel to Thamesmead. Although the Autumn Statement made no mention of funding for the DLR to Thamesmead, the Government stressed its commitment to supporting the planned housing development and our focus for the scheme will be the development of an Interim Outline Business Case. We aim to submit this to Government in advance of the next Spending Review. This will detail a funding and financing strategy as well as further design investigations to determine, and hopefully reduce, the EFC of £900m-£1.1bn (2021 prices).
- 4.11 We remain committed to a £3m contribution for feasibility work, £1m net in 2024/25 (with an additional £1.2-£1.5m from third parties) and £2m in 2025/26 (third party contributions to be agreed). We are continuing to work with our public and private partners to secure a financial commitment for these years to enable the continued development of the scheme. The focus of the work and the spend for 2024/25 will be further design, including options for straightening tunnel alignments under the Thames; turnback options and station designs; required surveys and ground investigations; consultation and communications; and funding and financing options.
- 4.12 A public consultation seeking views on the extension was launched on 5 February 2024 and will close on 18 March 2024. A scheme overview is provided in Appendix 2. Subject to securing a delivery funding package and Transport and Works Act Order, the scheme could be implemented by the early 2030s.

West London Orbital

- 4.13 The WLO project is being developed in partnership with the West London Alliance (WLA), which represents seven west London boroughs and is contributing significantly to the funding of the current feasibility work. The key benefits of this proposed new London Overground route, which would link Hendon and Hounslow via Old Oak Common (OOC), include enhancing orbital connectivity, reducing public transport journey times, and enabling mode shift which in turn drives carbon and air quality benefits. The scheme also supports sustainable growth of up to 15,000 new homes and connects some of the most nationally deprived areas, with new job opportunities across five Opportunity Areas.
- 4.14 The project is currently nearing the end of outcome definition, with a gate review planned for April 2024. A key step is to confirm funding to progress single option selection (Governance for Railway Investment Projects Stage 3), with an agreement in principle with the WLA and west London boroughs for the development costs to be split evenly with TfL. If funding is confirmed with the boroughs, we will seek Programme and Project Authority later in 2024. We would also carry out a public consultation to seek initial views on our proposals.
- 4.15 Further work is underway to further refine the EFC of WLO which is currently in the range of £650m-£900m at 2021 prices. A scheme overview is provided in Appendix 3.

Bakerloo Line Upgrade

- 4.16 The Bakerloo Line Upgrade (BLU) will secure the long-term operation of the Bakerloo line through replacement of rolling stock (Stage 1) and upgrade of signalling/control systems (Stage 2). We provided the Committee with an update on this project in a separate paper in December 2023.
- 4.17 A pan-TfL working group has been established to identify and evaluate delivery strategy options for the project and will seek endorsement of a preferred option from the TfL Executive Committee at the end of March 2024.
- 4.18 BLU fed into the multi-programme summary business case submitted to Government as part of our £500m funding ask for 2024/25. BLU has a forecast spend of £6.4m for 2024/25 and as described to the Committee in the December 2023 paper, a separate Programme and Project Authority request will be made for this. Prior to the end of 2024/25 it is critical that a funding commitment is reached with Government to allow us to begin procurement of design and build contracts (worth approximately £150m) for infrastructure and enabling works in financial year 2025/26.

Bakerloo Line Extension

- 4.19 The BLE would extend the Bakerloo line from Elephant & Castle, serving new stations at Burgess Park, Old Kent Road, New Cross Gate and Lewisham alongside new platforms and interchange at Elephant & Castle. This route has been safeguarded since March 2021. There is also the opportunity for a further extension beyond Lewisham to Hayes and Beckenham Junction that would utilise existing Network Rail tracks. This would be transformational for transport in south-east London, increasing public transport capacity and step-free connectivity and resulting in an additional 150,000 daily public transport trips. Associated mode shift and new car free development would drive carbon and air quality benefits. The scheme would support the delivery of around 50,000 new homes in south-east London, including 20,000 in the Old Kent Road Opportunity Area and over 85,000 jobs within 45 minutes of the extension.
- 4.20 The BLE is currently working towards a single preferred option by late 2025. Work is currently ongoing to update the scheme business case and complete the feasibility design, including packages of work looking at station design and funding options that are funded by the London Boroughs of Lewisham and Southwark. The current EFC is between £5-8bn (2023 prices) and the scheme could feasibly begin construction from 2030 subject to funding. A scheme overview is provided in Appendix 4.

Elizabeth line enhancements

- 4.21 A range of potential enhancements to the Elizabeth line could support growth across London and the southeast of England, while also supporting High Speed 2 (HS2) and enhancing access to Heathrow.

