



Investment programme report

Quarter 1 2024/25
(1 April to 22 June 2024)

Contents

3 Introduction

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

6 Our performance

- 7 Environmental initiatives
 - 11 Safety performance
 - 13 Strategic milestones
 - 15 Schedule performance
-

16 Major projects

- 17 Four Lines Modernisation
 - 19 DLR rolling stock and systems integration
 - 21 Piccadilly line upgrade
 - 24 Silvertown Tunnel
 - 26 Bank station capacity upgrade
-

28 Rail and station enhancements

- 29 High Speed 2
 - 30 Elephant & Castle
 - 30 Battersea Power Station western entrance
 - 30 East London line enhancement programme
 - 30 Tram replacement rolling stock
 - 31 DLR Thames Wharf
 - 31 DLR Royal Docks
 - 31 London Underground
-

33 Safe and healthy streets

- 35 Cycling infrastructure
 - 35 Vision Zero
 - 35 Pedestrian safety
 - 36 Bus priority
 - 36 Transformational schemes
 - 36 Borough funding
 - 37 Bus safety
-

38 Environment

- 39 London-wide Ultra Low Emission Zone
 - 40 Direct Vision Standard phase 2
 - 40 Electric vehicle infrastructure delivery
 - 40 Zero-emission support fleet
 - 40 Zero-emission bus fleet
 - 41 Waste heat
 - 41 Solar private wire
 - 42 Buildings decarbonisation
-

43 Technology

- 44 Operations technology
 - 46 Technology and data
-

49 Street, bus and rail-sponsored service renewals

- 50 Streets
 - 52 Buses
 - 52 River Services
 - 52 London Overground
 - 52 DLR
 - 53 London Trams
-

54 London Underground renewals

59 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 Elizabeth line is among the many services that we run for London

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, DLR, London Overground, Elizabeth line, London Trams, London River Services, London Dial-a-Ride, Victoria Coach Station, Santander Cycles and 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 I, which runs from 1 April to 22 June 2024. For each key project or programme, the financial and milestone data represent the position at the end of Quarter I, 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 the structure of the report, which 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 and major station upgrades.

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 the HS2 programme, Elephant & Castle station capacity upgrade project, the East London line, Surrey Quays station, Canada Water bus station, Signalling enhancements and power reinforcements, Tram replacement rolling stock, DLR Royal Docks and DLR Thames Wharf.

Safe and healthy streets

This programme comprises Cycling infrastructure, Vision Zero, Bus priority and Bus safety, among others.

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 (ULEZ), Direct Vision Standard phase 2, 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 programme schemes



Environmental initiatives

In April, we concluded a two-year workstream leading on the development of the UITP (International Association of Public Transport) climate change adaptation framework.

Air quality

London-wide Ultra Low Emission Zone

The ULEZ successfully expanded London-wide on 29 August 2023, ensuring five million more Londoners can breathe clearer air. The first-month report did not cover the impact of the scheme on air pollutant emissions and concentrations.

However, the recent six-month report, published on 25 July 2024, showed that, in the six months of operation, vehicle compliance in outer London increased by five percentage points – from 91 per cent in June 2023, to 96 per cent. This is nearly the same level of compliance as seen in inner and central London, with 96.5 per cent and 96.4 per cent, respectively.

In addition, in February 2024, the number of non-compliant vehicles seen driving in London on an average day had decreased by 90,000 compared to June 2023, a reduction of 53 per cent. Regarding emissions, pollutants across London in 2023 are dramatically lower than would have been expected if we hadn't expanded the ULEZ Londonwide.

Nitrogen oxide emissions from cars and vans in outer London are estimated to be 13 per cent and seven per cent lower, compared to a scenario without the ULEZ, while particulate matter exhaust emissions from cars and vans in outer London are estimated to be 20 per cent lower than they would have been, had we not expanded ULEZ to outer London.

Since 30 January 2023, the largest vehicle scrappage and support scheme of its kind in the UK has been available to assist Londoners with vehicles that do not comply with ULEZ emissions standards. Up to 26 May 2024, more than 50,000 applications had been approved, which equates to almost £180 million of support committed for eligible Londoners.

In March, the Mayor launched an expanded ULEZ scrappage scheme that gives applicants the option to donate their non-compliant vehicles to Ukraine, via a trusted partner, for humanitarian purposes. Those who choose to donate their vehicle receive the same level of grant payment that is available to those who choose to scrap their vehicle. The most recent available data shows that 409 vehicles have been accepted for donation to Ukraine since this option became available (from 15 March 2024).

A number of ULEZ support offers were also secured to help Londoners (irrespective of whether they received a scrappage grant) save money and use greener, cleaner forms of transport. This includes offers from more than 30 partners receiving money off hire and subscription services for bikes, e-bikes, cargo bikes and e-scooters, discounts on car clubs and many other great deals. To date, there have been more than 2,000 redemptions of ULEZ support offers.

This is in addition to a set of temporary exemptions ('grace periods') to support disabled people, community transport minibuses, people using wheelchair-accessible vehicles, and businesses and

charities with brand-new compliant vehicles or a retrofit solution on order. More than 7,200 applications have been accepted to date for these grace periods.

Air quality on London Underground

Our robust programme to tackle Tube dust in our stations, focuses on enhancing our cleaning, research, and monitoring, as well as using innovative technologies to reduce dust.

In May, we restarted our annual air quality monitoring in driver cabs across eight London Underground lines, which has since been completed. We also restarted monitoring at 24 London Underground stations, to run until 31 August.

We carry out air quality monitoring using specialist firm 4Rail Services primarily to measure levels of respirable dust (PM4.3). This is largely for occupational health purposes and to ensure we remain within the legal occupational exposure limits set by the Health and Safety Executive. We publish all air quality monitoring reports on our website. The results from cabs and stations are due to be published later in 2024.

Results from 2023 monitoring rounds show that dust levels on the London Underground have been falling over the last four years. In line with this programme, a trial of air filtration units recently went live at Baker Street station and will run for around six months to test the effectiveness and practicality of this type of technology at tackling dust on the Tube. Data will be collected and monitored throughout to ascertain the effectiveness of this technology.

Climate emergency

Zero-emission buses

We exceeded our target for the end of March for 1,400 zero-emission buses in our fleet. At the end of June, we had more than 1,500 buses in operation using electric energy or hydrogen instead of fossil fuels and remain on target to increase that number to 1,900 by the end of the 2024/25 financial year. London continues to have the largest zero-emission bus fleet in western Europe, having grown from just 30 buses in 2016. Since March this year, four further routes have converted to zero emission – namely routes 152, 276, 307 and 384.

Our opportunity-charging trial on route 358, launching later this year, will continue to build on the electric bus charging infrastructure network by using pantograph technology. This commitment to make best use of technology to accelerate positive outcomes is a core part of our vision to be a strong, green heartbeat for London.

Buildings decarbonisation

Our multidisciplinary Net zero matrix team is leading on our wider work to decarbonise and achieve the Mayor's target of a net zero London by 2030. The team commissioned a series of feasibility studies to explore the options and opportunities for phasing out fossil fuel-based heating systems and implementing energy efficiency measures to improve building performance. These studies have been conducted at a range of operational sites from different transport modes, in partnership with Arcadis.



Sustainable drainage slows the rate of surface runoff to reduce flooding

The first package looked at 19 buildings, including depots, maintenance buildings, track offices and train crew accommodations. The studies are now complete and are being reviewed.

A prioritisation exercise to determine which sites will progress to the next stage of design is currently underway. The results of this exercise will also help to inform which sites are most suitable for a Department of Energy Security and Net Zero Phase 4 Public Sector Decarbonisation Scheme application, which is expected to be open for grant funding applications later in 2024.

LED upgrades across the network

We continue to transition our network to LED lighting to make it brighter, safer and more energy efficient. To date, 95 per cent of bus shelters, 67 per cent of street lighting on the TfL Road Network and 47 per cent of London Underground stations have been converted. LED lighting consumes approximately 57 per cent less energy than fluorescent lighting while providing brighter light in our public spaces, making them safer for our customers, especially those travelling at night.

Keeping materials in use: connecting schools with digital services

As of June, we have distributed more than 800 repurposed laptops and iPads to 38 London state schools. Since 2020, our colleagues have been repurposing our decommissioned IT equipment as part of the Devices for Schools initiative. The devices no longer have commercial value for TfL and volunteer time is used to decommission them. Approximately

79 per cent of the total embodied carbon of equipment like this comes from the sourcing of its components and the energy used in manufacturing, therefore finding opportunities for re-use helps significantly reduce the environmental impact of these products. The next phase of Devices for Schools aims to connect up to 60 schools with 6,000 iPads, laptops and computers.

Power Purchase Agreement

Our first Power Purchase Agreement tender is a vital step towards ensuring that our operations can be net-zero carbon by 2030. The tender encourages the market to increase the volume of new renewable energy supplying the National Grid, thereby providing 'additionality' (new renewable generation). We are progressing with the procurement and contract award is expected later in the autumn.

The Office of Rail and Road review

The Office of Rail and Road (ORR) has updated the environmental guidance associated with its licence conditions for railway licence holders. As part of assuring the implementation of the new guidance, the ORR undertook a review of railway licence holders' environmental arrangements, supported by infrastructure consultants AECOM.

The review process has been ongoing since July 2023, with 60 licence holders reviewed, 30 of which were sampled for a quality review and five invited for interview. The results were positive for TfL, with the full report providing a useful quality matrix scoring guide and recommendations that we can use, review and take forward.

Tolworth Roundabout

Works on Tolworth roundabout were completed in May. This included the installation of more than 7,750 square metres of Sustainable Drainage Systems (SuDS) catchment.

The high risk of flooding in London means the network of sewers and drains are at, or near, capacity in many areas.

SuDS help to reduce the risks of flooding by managing and slowing the rate of surface water runoff into our waterways and sewage systems. They also have a variety of other benefits, including helping to reduce the levels of pollution entering our waterways, and can support biodiversity. In the last financial year, we delivered 11,420 square metres of catchment into highway SuDS, exceeding our annual commitment of 5,000 square metres. This year, we have a TfL scorecard target to deliver 9,000 square metres of catchment into SuDS.

Gallows Corner carbon champion

Reducing our carbon impact at Gallows Corner in Romford has resulted in the project being awarded Carbon Champion status by the Institution for Civil Engineers.

Following a carbon modelling assessment, the team responsible for the Gallows Corner flyover project is choosing to refurbish the flyover rather than replace it, meaning its carbon impact is anticipated to be reduced by around a third.

The project is now our third to be awarded Carbon Champion status. A project needs to have achieved, or be projected to achieve, quantifiable carbon savings in order to be awarded this status.

UITP framework

In April, we concluded a two-year workstream leading on the development of the UITP (International Association of Public Transport) climate change adaptation framework. This sets out seven clear stages that organisations in the public transport sector should follow to begin and develop their adaptation journey and enhance organisational maturity. We included case studies to show practical examples of how organisations across the globe are adapting to climate change.