- 4.22 Our current priority is an investment in higher frequency services between Paddington and OOC to support the start of HS2 services as early as 2030. The higher frequency will relieve wait times at the station, reduce on-train crowding and provide shorter journey times for more customers using OOC station. In December 2023, the Committee approved Programme and Project Authority for the investment in higher frequency subject to Government agreeing to provide the capital funding for the acquisition of additional rolling stock.
- 4.23 In response to the impressive demand uptake on the Elizabeth line to date and the strong growth forecasts, an Elizabeth line upgrade plan has been prepared to assess further service enhancement opportunities. These proposals include additional services further west of OOC and additional services in the central operating section. We expect these to have strong business cases and will progress with further appraisal, operational feasibility and investment prioritisation over the coming year.
- 4.24 We have also engaged with third parties to discuss the potential role for Elizabeth line services to support other proposed network extensions which could be reviewed as part of this Programme and understand their opportunities and impacts. These possible extensions include:
- (a) Abbey Wood to Ebbsfleet, to support growth in North Kent;
 - (b) Heathrow to Langley via the proposed Western Rail Link; and
 - (c) Heathrow to Staines via the proposed Southern Rail Link.
- 4.25 Any future development of the extension proposals will be dependent on external factors including securing funding, local growth aspirations and confirmation of development potential.
- 4.26 An overview of the proposals is included in Appendix 5.

Crossrail 2

- 4.27 Crossrail 2 has the potential to unlock 200,000 new homes and major regeneration across London and the southeast of England. The tunnelled section would effectively run from Wimbledon in the south to Tottenham Hale and New Southgate to the north, with connections to the heavy rail network at either end. The scheme is designed to provide relief to the most crowded stations and lines on the London Underground and National Rail networks, including strategic interchange locations such as major termini. 60,000 jobs could be created through delivery of the scheme across the UK supply chain, and it would support 200,000 new jobs once operational. The EFC of Crossrail 2 is £30-£40bn (2021 prices).
- 4.28 Crossrail 2 was safeguarded in 2015. We will continue to protect the safeguarded route by responding to planning applications impacting the route. Work continues with the Department for Transport to refresh the safeguarding directions to safeguard the scheme's latest proposed route from future developments. A scheme overview is provided in Appendix 6.

5 Interchange Programme

- 5.1 The Interchange Programme was initiated at the end of 2023. Its purpose is to identify a future pipeline of interchange schemes which could be prioritised for further development.
- 5.2 Schemes are expected to enhance customer experience, accessibility, contribute to housing delivery, increase capacity and support the regeneration and development of key parts of London.
- 5.3 A longlist has been developed and this will be reduced to a shortlist during the outcome definition stage, using specific outcomes and selection criteria derived from the MTS and TfL Interchange Best Practice Guidance. The shortlist is expected to be identified in spring 2024 and is expected to include major schemes such as Stratford and Victoria.

6 Sustainable Housing and Accessibility Fund

- 6.1 The SHA Fund has been established following the conclusion of the Growth Fund, which delivered a substantial range of benefits. A separate paper on the Growth Fund is included elsewhere on the agenda. The continuation of this type of investment through the SHA Fund is in recognition of the importance of leveraging third party funding and delivering additional public transport capacity and step-free access that unlocks and supports sustainable growth. In the current financial climate, we continue to prioritise securing third party funds from diverse sources. We also expect that projects funded by SHA will meet wider objectives around mode shift, equality, decarbonisation and revenue generation.
- 6.2 The SHA Fund aims to leverage around £1-£2 of third party funding for every £1 spent by TfL at a programme level. To capitalise on upcoming opportunities, some projects may need greater TfL contributions and commitment recognising the operational imperatives (e.g. safety and reliability) and future fares revenue that they deliver. This is delivered predominantly through:
 - (a) housing schemes, for which transport plays a key role in the business case for new housing development schemes and delivering on the Mayor's target. Short term priorities are Royal Docks and along the East London line;
 - (b) step-free access and station capacity upgrades that leverage third party funding as part of developer or borough infrastructure funding of development projects; and
 - (c) standalone TfL-funded step-free access projects, that make the network more inclusive and work towards improved journey time and public transport service provision.
- 6.3 The projected benefits of SHA Fund including projects named below and a wider pipeline of projects in development include unlocking more than 12,100 new homes, supporting tens of thousands of jobs and four new step-free access stations through the current committed pipeline, with the potential for 10-12 additional stations. Over £133m third party funding will be leveraged from

allocated projects and achieve approximately a 7,000 tonnes reduction in CO₂ from mode shift from associated car free developments.