The four recommendations of the framework are:

- Public transport organisations should exercise a leadership role in developing a new mindset, leading to greater awareness and a strategic approach on climate change adaptation across the sector and beyond
- Public transport organisations should develop holistic climate risk management to implement appropriate adaptation measures
- Public authorities should support cities and public transport systems by developing a policy toolkit dedicated to climate change adaptation
- Funding organisations should dedicate appropriate funding and financing to support adaptation to climate change of public transport systems

Green infrastructure and biodiversity Wildflower verges

Our Green infrastructure and biodiversity plan set out the steps we are taking to support London's response to the ecological crisis by protecting, connecting and enhancing the city's green infrastructure and biodiversity.

Wildflower verges encourage biodiversity, supporting pollinators such as bees and butterflies, which in turn help wildflowers to thrive. Many other insects, birds and small mammals' habitats are also enhanced by these verges, which create a supply of food, nectar and shelter.

This spring, we met our target to double our wildflower verges for a second year in a row from 130,000 square metres in 2023 to 260,000 square metres in 2024, which is equivalent to 36 football pitches. We will continue to maintain these verges to ensure they remain safe for all road users.

Planting street trees

Tree canopy, the area covered by tree foliage, covers approximately 19 per cent of our estate and plays an important role in supporting climate adaptation in London. Trees can help to reduce the risk of surface-water flood in built-up areas and also provide shade and cooling in warm weather.

We have completed an assessment of the most suitable methodology and tools to use to model changes in tree canopy cover

over time. The next step will be to proceed with the modelling work, which will help us identify tree-planting opportunities and draft a Tree canopy cover plan by March 2025. This plan will detail how we will increase tree canopy cover across our estate by 10 per cent by 2050, compared with the 2016 baseline.

Our 2023/24 street tree-planting programme saw a net increase of 236 street trees, which takes our total to 25,031 street trees now planted across London. This means we have met the Mayor's target of a one per cent annual increase in the amount of street trees planted since 2016.

Funding for a habitat bank

For all our projects that go through planning, we are under a legal obligation to increase biodiversity by at least 10 per cent for that site. Ideally, biodiversity net gain will occur on the site under development, however where this is not possible, we are able to deliver this on other parts of our estate, or purchase 'offsets' from another provider.

To help reduce the costs of delivering biodiversity net gain, we are working on a bid to the GLA for funding that would allow us to create our first habitat bank. A habitat bank would enable us to deliver biodiversity units on our estate to support development projects and may also have potential to generate revenue through the sale of surplus units.

Sustainable resources

Removal of polychlorinated biphenyl from London Underground

Work to remove assets suspected of containing polychlorinated biphenyl (PCBs) from the London Underground network will be completed by December. The Environment Agency visited London Underground in June to view the last of the PCB removal work from signalling assets. PCB removal from all other asset classes is complete.

Sustainability awareness toolkit launch

In May, we launched our Sustainability awareness toolkit across the business. Following the Sustainability Summit, and sustainability awareness training for directors and senior managers in autumn 2023, the toolkit was created to provide a 20 to 30-minute presentation to cascade the basics about sustainability throughout TfL. It contains talking points for use at a team meeting or away day to inform and support meaningful discussions about helping TfL to become a more sustainable organisation.

Carbon literacy update

We have now trained more than 5,000 colleagues in carbon literacy since we began offering the course in July 2022. This milestone highlights our commitment to sustainability and the collective effort of our volunteer trainers and coordinators across the business. Our carbon literacy training programme was also highly commended in the sustainability category at the 2024 Chartered Institute of Highways and Transport awards in June.



We continue to add to the 25,000-plus street trees planted on our roads

Safety performance

The full safety report on the network is contained in the Safety, health and environment report. The update for Quarter I 2024/25 below is for the programmes mentioned in this Investment programmes report

Capital

Capital includes all activity under the Chief Capital Officer and maintenance activity under the Chief Operating Officer. In Quarter 4, our Capital programmes and projects delivered a combined total of 1.4 million site-based hours, an increase of 0.2 million on the previous quarter.

Quarterly performance

In Quarter I, there were no incidents which required reporting under the Reporting of Injuries Diseases and Dangerous Occurrences Regulations 2013 (RIDDOR). As a result, the RIDDOR accident frequency rate for the Capital has reduced to 0.02. This is below the target of 0.06.

There was a total of six injuries (all minor) reported during Quarter I for Capital, none of which were registered as lost-time injuries, with no common causes. Injuries to colleagues working in Capital continue to remain at a low level as we work towards our zero harm ambitions.

This is consistent with the number of injuries that occurred during the same period in 2023/24, with five occurring.

Of these incidents, two were colleagues directly employed by TfL and four were from our supply chain. There were no common trends or patterns that could be identified between the incidents themselves.

This results in the all-injury frequency rate for TfL colleagues in Capital increasing to 0.23, above the target of 0.08, and the rate for TfL contractors increasing to 0.64, above the target of 0.40.

Although the performance data demonstrates a slight increase in the rates of minor injuries, it demonstrates an improvement in the overall safety performance of the directorate by the reduction of major injuries resulting in either RIDDOR or lost time. This performance is also favourable in comparison to similar client organisations, with TfL Capital's incident, lost time and RIDDOR frequency rates significantly below the sector average.

There have been no significant incidents that have occurred because of activities undertaken by the Capital directorate.

However, as part of the Telecommunications commercialisation programme for Technology and data, there were two fire incidents, both of which occurred during engineering hours. One was at Charing Cross on 27 May and the other at Edgware Road on 20 June. These small fires were the result of drilling into metal fixtures undertaken by a contractor, which resulted in hot swarf igniting hidden dust and debris.

These incidents have been reported to the Office of Rail and Road as RIDDOR reportable dangerous occurrences and recorded under operations in the TfL performance data. The suppliers involved have been very proactive in sharing their investigation findings. TfL issued a SHE alert and has launched a formal investigation, both to understand the root causes and look at the wider issues involved in how we can effectively assure ourselves on the work of others on our infrastructure.

Confrontations associated with ULEZ still featured highly in the quarter. Incidents included an assault, eggs and white spirit thrown, a car kicked and vehicles blocked in, as well as faulty cameras stolen after a confrontation.

We continue to work with our supply chain, the police and the wider GLA community to identify ways of reducing these incidents as well as undertaking training and briefing sessions on reducing conflict and conflict resolution for our colleagues. In Quarter I, there were five arrests. Two have been convicted and two charged. One case was closed as CCTV was unavailable.

Improvement activity

The Four Lines Modernisation project held two sessions with a high level of interaction to share and discuss some of the wider lessons learnt from the Sandilands tram tragedy.

Wingate are replacing lighting at Kings Cross. They now deploy defibrillator units to their site teams, which will be available to TfL staff and public too if needed.

Capital SHE strategy

This quarter we launched the Capital SHE strategy, which places safety, health and environment at the heart of everything we do, providing a framework to deliver improvements in SHE performance across the value chain for capital and asset management.

The strategy supports TfL's aims of 'Everyone home safe and healthy every day' and 'Tackling the climate and ecological emergency', with an overall ambition of preventing harm. Capital will lead by example to reduce all forms of harm and embrace solutions to protect and enhance our environment.

The strategy supports this ambition by focusing on three SHE outcomes:

- Improve Capital's SHE performance
- Deliver on TfL's Safety and health and Green strategic priorities and success measures
- Build a proactive SHE culture

This three-year strategy sets out how we will achieve the outcomes, with a clear trajectory to meet TfL's 2030 strategic targets.



Our on-street services team works to improve safety for all customers

SHE culture

To improve our safety, health and environmental performance, we are working to establish a more positive and proactive SHE culture across the organisation. This means ensuring SHE is at the heart of everything we do, so that colleagues feel responsible and enabled to improve the way we operate.

SHE culture assessments

Over the past year, teams have been completing assessments to measure their SHE culture and understand where improvements can be made.

In Quarter I, more than 2,000 colleagues took part in the assessment process across our London Underground operational planning, Elizabeth line, Licensing and regulation, and Crime, policing and on-street services teams. In addition, three teams published action plans with targets for improving their SHE culture.

SHE culture programme

Alongside local improvement plans, we are delivering a series of business-wide projects to improve TfL's SHE culture.

This includes a focus on improving our approach to SHE leadership, building a just and fair culture where colleagues feel fairly treated and enabled to report, and creating a learning organisation where colleagues are empowered to share lessons to drive continuous improvement.

In Quarter I:

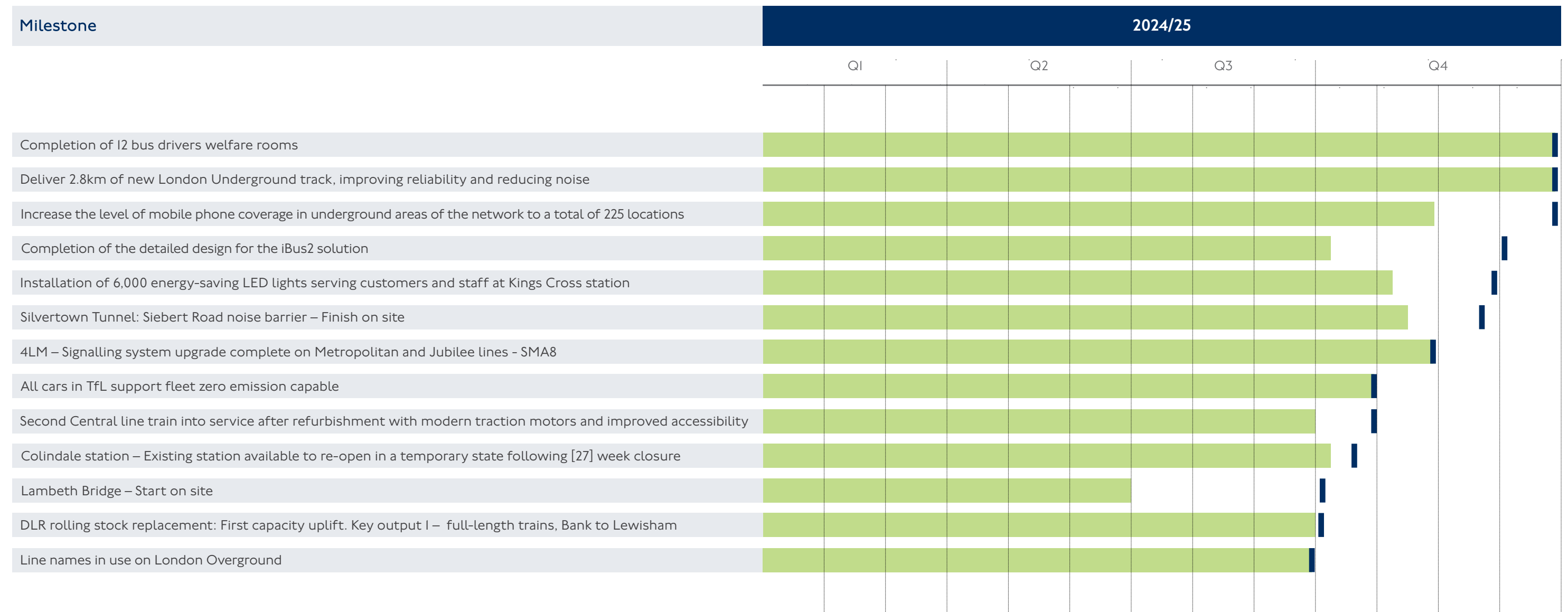
- A total of 106 SHE leadership engagement tours were completed. These aim to improve leadership visibility and engagement on SHE
- Forty-eight colleagues completed our new online training courses on SHE leadership engagement and 'Just and Fair'
- Five CIRAS (confidential incident reporting and analysis system) reports were received from London Underground and two from Buses. Specific trends are not visible at this point of the year, however there were a variety of different issues in relation to personal and customer safety. All CIRAS reports received in Quarter I have been actioned and feedback given to staff

Strategic milestones

We delivered two of the 26 milestones set for the year in Quarter I

All strategic milestones scheduled for completion in Quarter I were achieved on time. Two milestones are forecast to be late and 22 milestones are on track.