- 6.4 The SHA Fund has £128m budgeted through to 2029/30. The SHA Fund is strategically managed by this programme and is allocated to programmes at the point at which funding is required. This paper requests £9.5m Programme and Project Authority for three step-free access station projects at Northolt station, West Hampstead station and North Acton station. In addition, funding has been allocated from the SHA fund to the Pontoon Dock station project. Subject to approval by the Committee, the related Programme and Project Authority will be transferred to the R&SE to progress design and delivery for the station works.
- 6.5 Northolt, West Hampstead and North Acton stations were announced in summer 2023 as part of our planned forward programme of step-free access schemes. Northolt was about to enter construction prior to being stopped by the coronavirus pandemic. Now, with work to analyse the design and constructability complete and a re-pricing exercise concluded in January 2024, we are recommending that we proceed to construction planned for early 2025. We are also recommending proceeding into concept design for capacity enhancements and step free access at North Acton and West Hampstead, both of which have considerable potential for external funding and the ability to unlock new homes and jobs.
- 6.6 Pontoon Dock forms part of our DLR Royal Docks programme to support local regeneration and growth in the Royal Docks area. At this station we are proposing to improve accessibility and ease congestion by providing escalators from ground to platform level. We are also proposing to enhance the urban realm beneath the station and integrate with improvements being delivered in the area by the London Borough of Newham. Subject to the availability of funding and the necessary planning approvals in summer 2024, we plan to seek approval for the additional Programme and Project Authority needed to commence detailed design and construction.

7 Third Party Funding Action Plan

- 7.1 We have sought out a wide variety of third party funding opportunities and TfL, the Greater London Authority (GLA) and local boroughs have had notable success in recent bidding processes. Our enhancement programmes have become increasingly dependent on external funding which tends to be linked to housing, population growth and London policy.
- 7.2 Third party funding sources have a significant role to in securing long-term capital funding for key investments, whilst driving additional customer revenue. Our Customer and Strategy plan identifies that third party funding can enable us to deliver more, providing us with additional funds to support growth, unlocking sustainable homes and jobs.
- 7.3 A proactive approach and development of a Third Party Funding Action Plan would increase our chances of securing additional investment, enabling us to capture opportunities as they arise and deliver more for Londoners. It will make sure we are proactive in making the case for transport infrastructure, while ensuring more efficient and aligned decision making and helping us make better use of resources. Opportunities from our Third Party Funding Action Plan include

maximising the amount of Government and borough funding we secure with a housing/regeneration focus and building on our relationship with the GLA for integration of land use and transport.

- 7.4 We will develop our Third Party Funding Action Plan in 2024 and will provide further information in future updates to the Committee.

8 Financial Implications

- 8.1 Table 2 below outlines the budgeted spend across the projects for which Programme and Project Authority is requested.

Project		2024/25	2025/26	Future Years	Total
Bus Transit between Thamesmead, Woolwich and Abbey Wood	Income	£ 1m	£ 22m		£ 23m
	Expenditure	£ 1m	£ 22m		
DLR to Thamesmead	Income	£ 1m			£ 3.5m
	Expenditure	£ 2.5m			
SHA Fund		£ 8m	£ 20m	£ 100m	£ 128m
Allocated to R&SE as part of this authority request		£ 5.5m	£ 4m		£ 9.5m
Allocated to other projects within the R&SE but subject to additional authority request		£2.5m	£ 5m	£ 4.5m	£ 12m
Unallocated*		£ 0m	£ 11m	£ 95.5m	£ 106.5m

Table 2: spend profile

*The remainder of budgeted spend will be subject of a separate Programme and Project Authority request to the Committee.

9 Equalities Implications

- 9.1 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 ³and persons who do not share it; and

³ Protected characteristics under the Equality Act are age, disability, gender reassignment, pregnancy and maternity, race, religion or belief, sex, sexual orientation, and marriage or civil partnership status (the duty in respect of this last characteristic is to eliminate unlawful discrimination and other prohibited conduct under the Act only)

- (c) foster good relations between persons who share a relevant protected characteristic and persons who do not share it.
- 9.2 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, as appropriate, to identify potential impacts. We also routinely engage with the Independent Disability Advisory Group at early stages of our projects to help inform design requirements.
- 9.3 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.

10 Assurance

- 10.1 In support of this submission, an integrated assurance review was undertaken by TfL's Project Assurance team and supported by the Independent Investment Programme Advisory Group. This did not identify any critical issues with the Programme and we are actively responding to the recommended actions, as set out in the Management Response.

List of appendices to this report:

Appendix 1: 2024/25 Key deliverables from the Programme and key risks
Appendix 2: DLR to Thamesmead and Bus Transit between Thamesmead, Woolwich and Abbey Wood overview
Appendix 3: West London Orbital overview
Appendix 4: Bakerloo line Extension overview
Appendix 5: Elizabeth line Enhancements overview
Appendix 6: Crossrail 2 overview
Appendix 7: Sustainable Housing and Accessibility Fund overview

List of Background Papers:

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

TfL Project Assurance and Management Response.

Bakerloo Line Upgrade, Programmes and Investment Committee Paper, December 2023

Growth Fund, Programmes and Investment Committee Paper, February 2024

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Appendix 1: 2024/25 Key deliverables from the Programme and key risks

Programme	Deliverable	Indicative timescale	Key risk
West London Orbital	Select Preferred Strategic Option	April 2024	Continued affordability to implement scheme
Bakerloo Line Extension	Select Single Preferred Option	March 2025	Lack of appetite for mega-projects and some government support needed
Bakerloo Line Upgrade	Preferred delivery strategy endorsed by Executive Committee	March 2024	Securing Government funding
	Complete concept designs	March 2025	
Elizabeth Line enhancements	Business case appraisal, operational feasibility and investment prioritisation	Summer 2024	Securing Government funding
Crossrail 2	Refresh safeguarding (subject to Government/TfL agreement on blight risk)	Spring 2024	Loss of safeguarding for the scheme
DLR to Thamesmead	Publish public consultation report	June 2024	Continued support from key stakeholders and government contribution needed to fund
	Complete Outline Business Case	March 2025	
Bus Transit to Thamesmead	Complete concept design	March 2025	Meeting Government delivery timescales of March 2026
Interchange Programme	Identify a prioritised short list of schemes	Spring 2024	Complex range of interfaces
Sustainable Housing and Accessibility Fund	Northolt – construction contract award	January 2025	Negotiation of third party funding contributions and alignment with delivery programmes

Appendix 2: DLR to Thamesmead and Bus Transit between Thamesmead, Woolwich and Abbey Wood overview

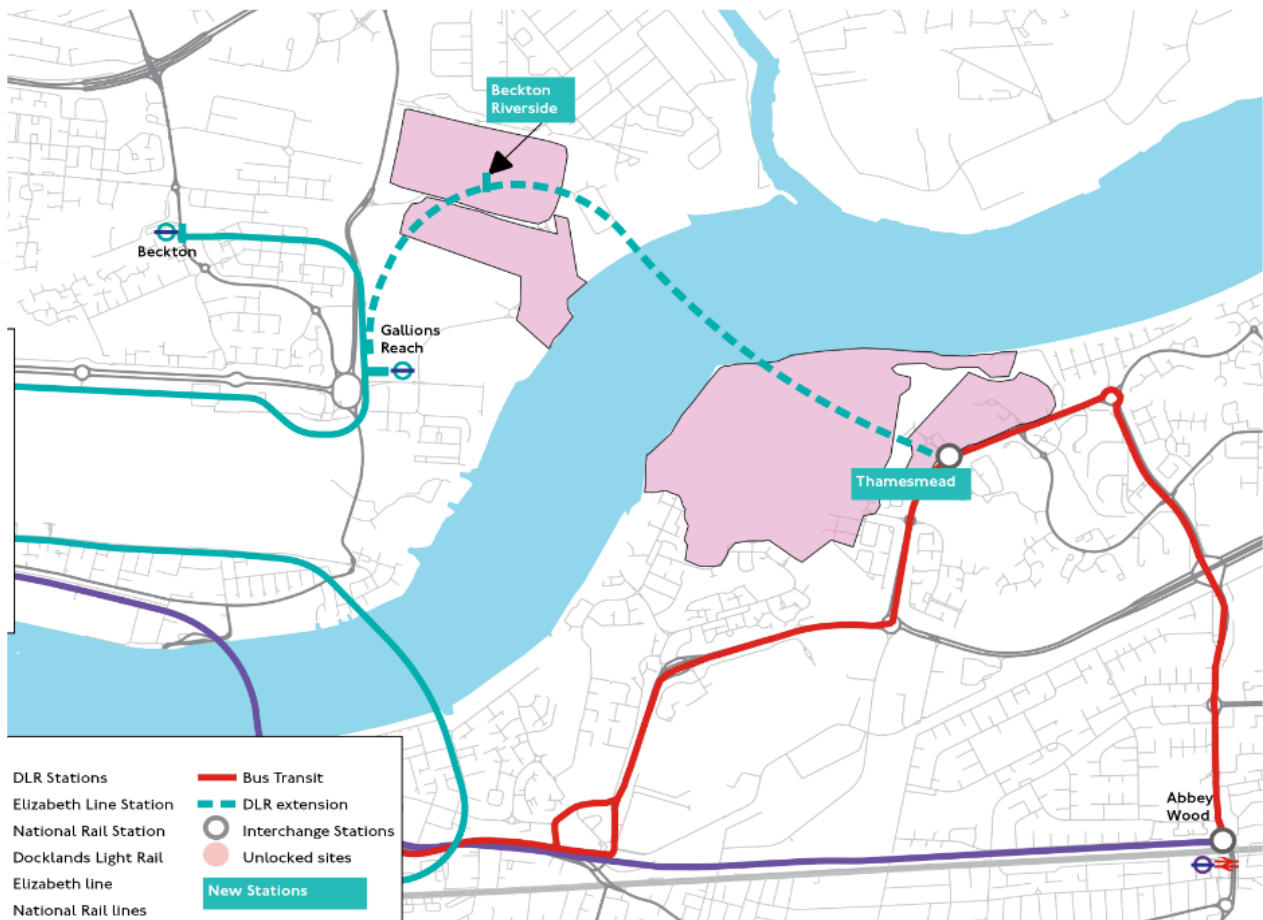


Figure 1: Potential route of DLR extension to Thamesmead and bus transit between Thamesmead, Woolwich and Abbey Wood