Below are our strategic milestones for 2024/25. The solid blue bar shows when the milestone is 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
 ■ Planned delivery date

Strategic milestones 2024/25 (continued)



■ Delivered on time or earlier than planned
 ■ Delivered less than 90 days later than planned
 ■ Planned delivery date

Schedule performance

We achieved the two milestones scheduled for completion in Quarter I on time. Two milestones are forecast to be late

Milestones achieved on time

Street, bus and rail-sponsored services renewals – Completion of trams track renewal

We successfully completed the East Croydon and George Street trams track renewals in April 2024, in Quarter I.

London Underground renewals – Crossrail residual work – Completion and commissioning of critical system upgrades to Elizabeth line signalling system

We successfully completed and commissioned the critical system upgrade to the Elizabeth line signalling system at the beginning of June 2024.

Milestones forecast to be late

London Underground renewals – Jubilee line (fleet overhaul and component renewal) – Train underframe refurbishment complete on the first 48 trains of the Jubilee line fleet

This strategic milestone slipped in the last two months due to shortage of staff, which has now been rectified. As a result, the milestone has stabilised, and we plan to recover lost time through new ways of working.

London Underground renewals – Northern line (Kentish Town escalators) – Kentish Town London Underground station re-opening following escalator replacement

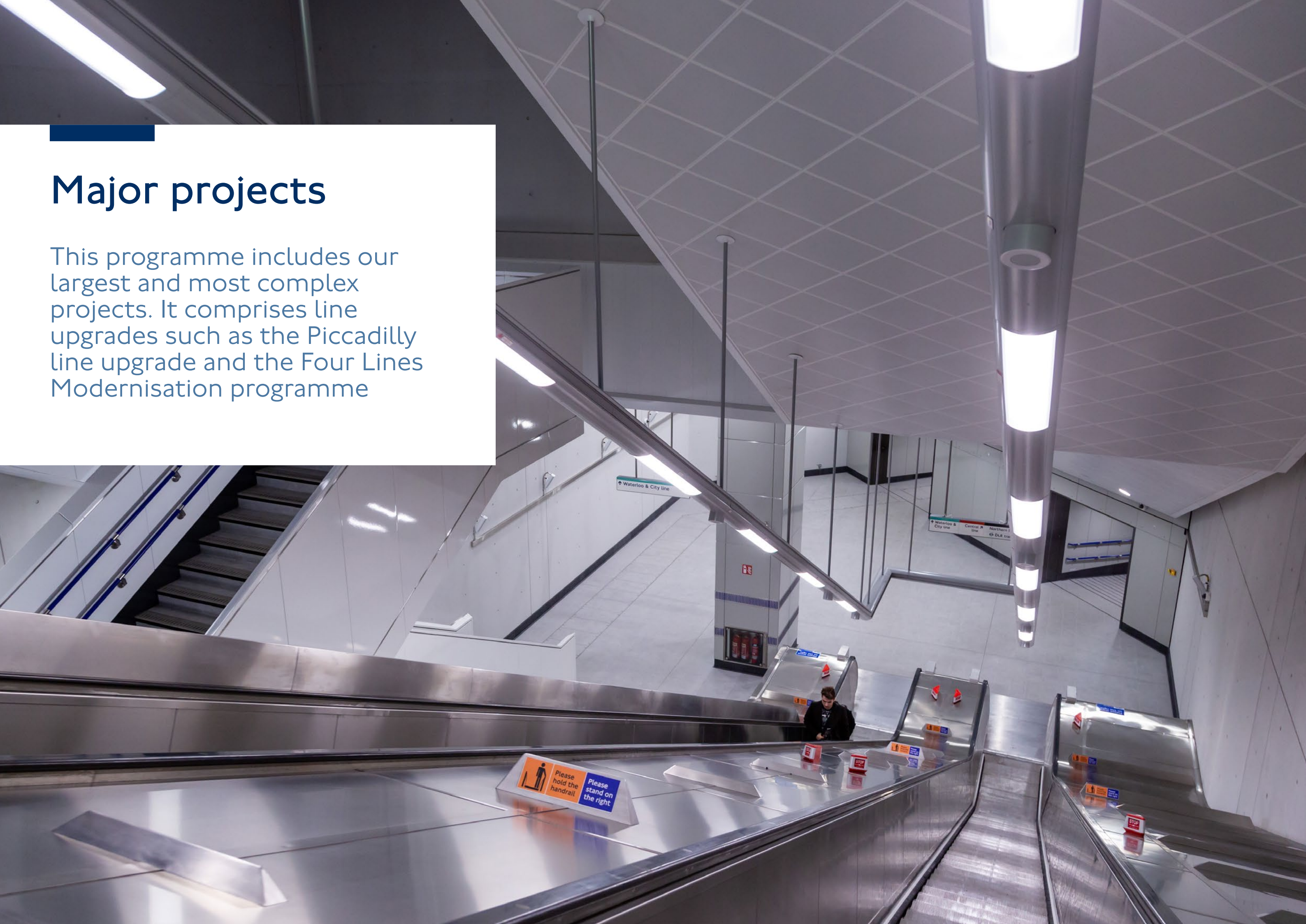
The condition of some structural elements of the station, which could not have been inspected prior to the start of the project, has been assessed as beyond repair. The team has had to increase the project scope to include the replacement of these parts. This comes with additional design, manufacturing, installation and concrete-curing times that are now critical to opening the station. As a result, the completion date has been pushed back, and the forecast has been revised to December 2024, based on the critical path activities.



Upgrades to the Elizabeth line signalling system were completed in June

Major projects

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



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)
Q1 2026/27	5,379	190	5,569	5,520	(49)
Change since last Investment programme report					
2 quarters later	16	27	43	No change	

Financial commentary

The estimated final cost (EFC) for the programme has increased by £43m since the last report, reflecting both additional risk provision combined with the change in the forecast completion date for the final signal migration area (SMA), which has been revised to Quarter I 2026/27.

The extension of the programme is principally due to the technical complexity of the next two SMAs to go live (SMA 8 and 9), which has necessitated additional development and testing of the signalling software to ensure it operates reliably.

A review of cost and time has been undertaken, which informed an increase in Programme and Project Authority to £5,541m and was approved at the

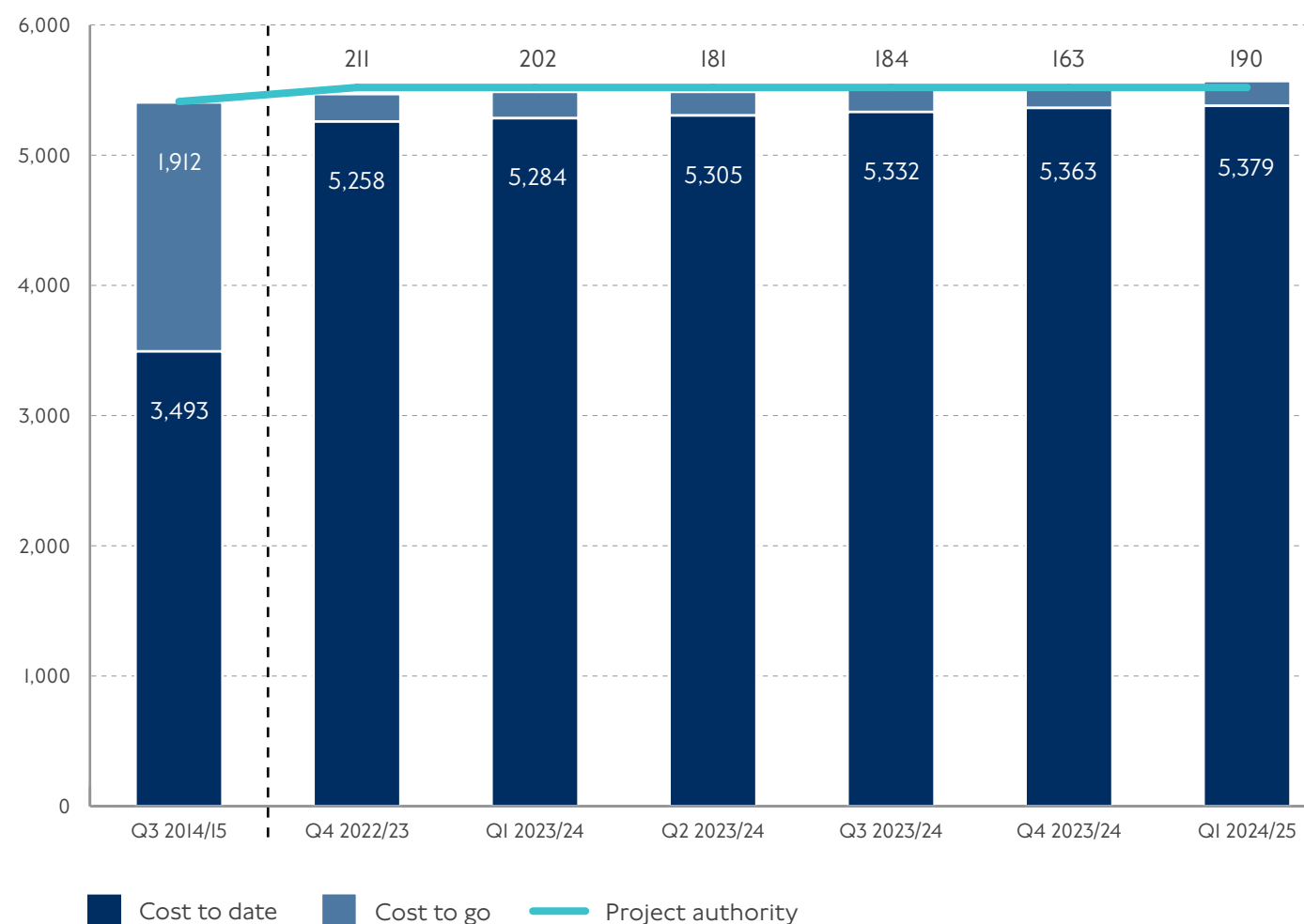
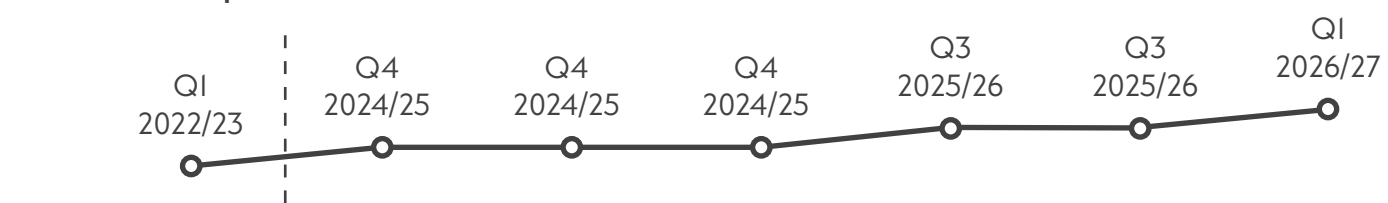
Programmes and Investment Committee meeting on 26 June 2024. As this approval was after the close of the reporting period for Quarter I (Periods 1-3), this will be reflected in the table and graph in the Quarter 2 2024/25 report.

The EFC will remain above Programme and Project Authority due to the included risk provision which reflects that Four Lines Modernisation is a complex and challenging programme and remains under both schedule and cost pressure as we progress with the development and commissioning of the most complex areas.

We continue to explore a range of opportunities to mitigate these pressures where possible, including assessing the benefits of different delivery strategies.

Estimated final cost performance over time (£m)

Forecast completion date



All the figures in the table above are shown excluding income and third-party contributions.

Performance over time commentary

The forecast completion date shows when the final SMA is expected to 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, closure availability and, to a slightly lesser extent, the coronavirus pandemic.

Following a detailed collaborative review with our signalling supplier we now expect to deliver the next SMA (SMA 8) in Q4 2024/25 and the final SMA (SMA14) in Quarter 1 2026/27. The revised schedule reflects an updated assessment of the timescales for development, testing and commissioning as well as the completion of operational readiness activities.

Programme update

The Four Lines Modernisation programme is transforming the Circle, District, Hammersmith & City and Metropolitan lines by replacing ageing infrastructure. It has already provided 192 modern, air-conditioned walk-through trains and is in the process of introducing a new digital signalling system which will make journeys faster and more reliable.

The programme is delivered by progressively installing new signalling on sections of the railway known as SMAs. The new automated signalling system is already in operation through 62 stations, including the whole of the Circle and Hammersmith & City lines, as well as the central section and east end of the District line.

The remaining areas still to go live with the new signalling system include the Metropolitan line north of Finchley Road (SMAs 8, 9, 13 and 14) and small sections of the west end of the District line from Barons Court to Stamford Brook and Fulham Broadway to East Putney (SMA 10/12 Boundary Moves).

We have made significant progress in designing and installing the remaining trackside signalling assets, with installation of these assets now substantially completed.

The programme is now principally focused on the development, implementation and testing of the signalling software to enable the new signalling system in the remaining SMAs to go live.

The Metropolitan line areas are the most technically complex areas in the programme. They present significant and unique challenges, which are associated with the integration of the new signalling system with the Jubilee line and Neasden depot train control software, along with the management of manually driven Chiltern trains and integration with the Piccadilly line.

We have continued to make progress in developing and testing the new signalling software in the next two areas to go live, SMA 8 (Finchley Road to Preston Road) and SMA 9 (the Harrow area).

The most recent system testing on site was conducted during a weekend closure on 13 and 14 July in SMA 8. During this closure we were able to test all train stock types that operate in this complex interoperable area, complete a volume of outstanding test scope-and-see fixes to issues that had been identified in previous testing. This represents a significant step, with the team gathering new evidence to support readiness to go live in early 2025.

Preparations for the introduction of a new timetable in early 2025 are also continuing. This new timetable will improve average journey times between Stepney Green and Upminster by five to 10 per cent. This builds on previous journey time improvements the programme has already delivered of up to 10 per cent in SMAs 1-5.

Works are progressing on the planned upgrades to the heavy-lifting shed at Neasden depot.

The detailed design for the new staff accommodation block is planned for completion in Quarter 2 2024/25 and will include a number of sustainable technologies to minimise operational carbon and environmental impact, including a solar panel system (with any excess electricity feeding back into the London Underground supply network), LED lighting and a new, efficient intelligent heating and cooling system. Once built, these facilities will enable the planned overhaul of the Metropolitan line train fleet.

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)
Q3 2027/28	540	402	942	881	(61)
Change since last Investment programme report					
No change	No change	No change	No change	No change	

Financial commentary*

There has been a significant EFC increase to the programme as a result of the insolvency of the principal contractor delivering infrastructure works at Beckton depot in Quarter 2 2023/24, 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 and will provide a further update to the Programmes and Investment Committee in October 2024 and, if required, seek additional Programme and Project Authority.

Performance over time commentary*

Since Programme and Project Authority was granted in 2019, we have received approval from the then Government to purchase II

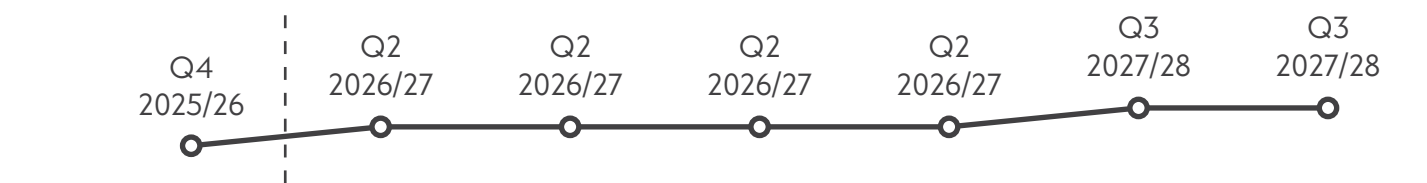
additional trains funded through the Housing Infrastructure Fund (HIF). The increase in EFC from Quarter 4 2018/2019 reflects the additional scope associated with the £261m of grant funding from the then Government to deliver the HIF scope of works.

The EFC in Quarter 4 2023/24 reflects a reappraisal of 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. This has resulted in a higher range than our initial estimates and a higher mid-point, which is reflected in the current forecast. The planned completion date is now based on incorporation of the HIF-funded works to the schedule.

All the figures in the table above are shown excluding income and third-party contributions.

Estimated final cost performance over time (£m)

Forecast completion date



* The Financial commentary and Performance over time commentary above are as per Quarter 4 2023/24, while we review our position. We hope to provide an update in the Quarter 2 report.

Rolling stock delivery

We have previously advised of some issues during train integration testing in late 2023. The engineers have developed a plan to overcome these issues. However, while doing this, they have identified a pre-existing technical issue with the legacy signalling system which has resulted in a series of speed restrictions being introduced in some sections across the DLR network. This issue was identified outside the reporting period but, due to the significance, it is being included in this report.

Work is underway to optimise these speed restrictions, which will hopefully minimise the impact to customers on the DLR network. As a result of the legacy signalling issue, further detailed analysis is also required for the new trains, alongside existing software modifications. This has meant the new DLR trains will not be able to be introduced this year. We do now have a solution for the new trains to enter passenger service, but the initial programme is currently being stress-tested and optimised. A further update will be given at the next meeting.

Beckton depot and network infrastructure

We continue to work to mitigate the impact of the insolvency of our northern sidings contractor, Buckingham Group.

We have implemented interim alternative arrangements to progress the works through Morgan Sindall Infrastructure Ltd, our southern sidings and maintenance building contractor, while we finalise the variation to their existing contract. After overcoming a number of challenges in the transfer of these works between contractors, physical works on the northern sidings to allow them to be commissioned are now complete and we anticipate completing the remaining works and bringing the northern sidings into use in Quarter 2 2024/25.

Works are progressing in parallel on the southern sidings and we anticipate bringing these into service shortly after the northern sidings. The invitation to tender for the design and build contract for the new southern expansion of Beckton depot, funded through the HIF, has been issued, with responses received in July.

Construction has started on a second entrance at Blackwall station, with piling works now complete. Enabling works for the superstructure of the steelwork for the new entrance have begun. Power resilience works have been completed on three of four routes on the DLR network.



The manufacture of new DLR rolling stock in Spain continues on schedule

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 2027/28	1,161	1,895	3,056	2,994	(62)

Change since last Investment programme report				
12 months later	60	(60)	No change	No change

Financial commentary

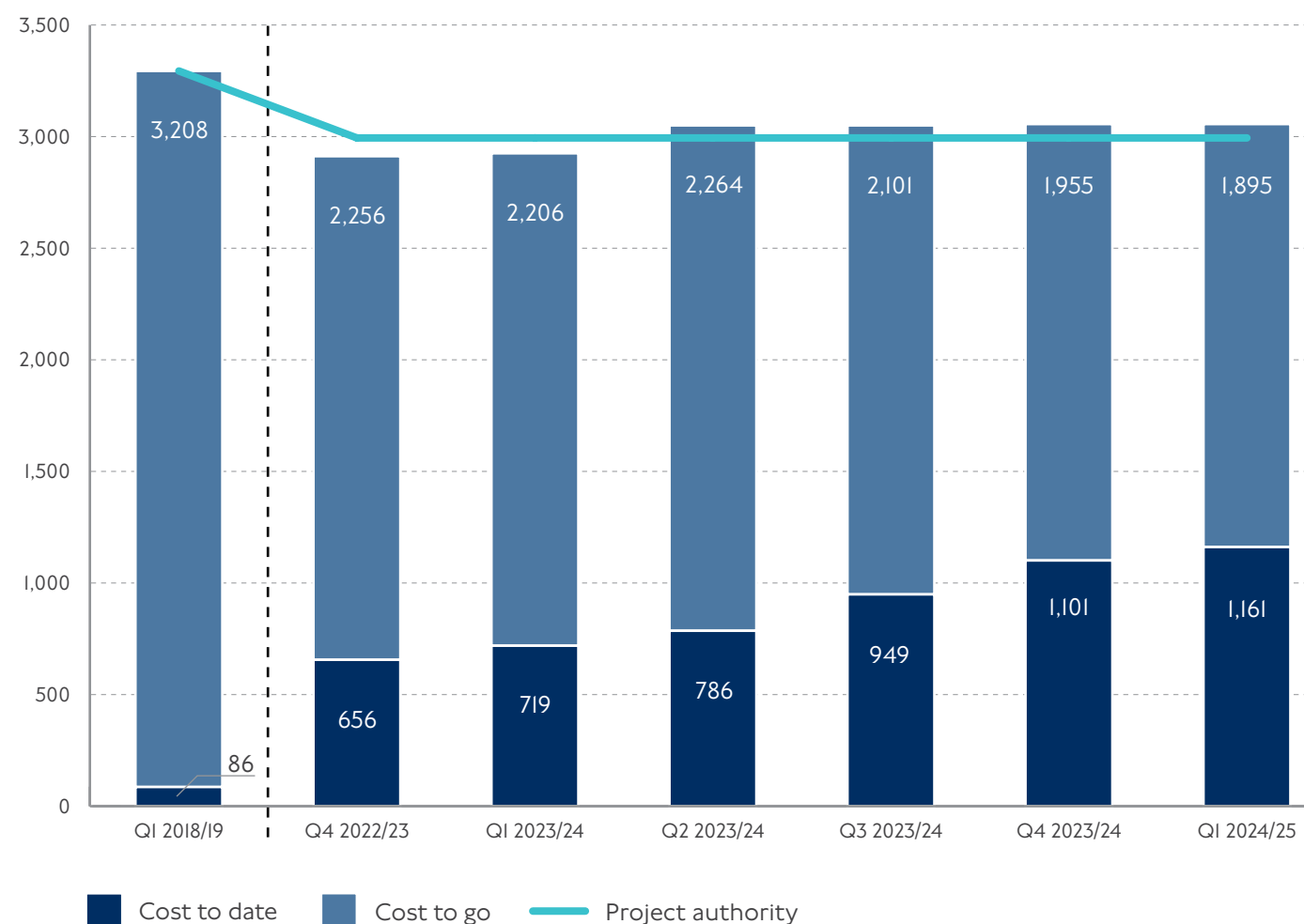
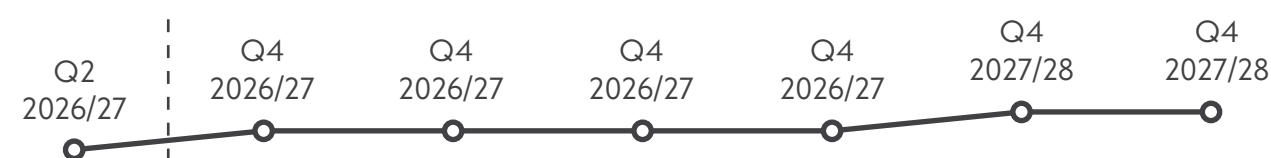
In Quarter 1 2024/25, the EFC has remained unchanged at £3,056m, which exceeds the current Programme and Project Authority of £2,994m. The EFC of £3,056m incorporates the impact of the revised rolling stock delivery schedule as agreed with Siemens, as previously reported at Quarter 4 2023/24.