Key benefits	Tackling deprivation and empowering communities. The project supports the Government's Levelling Up agenda by investing in the most deprived areas of London
Homes and jobs supported	Potential to unlock up to 30,000 homes and 10,000 jobs in two major Opportunity Areas, with new access to 500,000 additional jobs within 45mins
Scheme status and next steps	A single preferred option was identified in May 2023 Bus transit – feasibility and concept designs by March 2025 DLR extension – potential Transport and Works Act Order (TWAO) submission in 2025/26
Potential timescales	Bus transit – infrastructure completion 2026 DLR extension – commencement of construction in late 2020s and service commencement 2032-2033

Appendix 3: West London Orbital overview

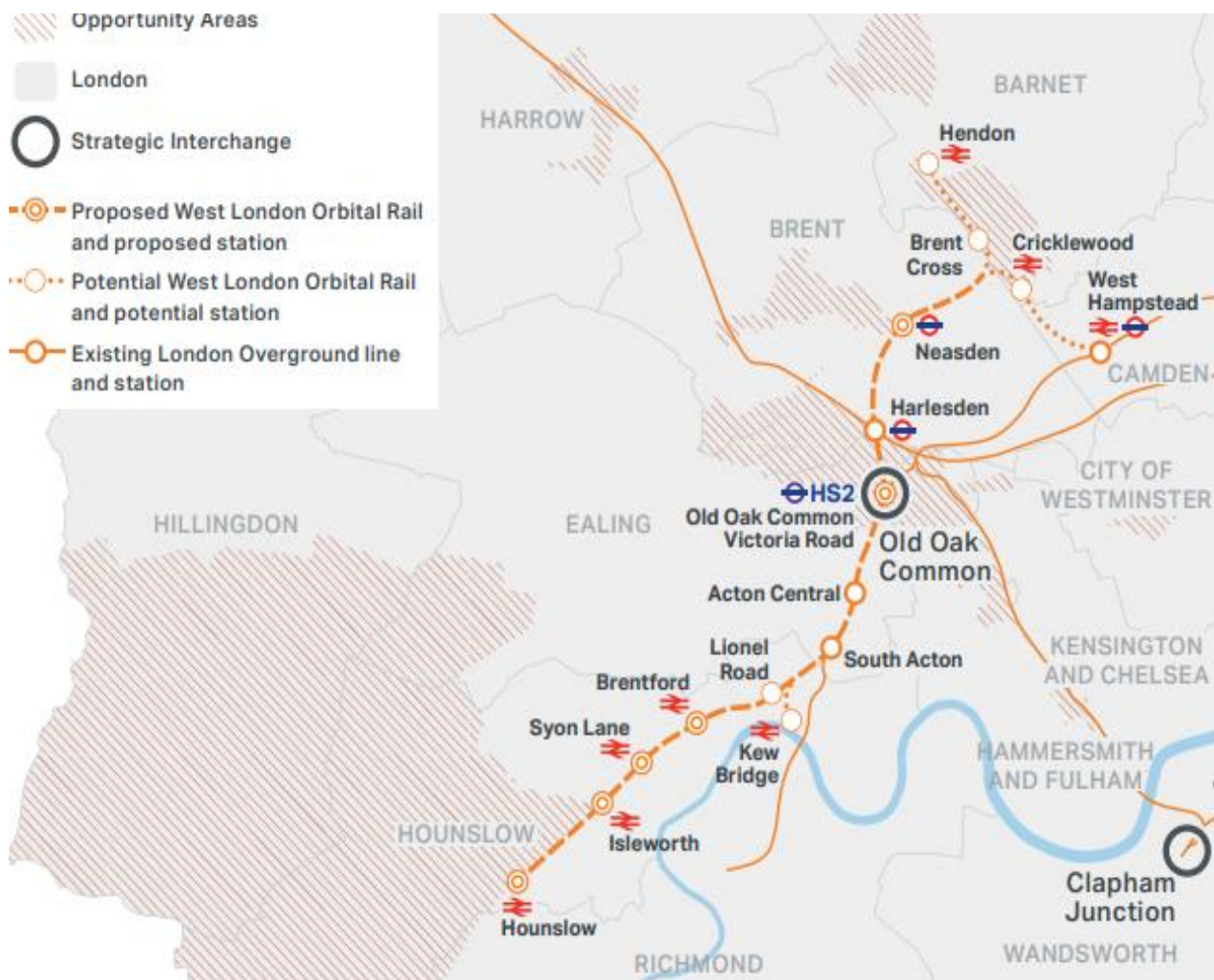


Figure 2: Potential route of West London Orbital

Key benefits	Connectivity, levelling Up and environmental. Reduction in public transport journey times, mode shift which drives carbon and air quality benefits, creation of an economic spine for West London, connecting some of the nationally most deprived areas.
Homes and jobs supported	Supports sustainable growth of up to 15,800 homes across five Opportunity Areas, increases jobs accessible to local residents by 20 per cent
Scheme status and next steps	Currently working towards a single strategic option, with a decision point in April 2024 whether to progress to feasibility design stage
Potential timescales	2027 – TWAO submission, 2032– services commence