The revised schedule agreed with Siemens was endorsed at the Finance Committee on 22 December 2023, where it was also confirmed that, despite the train production schedule being extended by 12 months, the first train would still be delivered to London in 2024, entering service in 2025, and the planned timetable frequency increase to 27 trains per hour is still expected to be achieved in 2027/28.

The underlying increase has been partially offset by opportunities identified to reduce costs during a detailed review of the EFC in Quarter 4 2023/24. We have now built on this work and have a plan in place to lower the EFC back to the existing Programme and Project Authority. This will be achieved without compromising programme outcomes and will be embedded in the forecast over the next 12 months, once these opportunities are realised.

Estimated final cost performance over time (£m)

Forecast completion date



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

All the figures in the table above are shown excluding income and third-party contributions.

Performance over time commentary

As reported to the Programmes and Investment Committee 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 have also been increased to reflect schedule risks and the associated impacts.

In December last year, a proposed extended rolling stock manufacturing and testing programme was taken to the Finance Committee for endorsement. This offered TfL value for money and had advantages compared to alternative options of train storage following a number of programme challenges.

The manufacturing and delivery schedule for the new Piccadilly line trains has now been agreed and will be completed 12 months later than previously planned. The schedule remains challenging, but is on target to achieve the key output of a peak service frequency uplift to 27 trains per hour during 2027/28. The first train to enter revenue service remains on track for the end of 2025.

Programme update

The revised profile for train delivery has been incorporated into the programme schedule.

We remain on track to begin system integration testing on the Piccadilly line with the first new train, shortly after its arrival later this year.

As previously reported, the revised delivery profile has enabled Siemens Mobility Ltd to re-configure their supply chains to transfer the majority of the new train assembly to the UK, with around 80 per cent of the new Piccadilly line trains now planned to be assembled at their new facility in Goole, Yorkshire.

Good progress continues to be made on the delivery of infrastructure and system-enabling works to ensure the existing railway will be ready to support the testing of the new train later this year.

Further significant work has been completed to refine the plan for reduction in the EFC for the programme to within the current Programme and Project Authority. We are working with our supply chain partners to drive innovation and identify opportunities to reduce delivery costs further, including creation of value-engineered solutions in key areas.

New trains

The new higher-capacity Siemens trains will be accessible and feature walk-through interiors, saloon air-cooling (for the first time on a Deep Tube train) and all-double doorways to improve boarding and alighting.

Modern audio/visual communication systems will include digital display screens for live customer information and advertising, a new CCTV system for the train operator to view the platform-to-train interface from the driving cab, and improved customer security cameras.

The manufacturing contract with Siemens is progressing well, with the first two fully assembled trains continuing an extensive programme of pre-delivery performance and reliability testing at Siemens' test and validation centre at Wildenrath, Germany.

This has included testing to evaluate the performance of on-board systems under extreme temperature conditions, vehicle sway characteristics and crush-loaded traction and braking performance.

Results to date have been very positive and we expect the new train to fully meet technical specification requirements and performance expectations.

The rephasing of the train delivery schedule and timing of payments agreed under the contract with Siemens have not affected the delivery of the first test train to London, which remains on target. The first new trains have begun assembly at Siemens' new factory in Goole. Siemens is investing up to £200m, creating up to 700 jobs at the factory and 1,700 new jobs in the supply chain.

The Piccadilly line upgrade is a key contributor to our Green strategy and the ambitions and targets of the Mayor's Transport Strategy, the London environment strategy and our Corporate Environment Plan. The withdrawal of the legacy 1973 Tube stock fleet and introduction of new energy-efficient 24 Tube stock trains will enable the progressive introduction of regenerative braking on the Piccadilly line, which will reduce annual traction energy consumption by more than 20 per cent.

Infrastructure is being designed to minimise whole-life carbon and the Piccadilly line upgrade carbon baseline is being updated to reflect the current delivery strategy.

Enabling works

Infrastructure enabling works are progressing in line with the revised delivery strategy, which supports systems integration testing with the new trains and facilitates earliest arrival of new trains at the Cockfosters depot for maintenance familiarisation and staff training. This includes infrastructure clearance and gauging works to enable new train operation.

Extensive use is being made of a programme of planned possessions and closures to minimise disruption and enable co-ordination of infrastructure enabling works with other London Underground programmes to maximise efficiency of access to the railway.

Good progress is being made with the new training platform for the one-person operation closed circuit TV system, with the start of installation works at stations across the line following system software testing and design.

New platform stopping markers are being installed for the new trains at all stations across the Piccadilly line.

Work is progressing on high-voltage power supply upgrades at Northfields and Cockfosters stations to support the increased power loads at the train maintenance depots.

Depots

Modifications are progressing in the existing depots at Northfields and Cockfosters to provide initial maintenance facilities for the first new trains.

The construction of three new stabling and reversing sidings at Northfields is substantially complete, with final commissioning planned for October 2024.

At Cockfosters depot, site preparation and enabling works are underway for the new wheel-lathe facility and a contract has been awarded for building construction.

The first of two new cab simulators is being commissioned in readiness for the start of train operator training and arrangements are being finalised for installation.

Good progress continues to be made on the design-and-delivery planning for the end-state depot facilities, with input from the contractors engaged to provide early contractor involvement, which aims to reduce the schedule and cost to complete both depots.



A Piccadilly line train undergoes maintenance checks at Northfields

Network extensions

Silvertown Tunnel

Forecast completion	Net cost to date (£m)	Net cost to go (£m)	Net EFC (£m)	Programme and Project Authority (£m)	Variance: EFC versus authority (£m)
Q4 2024/25	127	53	180	176	(4)

Change since last Investment programme report				
No change	2	(2)	No change	No change

Financial commentary

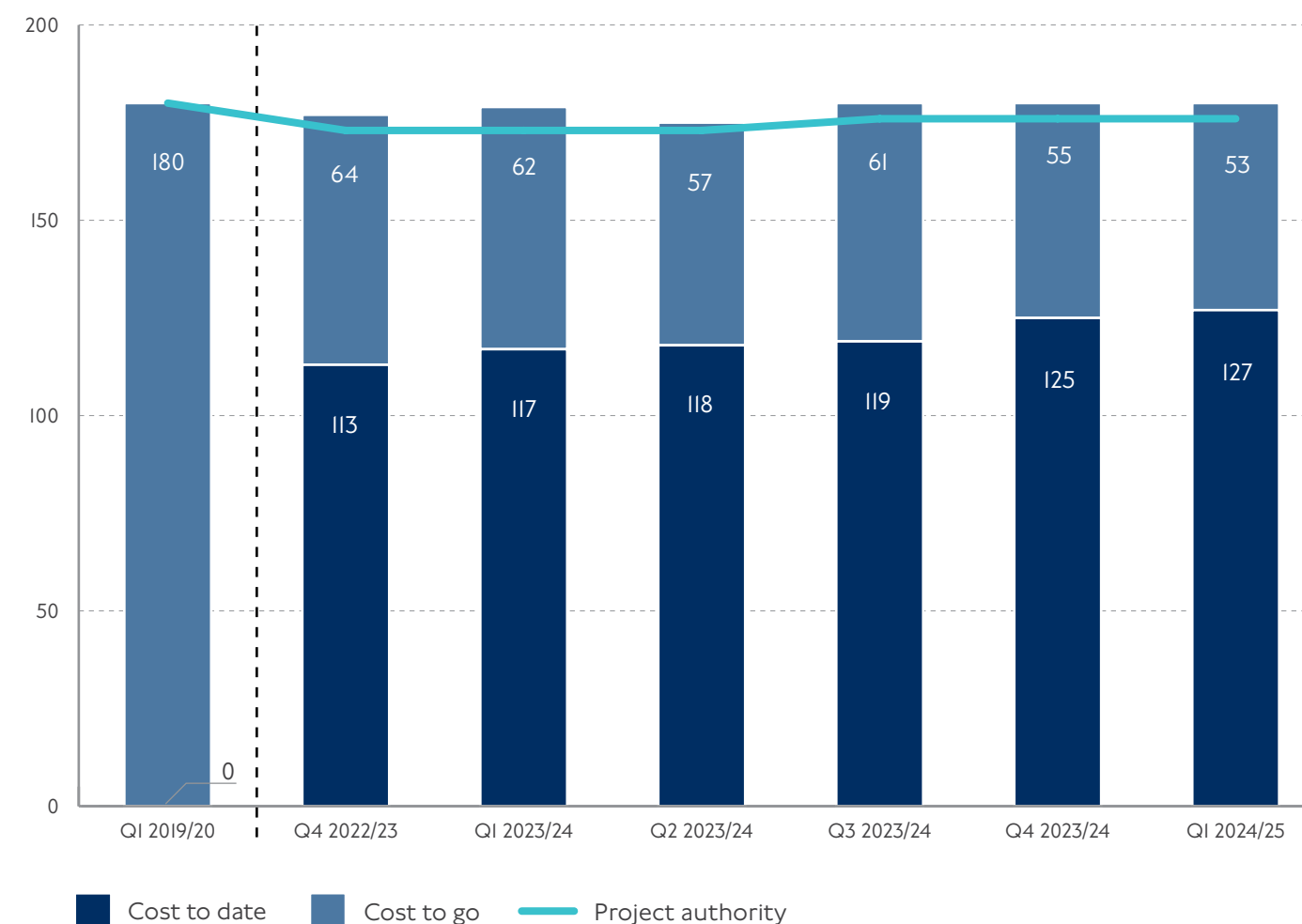
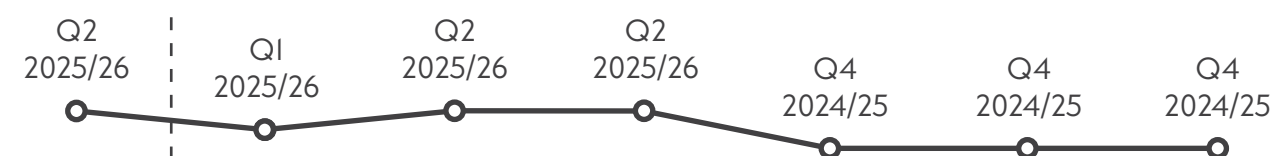
The EFC is currently £4m over Programme and Project Authority due to COVID safe stop and inflation. The project team continues to look for ways to bring the EFC back in line. The forecast permit-to-use date remains in Quarter 4 2024/25.

Performance over time commentary

The forecast end date is when the permit from an independent assessor to use the new Silvertown Tunnel is obtained. Forecast permit to use remains in Quarter 4 2024/25.

Estimated final cost performance over time (£m)

Forecast completion date



All the figures in the table above are shown as inclusive of income and third-party contributions.

Programme update

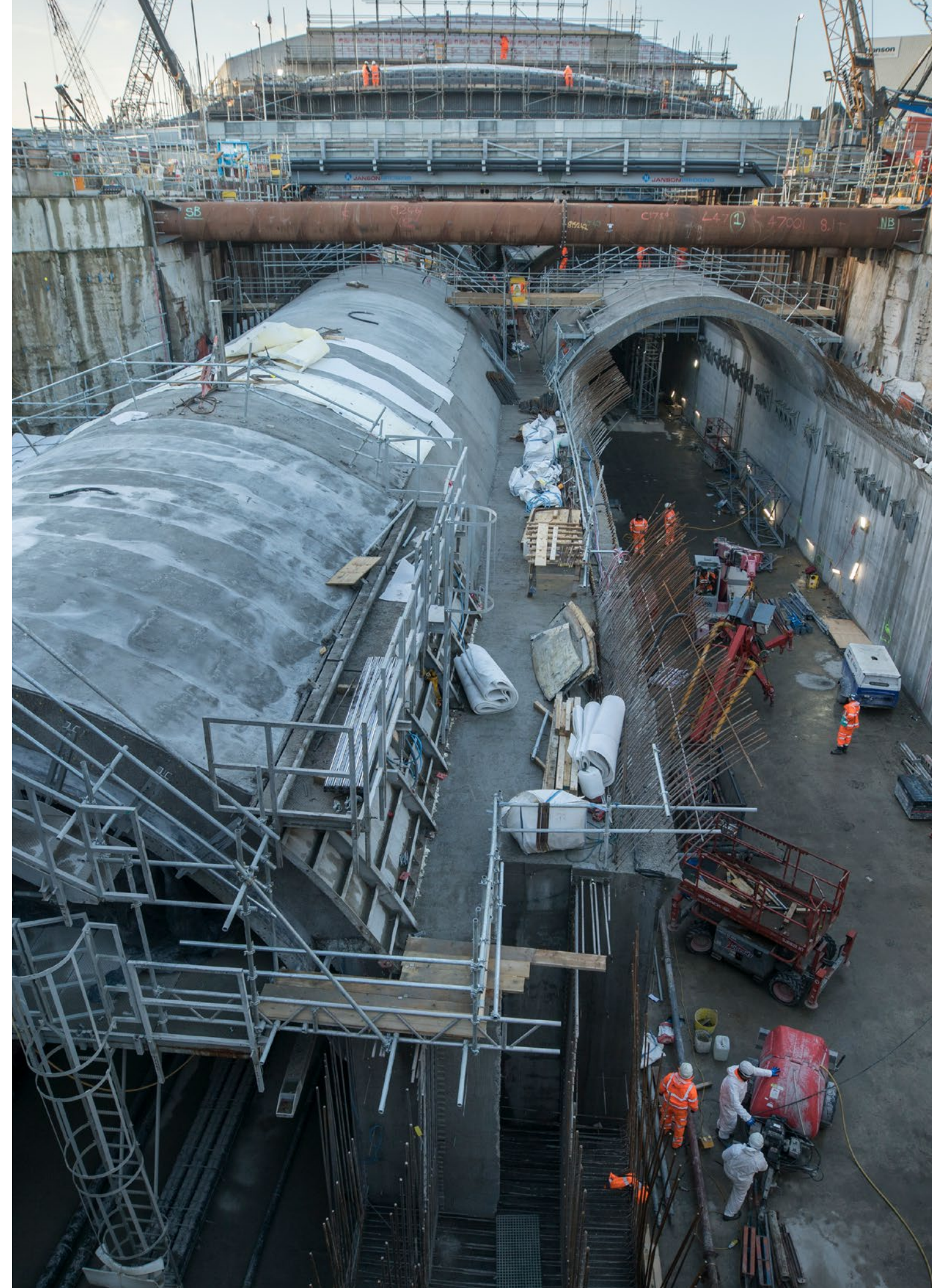
At both Greenwich and Silvertown, backfilling of the cut-and-cover areas has completed and landscaping has begun. The installation of mechanical, electrical and power systems continues within the tunnels. Cable pulling is progressing well and approximately 75km of electrical cable has been fitted over the quarter.

The last quarter has seen several more productive weekend closures of the Blackwall Tunnel to help implement the final road layout for the new Silvertown Tunnel on the A102 road approach. The last gantry was installed in May. Drainage works continue, along with road resurfacing, and safety barrier installation has started. Fit-out works are progressing at both portal buildings, with the scaffolding coming down and final exterior finishes being installed.

Up to the end of May, a cumulative total of 2.5m tonnes of materials and waste have arrived or left the site, of which 1.7m tonnes were delivered or left the site via river transport. By using an average of 17 tonnes per vehicle journey, approximately 104,286 heavy goods vehicle movements were taken off the road.

Planning for the Silvertown Tunnel bus network continues to support the planned increase in the number of buses able to cross the river in this area from five to 21 buses an hour in each direction in the busiest times, from 7am to 7pm, Monday to Friday. All the buses in the Silvertown Tunnel opening bus network will be zero-emission at the tailpipe, which marks a step change in bus accessibility in London, east of Tower Bridge.

An eight-week consultation was launched on 10 July on charge levels, including discounts and exemptions, for the Silvertown and Blackwall tunnels and concluded on 3 September. During the consultation Londoners were able to comment on the proposed tunnel-user charges, discounts and exemptions. This will enable TfL to ensure the user charge and range of discounts, both of which will be subject to approval, have been informed by feedback from the public. It is anticipated that the decision will take place in December 2024.



Work on the tunnel continues, including installation of power systems

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	696	9	705	702	(3)

Change since last Investment programme report					
No change	2	(1)	1	No change	

Financial commentary

The project's EFC remains above the existing Programme and Project Authority due to the challenges around the re-instatement of Arthur Street.

All opportunities for reductions to the EFC are being closely monitored, and the project has been a beneficiary of a Section 106 contribution that was agreed some years ago but only now realised in the sum of £1.6m.

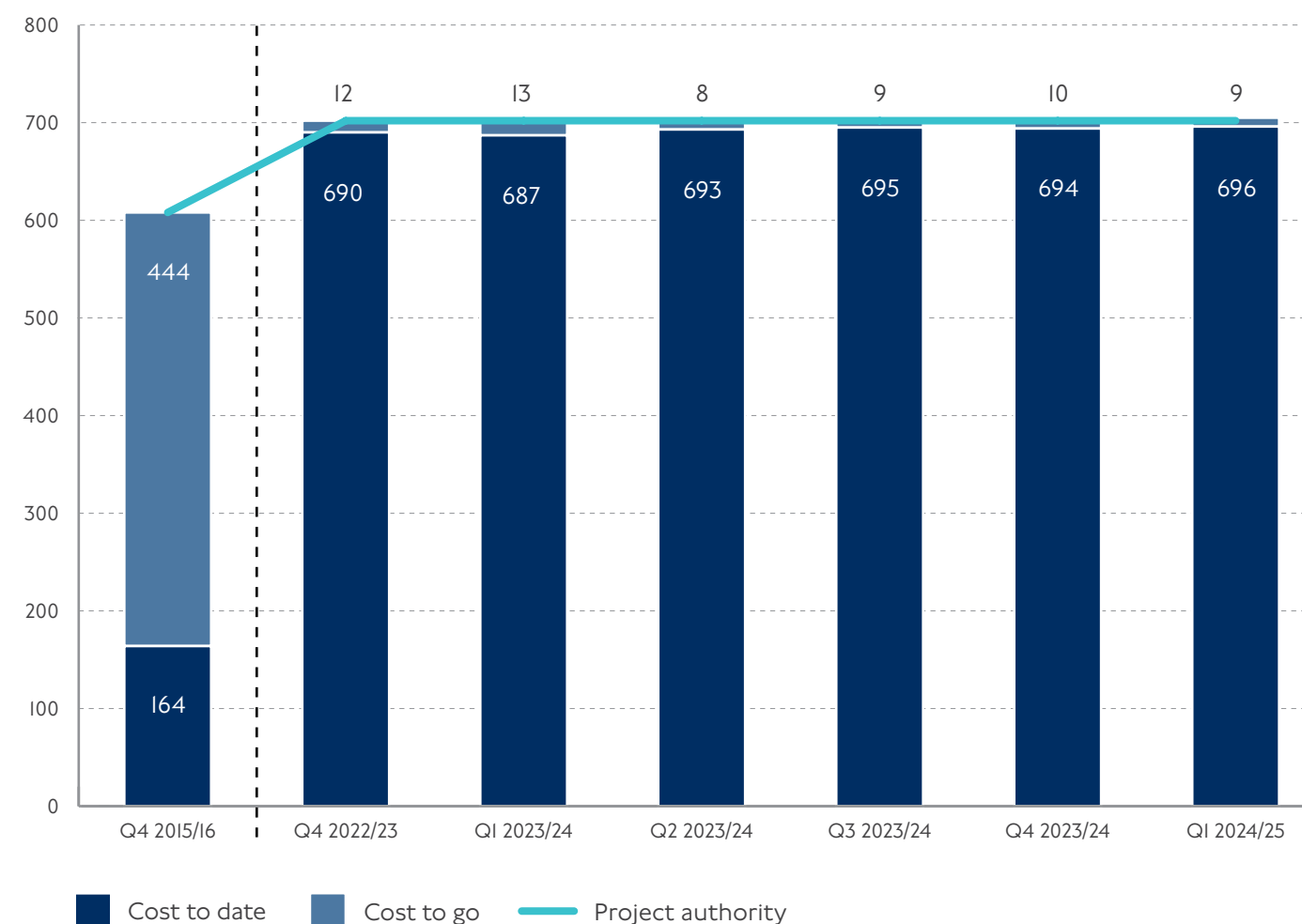
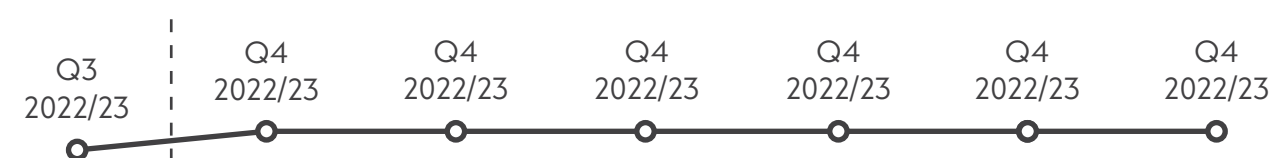
The project is planning to submit a request to the October 2024 meeting of the Programmes and Investment Committee to regularise the authority vs EFC, when we are planning to update the impact of the current impasse with the City of London over the Arthur Street shaft backfill.