Appendix 4: Bakerloo line Extension overview



Figure 3: Potential route of Bakerloo line extension

Key benefits	Transforming transport in south east London. Significant increase in public transport capacity and connectivity, mode shift drives carbon and air quality benefits.
Homes and jobs supported	Supports around 47,500 new homes in south east London, including 20,000 in the Old Kent Road Opportunity Area and has over 85,000 jobs within 45 minutes.
Scheme status and next steps	TfL received safeguarding directions in March 2021. Work on a single preferred option and funding and financing is ongoing and is anticipated to complete in mid-2025.
Potential timescales	2030s – construction 2040 – services commence (this could change if linked to BLU delivery)

Appendix 5: Elizabeth line enhancements overview

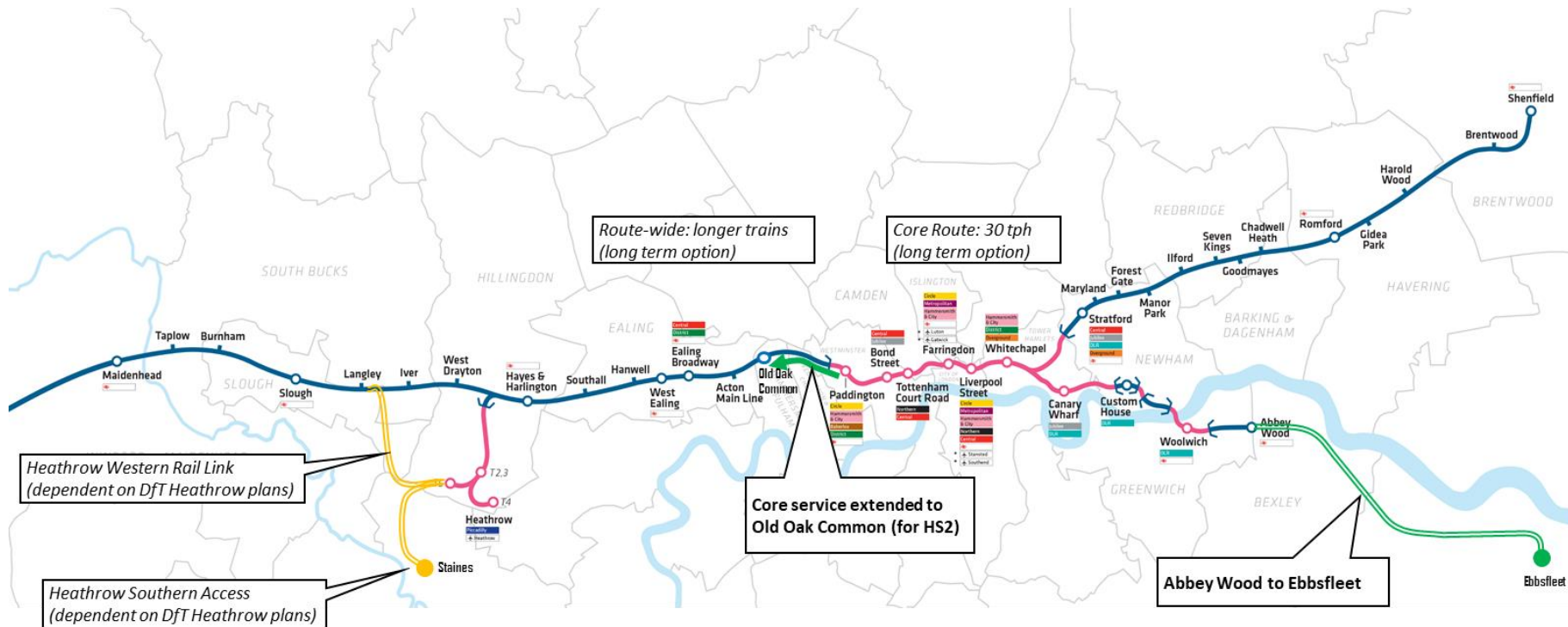


Figure 4: Potential Elizabeth line enhancements

Key benefits	Supporting growth. Supports growth in London generally, HS2 and aviation access, while relieving crowding.
Homes and jobs supported	Potential to unlock homes and jobs in major Opportunity Areas, Heathrow, and in North Kent
Scheme status and next steps	We expect the service enhancements on the existing network to have strong business cases and will progress with further appraisal, operational feasibility and investment prioritisation during 2024.
Potential timescales	Heathrow extension options are dependent on the construction of new airport rail links. Ebbsfleet extension is dependent on Government's response to our submission of the Strategic Outline Case.