Performance over time commentary

The EFC has increased since the Programme and Project Authority award in 2016. This is due to site works being disrupted by the impact of the terrorist attacks at London Bridge, the need for additional scope following the discovery of asbestos, and the impact of the pandemic. Over the last six quarters, EFC has remained stable.

Estimated final cost performance over time (£m)

Forecast completion date



All the figures in the table above are shown excluding income and third-party contributions.



New escalators, moving walkways and lifts have improved access at Bank

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.

Recent journey time surveys (April 2024) indicate average journey time savings of up to three minutes for customers interchanging between Northern and DLR platforms, one minute between Central line and Northern line, and five minutes between the Northern line and Cannon Street entrance, when compared to the previous survey undertaken prior to Bank station capacity upgrade works in 2018.

Close-out works continue and the much smaller project team has made significant progress. Outstanding snags now number in single figures (from a total of more than 3,500) and a number of asset groups have been taken over into maintenance, with electrical, mechanical and premises next in line for handover.

For a complex project of this nature and longevity the handover of assets takes time, to ensure comprehensive and accurate information is captured, together with ensuring our suppliers deliver on their obligations.

In other areas, the portable cabins forming the project offices in the whole block site have now been decommissioned and removed safely, and this site has now been handed over to Places for London for the over-site development to begin, so that the projects' involvement at this location has ceased.

Other progress has seen the team successfully navigating the complex pipe subway technical challenges to the gas extract system, with the design of the replacement now accepted. The section of the station known as Bullring exit 4 has been re-opened to the public.

Rail and station enhancements

This programme brings together several key enhancement programmes to create a single focus for an improved transport network



Rail and station enhancements

Forecast period	Cost to date (£m)	Cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: Forecast cost v authority (£m)
2022/23 to 2025/26	153	167	320	1,036	716
Change since last Investment programme report					
No change	20	(15)	5	No change	

Financial commentary

The Programme and Project Authority of £1,036m also reflects spend outside of the review period, prior to 2022/23 and beyond 2026/27, and remains unchanged for the reported period.

The forecast between 2022/23 and 2025/26 has increased by £5m. The increase is predominantly driven by the transfer of funding into the programme for step-free access schemes. In addition, there is a cost increase of £1.6m on Colindale station development for the additional bus replacement services provided during station closures to manage displaced customer demand. Also, the East London line Housing Infrastructure Fund programme reflects £3.8m acceleration of contractor delivery for Surrey Quays main works and realisation of risk materialising against the signalling workstream.

All the figures in the table above are shown excluding income and third-party contributions.

These increases are offset by a £3m reduction in the period due to re-phasing of the estimated tunnelling expenditure and associated risk for the Elephant & Castle station upgrade project costs into 2026/27.

Performance over time commentary

The total cost shows little movement from the previous quarter but there has been good progress in converting the £20m of cost to go into spend to date when compared with Quarter 4 2023/24. Some delays have resulted in delivery moving into Quarter 2 2024/25 and later years.

High Speed 2 (HS2)

The then Government's Network North announcement in October 2023 significantly scaled back the project north of Birmingham and has led to a review of Euston station design and funding arrangements. In December 2023, the former Government issued the Strategic Design Authority (SDA) letter to HS2 concerning Euston, and we have continued to engage collaboratively with them and other Euston Partnership members

including Network Rail, Department for Transport (DfT) and Lendlease, the masterplan development partner, in understanding the impacts of this change on us, our operations, passengers and London.

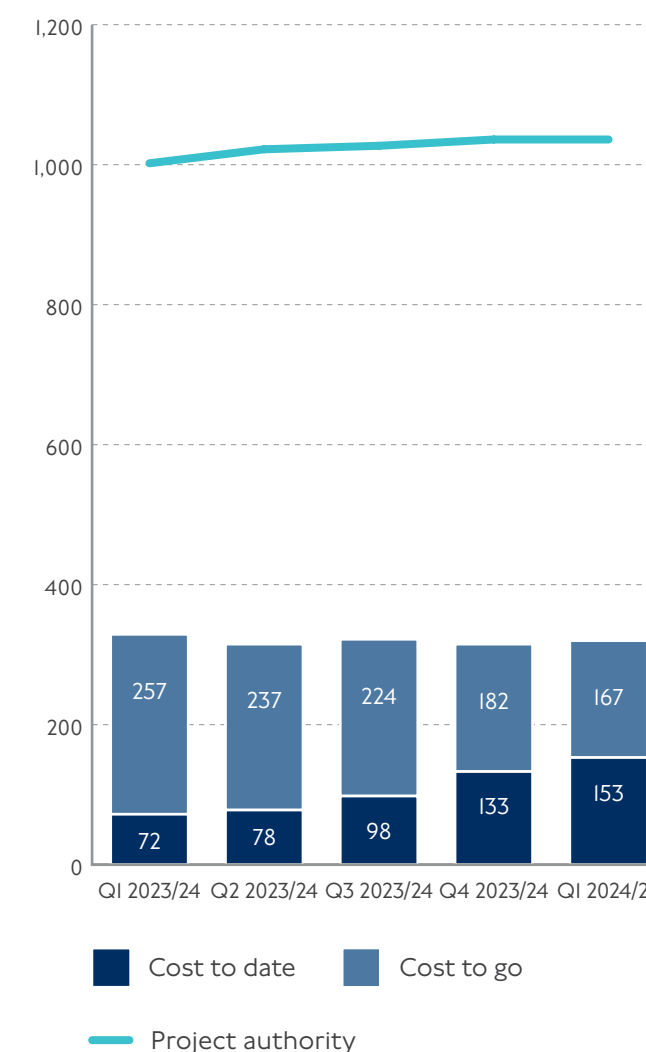
In April 2024, the Euston Partnership issued its combined response to the SDA letter to the DfT, with our comments included in the HS2 component. We continue to engage with the DfT and other partners to recognise the importance of TfL being a full partner in the review process.

We have continued to work with HS2 and their contractors on the fit-out of the traction sub-station at Euston. We have raised some concerns with HS2 regarding the handover process to be followed, and we have expressed a lack of confidence in their programme. HS2 have given assurances they will engage the necessary resources to deliver the power migration by early November. We have since increased our own resources accordingly to support their programme.

Since April 2024, there has been an increase in traffic congestion along the A40 corridor, partly caused by multiple HS2 worksites. We are working closely with HS2 Ltd and its contractors to minimise the impact of the disruptions and increase communications to road users.

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.

Rail and station enhancements performance over time (£m)



In conjunction with the Old Oak and Park Royal Development Corporation and Network Rail, we have made the case to the DfT for more strategic modelling at Old Oak Common for the surface intermodal area and highways connections, given that Old Oak Common will become a temporary terminus for HS2 services for up to a decade. This will also need to consider the longer-term demand that will arise from the significant residential and commercial development planned for the area. The DfT announced in June that it has approved the procurement of 10 additional Class 345 Elizabeth line trains to ensure sufficient capacity for passengers boarding and alighting from HS2 services at Old Oak Common who wish to continue their journeys to and from central London.

There has been some progress in relation to the provision of level boarding for Elizabeth line rolling stock at Old Oak Common, with a feasibility study underway to investigate the lowering of tracks. This study will conclude by early September. We continue to actively engage with HS2 Ltd 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 both Northern line platforms.

Procurement arrangements for the new passenger connecting tunnels between the new station box and the existing Northern line platforms continue in readiness for award in Quarter 2 2024/5. Our environmental requirements have been incorporated into the contract documents. As a precursor to the main tunnelling works, the pre-tunnelling ancillary works have been completed, and with all high-voltage cables delivered to site in readiness for future renewals. 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 hand over the station box by Quarter 1 2025/26, as agreed, and are making good progress.

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, subject to funding approval.

The team are currently finalising scope and estimates for the minimal viable product for fit-out.

Battersea Power Station western entrance

The Battersea Power Station western entrance project is fitting out a second entrance to the station, including providing additional step-free access.

Since 2022, funding has been secured and a funding and development agreement between us and Battersea Power Station Development Company has been entered into to facilitate the delivery of the Western entrance project, including an integrated construction and design team. Most recently, the project has begun the installation of the two new escalators, and site mobilisation is underway for the lift installation. The project is still on track to complete in spring 2025.

East London line enhancement programme

We are making a series of improvements to the East London line (which will become the Windrush line later this year) on the London Overground, enabling us to increase train frequencies and support growth and regeneration in the local area. These works are fully third-party funded.

Surrey Quays station upgrade

Our upgrades to Surrey Quays station are progressing well. Piling works on platform 1 are now complete and installation of the station superstructure on platform 2 has begun. Construction works are progressing safely under interim Network Rail assurance governance as we finalise technical design elements.

We brought the temporary secondary means of escape on platform 1 into service in August 2024 to support the installation of the overbridge linking the two platforms in early 2025. Works remain on track to complete in 2026.

Power reinforcement

Network Rail is making good progress on project delivery relating to their assets and remain on target to complete power upgrade works in November 2024. Works on TfL infrastructure were commissioned in June 2024, and we will now proceed to formally close this element of the programme's scope.

Signalling enhancements

Works undertaken during the 2024 Easter blockade were successful, enabling us to continue to deliver the platform extension at Surrey Quays station. Line-side equipment installation is largely complete and supplier design with Siemens is ongoing.

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.

A standard selection questionnaire was issued to the market on 3 January 2024, which attracted significant interest from rolling-stock manufacturers, with responses received in April 2024. Since then, the evaluation and moderation has been completed. The invitation to tender was issued on 5 September and bids will return from the market in spring 2025.

Design development for the depot and power interventions are ongoing.

DLR Thames Wharf

Feasibility-level design and initial value engineering work have now concluded for a new station at Thames Wharf in the Royal Docks area, in line with the revised masterplan for the Thameside West development. We are in discussions with the developer for the Thameside West residential development on progression of the station design for Thames Wharf.

DLR Royal Docks

The Royal Docks station upgrade programme, funded by the GLA, 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 in the area.

At present, the upgrade to Pontoon Dock station is the only live project within the programme. Our plans for the station involve providing new escalators to platform level, lift refurbishment and improvements to the urban realm beneath the elevated station.

We have completed the concept design and submitted a formal planning application to the London Borough of Newham on 28 March 2024. We are now preparing to procure the contract for the detailed design-and-build phase, while we continue to work with the GLA and other third parties to secure a full funding package.

London Underground

The London Underground enhancements and station developments projects cover 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.

Throughout Quarter 1 good progress has been made across the programme, most notably at Colindale station where the six-month station closure has started as planned, supported by a series of successfully delivered track closures. In addition, physical works for the new station entrance have concluded at Stratford ahead of opening, the detailed design of Leyton draws to a conclusion, and the update of the detailed design at Northolt progresses. The total number of London Underground stations with funding in place for the next stage of design is now five and a further seven will be assessed for feasibility in the step-free access programme.