Appendix 6: Crossrail 2 overview

Key benefits	200,000 new homes and regeneration across the South East and London. Targets most crowded stations and lines on London Underground and National Rail networks, including important interchange locations.
Homes and jobs supported	60,000 jobs across the UK supply chain and 200,000 new jobs once operational
Scheme status and next steps	We continue to protect safeguarded Route, responding to planning applications impacting the route
Potential timescales	Work continues with the Secretary of State for Transport to refresh the safeguarding directions, in order to safeguard the scheme's latest proposed route from future developments



Figure 5: Potential route of Crossrail 2

Appendix 7: Sustainable Housing and Accessibility Fund overview

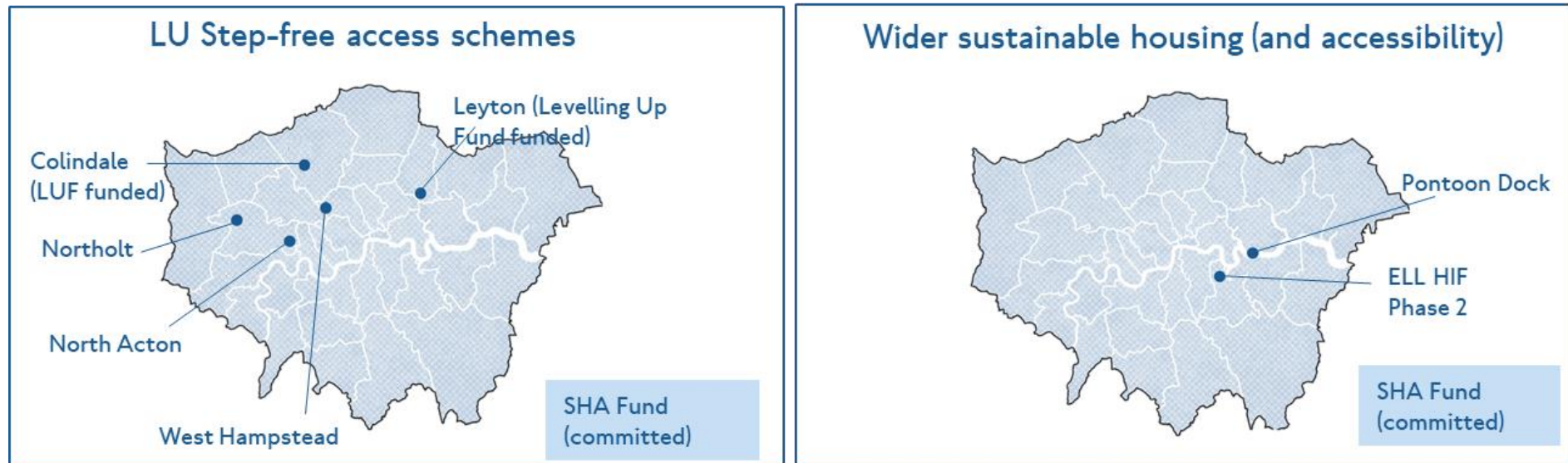


Figure 6: Projects with a confirmed SHA funding allocation

<p>Estimated key benefits (additional to the Leyton project)</p>	<ul style="list-style-type: none"> • More than 12,100 new homes unlocked; • Tens of thousands jobs supported; • five local authorities benefit from projects in the short list and 14 in the long list; • Four stations with step free access with the potential to fund an additional 10-12; • More than £133m of third party funding levered from the listed projects; and • More than an estimated 7,018 tonnes reduction in CO₂ (car-free development led mode shift)
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Date: 28 February 2024

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 that will be required from the Committee by way of Chair's Action over the next six months. 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 exempt supplementary information. The information is exempt by virtue of paragraph 3 of Schedule 12A of the Local Government Act 1972 in that it contains information relating to the financial and 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 (P&C) function within TfL has worked to improve its forward planning, for example by consolidating multiple sources of data regarding the plans for contract renewals and new procurements. This has enabled P&C to establish a pipeline of activities over the next two years.
- 3.3 P&C's ability to plan the necessary governance and approval timescales, in conjunction with meetings of relevant Committees where appropriate, is, 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 224 contracts with an estimated total value of £27bn, and equivalent annual spend of £2.9bn, when prorated by the length of the contracts. This is broken down as follows:

P&C Division / Team	No	Estimated Value (£m)	Equivalent Annual Value (£m)
CAP	74	4,727	633
Capital Infrastructure	15	2,502	238
Capital Systems	16	270	68
Technology	43	1,955	327
OP	150	22,290	2,248
Fleet	33	171	59
FM	9	1,255	195
Indirects (support goods and services)	18	16,508	1,340
Infrastructure	43	1,781	235
Rail and Sponsored Services	20	999	192
Track	27	1,576	228
Total	224	27,018	2,881

5 Planned procurement activity ahead of the next meeting

- 5.1 There are two business units within the P&C function, and the key forthcoming procurement activities for both are summarised below. Further details of these procurement activities are provided within the related paper on Part 2 of the agenda.
- 5.2 In Operations and Professional Services, 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.
- 5.3 In Capital and Technology, we are currently forecasting that one contract award will require Committee approval by Chair's Action in the next six months.

6 Improving Visibility of the Procurement Pipeline

- 6.1 The pipeline and planning team within P&C is now at full complement, bringing all activities on pipeline visibility, savings tracking, data quality and resource planning under one central function. We have received feedback to improve visibility of the pipeline as management information to better support commercial decisions. These include:
- (a) highlighting potential opportunities to consolidate contracts between modes or across the value chain to drive further efficiencies;
 - (b) visibility of contracts due to expire to support planning; and

(c) including reference to the funding certainty of projects, particularly for capital projects, to support decision making.

6.2 The pipeline and planning team is currently assessing the feasibility of including the additional information listed above in the pipeline and we intend to update the Committee at a future meeting with the production of a twice-yearly pipeline report and detailed management information.

List of appendices to this report:

Exempt supplementary information is included in the paper on Part 2 of the agenda.

List of background papers:

None

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Programmes and Investment Committee



Date: 28 February 2024

Item: Members' Suggestions for Future Discussion Items

This paper will be considered in public

1 Summary

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

2 Recommendation

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

3 Forward Plan Development

- 3.1 The Board and its Committees and Panels have forward plans. The content of the plan arises from a number of sources:
- (a) Standing items for each meeting: Minutes; Matters Arising and Actions List; and any regular quarterly or periodic reports. For this Committee, this is the quarterly Investment Programme 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) 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 2023/24

List of Background Papers:

None

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Programmes and Investment Committee Forward Plan 2024/25

Membership: Dr Nelson Ogunshakin OBE (Chair), Peter Strachan (Vice-Chair) Seb Dance, Mark Phillips, Dr Lynn Sloman MBE

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 IDP (Director Investment Delivery Planning), D CTO (Chief Technology Officer)

Standing Items		
Use of Delegated Authority	General Counsel	Standing item
Forthcoming Key Procurement Activities	Chief Finance Officer	Standing item
Quarterly Investment Programme Report	CCO and D IDP	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		

June 2024		
London Underground Four Lines Modernisation (4LM)	CCO	Annual
Streets, Bus and Rail and Sponsored Services Renewals Programme	D IDP	Annual
Rail and Station Enhancements Programme	D IDP	Annual
Capital Efficiencies Report 2023/24	CCO	Annual
Enterprise Risk Update - Delivery of TfL Key Investment Programmes and Projects (ER8)	CCO	Annual

London Underground Track Contracts Award (TBC)	D IDP	Update
Lessons Learnt from Recently Completed Projects	CCO	Update

September 2024

Silvertown Tunnel	CCO	Annual
Piccadilly Line Upgrade	CCO	Annual
London Underground Renewals	D IDP	Annual
Bakerloo line Upgrade Stage 1	CCO and D IDP	Annual

December 2024

DLR Rolling Stock Replacement Programme	CCO and D IDP	Annual
Safe and Healthy Streets Programme	D IDP	Annual

March 2025

Environment Programme – Air Quality and Environment	D IDP	Annual
Technology Programme 2025/26 and 2026/27	D IDP and D CTO	Annual

Regular Items:

- London Underground Four Lines Modernisation (4LM) Annual Update (CCO) (June)
- Streets, Bus and Rail and Sponsored Services Renewals Programme (D IDP) (June)
- Technology Programme (D IDP) (June)
- Rail and Station Enhancements Programme (D IDP) (June)
- Capital Efficiencies Report (CCO) (June)
- Enterprise Risk Update – Delivery of TfL Key Investment Programmes and Projects (ER8) (CCO) (June)
- Silvertown Tunnel Annual Review (CCO) (September)
- Piccadilly Line Upgrade (CCO) (September)
- London Underground Renewals (D IDP) (September)
- Safe and Healthy Streets Programme (D IDP) (December)
- Environment Programme – Air Quality and Environment (D IDP) (March)
- Technology Programme (D IDP and D CTO) (March)
- Lessons Learnt from Recently Completed Projects (CCO)

Items to be scheduled:

- London Underground Lifts and Escalator Contracts (D IDP) (originally scheduled for February 2024 – December 2024 more likely)
- Elephant & Castle
- Road User Charging Contracts Award

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