Colindale

The scheme involves the reconstruction of the ticket hall building above the tracks to provide increased capacity and step-free access and enable the future redevelopment of TfL-owned land for residential use.

The main site works are progressing well, with the canopy, overbridge and staircases being removed and hoardings installed along the platform edge following the start of a closure of the station on 7 June 2024. A key structural wall has been built to the east of the southbound tracks and the majority of piles installed behind the west retaining wall. Preparations are being made for the installation of steelwork to support the new ticket hall deck. The station is due to reopen in a temporary state in December 2024.



The second entrance at Battersea will offer additional step-free access

Knightsbridge

The project is working to resolve power capacity issues to meet the requirement for a secondary power supply to the new lifts.

We are working with the contractors to optimise the associated delivery schedule – which will include rigorous testing to ensure the new lifts can safely enter service – before confirming a revised opening date for the new dedicated step-free entrance.

Leyton

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

The detailed design of the scheme is close to being finalised. The construction contract will be let later in 2024. We continue to work closely with key funders including the London Borough of Waltham Forest.

Paddington – Bakerloo line

We are making progress on the project to deliver a new step-free ticket hall to the Bakerloo line, which is due to open in autumn 2024. Installation of cabling, services and finishes for the new ticket hall are ongoing.

South Kensington

We are working with Places for London and their joint venture partner on the business case for an integrated redevelopment of the station and surrounding properties to secure much-needed step-free access to the Circle and District line platforms, capacity improvements and income from the TfL estate.

Work is underway to develop the concept design for the station upgrade works, with good progress being made in confirming project requirements. The scope includes an extension of the ticket hall, the construction of a new eastbound Circle and District line platform and the installation of lifts between both District and Circle line platforms and street, ticket hall and museum subway levels. This design work will also include an option for the installation of lifts to serve the Piccadilly line platforms, as part of TfL's wider aspiration to make the station fully step-free once sufficient funding becomes available. Once complete, the design work will provide a fuller understanding of the costs and required programme of works to inform the business case, the funding position and next steps.

Step-free access

In summer 2023, we announced 10 stations where we were carrying out studies of the feasibility of making them step-free. In February 2024 we announced work was to start at Northolt Underground station on the Central line to make it step-free, and that design work will start at North Acton (Central line) and West Hampstead (Jubilee line).

A further three stations – Alperton, Arnos Grove and Eastcote – have now been selected for progression to concept design.

The initial phase also included a pre-feasibility study of all the stations at the southern end of the Northern line. Two of these stations (Colliers Wood and Tooting Broadway) have been selected to progress to a full feasibility study, based on their deliverability and benefits.

In addition, a further five stations have been identified for feasibility studies during the current financial year, based on the further development of the prioritisation process, which considers benefits to users alongside costs and funding sources. This has been used to assess all 180 Underground stations that are not currently step-free. The five stations for feasibility are Croxley, East Finchley, Neasden, Northwood and Turnham Green. We also continue to work to update the detailed design of Northolt, ahead of a planned start for construction work in early 2025.

We continue to actively engage with local authorities, developers and businesses to explore the options available to introduce further step-free access at stations. Feasibility work at other stations could be progressed, should investment be provided by these organisations.

Stratford

Work on the new urban realm leading to the new southwestern entrance and ticket hall is nearing completion while the planned opening of the entrance was achieved on 10 July 2024.

The project continues to liaise with Network Rail, which is working to deliver a new customer lift connecting the Jubilee line concourse to the western subway.

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, which are being funded and delivered by the developer, started in summer 2022. We have been responsible for setting the requirements, approving the design and managing the interface with internal parties and contractors.

Discussions are ongoing with Berkeley Homes regarding how certain elements of the wider scope will be progressed and delivery options are being reviewed. It is anticipated that the works will begin on site later this year.

King's Cross St. Pancras Belgrove House

We are working with a third-party developer, Belgrove House properties limited, to build a new step-free station entrance on the south side of Euston Road. Works entail removal of existing stair boxes and construction of a new entrance within a new building. The new entrance will have a lift and stair access to the existing subway under Euston Road.

Site works with the London Underground interface started in July, with the main works beginning in October 2024, and the new entrance in use in 2026.

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	Cost to date (£m)	Cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: Forecast cost v authority (£m)
2022/23 to 2025/26	335	342	677	588	(89)
Change since last Investment programme report					
No change	30	(42)	(12)	No change	

Financial commentary

We plan to continue to invest in Safe and healthy streets at an average of £150m per year, after third-party income. This is consistent with our investment under the funding settlements over the period 2022/23 and 2023/24.

Spend in Quarter 1 2024/25 was £30m, against a budget of £37m, with the reduction due primarily to delays on agreeing funding arrangements on certain projects and the impact of spend that was budgeted in 2024/25 but accelerated into last year.

A detailed review of the deliverability of our forecast this financial year during this Quarter highlighted risks to our plans for the year, including delays to external funding, other road users such as the utility companies having priority over road space and continuing cost increases. We are currently working through the mitigations of these risks and will update the Programmes and Investment Committee in Quarter 2.

Performance over time commentary

Programme investment continued at a slower pace than in Quarter 4 2023/24, as expected in the budget, but is forecast to accelerate over the year as more schemes enter the construction phase. We expect to return to the Programmes and Investment Committee in the second half of the year to request further authority to meet our costs to go.

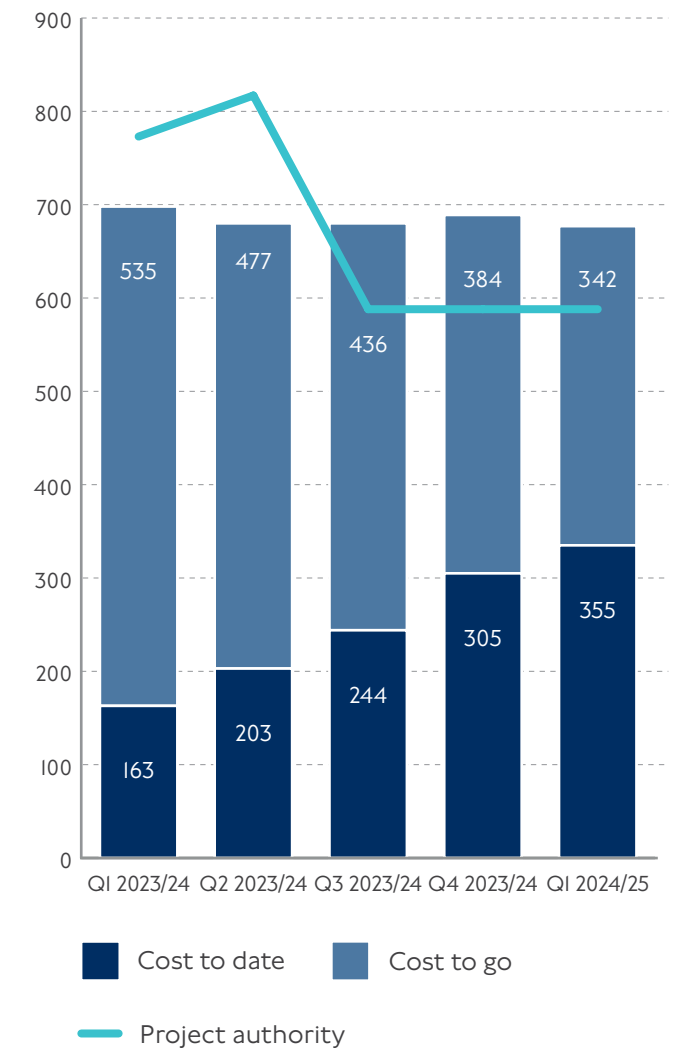
Programme update

Output targets for 2024/25 have been established across a number of Safe and healthy streets programmes, including delivery of 30km of new cycleways, 15 new signalised pedestrian crossings on our road network, and 15km of new bus lanes. We are also working to meet the floor target of 5,000 square metres of sustainable urban drainage, including options for acceleration towards a stretch target of 9,000 square metres.

In collaboration with borough partners in the Local Implementation Plan (LIP) working group, new LIP guidance for boroughs was issued in July 2024. In recent years we have gradually strengthened the guidance to improve the quality and impact of schemes funded and delivered.

The proposed new guidance for 2025-28 ensures Borough Safer Corridors and Neighbourhoods funding is allocated to the most impactful scheme types (speed limits, safer junctions, traffic reduction schemes, school streets, safer high streets and pedestrian crossings).

Safe and healthy streets performance over time (£m)



All the figures in the table above are shown excluding income and third-party contributions.

Cycling infrastructure

Cycleway 4 London Bridge to Greenwich

The London Borough of Southwark completed their works to construct the temporary scheme for Lower Road between Rotherhithe roundabout and Surrey Quays Road on 4 March, completing the final section of a protected cycling route between London Bridge and New Charlton. Snagging works were completed on 11 August 2024.

Cycleway 9 East Kensington Olympia to Brentford

The London Borough of Hounslow's works to deliver with-flow cycle tracks from Watermans Park to Brentford Magistrates' Court are substantially complete. Carriageway and cycleway resurfacing began on 1 July and the majority of works were completed. The cycle track opened on 7 August 2024.

Cycleway 9 West Hounslow to Brentford

We began consultation on our proposals to deliver protected cycle tracks between Brentford and Hounslow High Street on 15 July as planned. This section of the route is proposed to connect with cycle tracks currently under construction between Watermans Park and Brentford Magistrates' Court.

Cycleway 23 Lea Bridge to Dalston

Construction of segregated cycleways around Lea Bridge roundabout was completed on 26 January, and snagging completed in late August. Construction of Lea Bridge Road started as planned on 24 July 2023 and is being delivered by the London Borough of Hackney.

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, with snagging work completed in April. Consultation and monitoring of the changes we have made began on 22 May, while the scheme is in operation under an experimental traffic order.

Park Lane

Work to improve the efficiency of several junctions along the Park Lane cycleway and widen some pedestrian and cycle crossings began on 10 June to improve cycle access between Park Lane and Mayfair.

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 complete, with a 20mph speed limit now in operation on 264km of our roads against the Vision Zero action plan progress report target of 220km.

In Quarter 1, we lowered the speed limit on the A406 North Circular Road in Waltham Forest and Enfield from 50mph to 40mph. The new speed limit came into operation on 29 July.

In August, we began installing banners mounted on lamp columns across corridors delivered in March to help maintain driver awareness of the new 20mph speed limit. We anticipate this work will be complete by the end of September.

Outcome definition work is taking place to identify 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

Further design and survey work continues at pace on the Battersea Bridge Safer Junction project, with construction due to start in Quarter 3 2024/25 in the London Borough of Wandsworth.

Design and outcome planning work continues on the remaining junctions covered by the programme. We have a target to complete public consultation and engagement on 10 of these locations by the end of 2024.

Public consultation on safety improvements at Hogarth roundabout in Hounslow started on 11 July and is due to finish on 12 September 2024.

Detailed traffic modelling is underway on the Monument Safer Junction, and we are currently undertaking early engagement with statutory stakeholders ahead of further public consultation in Quarter 3 2024/25.

Design and outcome planning work continues on the remaining junctions covered by the programme. We have a target to complete public consultation and engagement on 10 of these locations by the end of 2024.

Pedestrian safety

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

Construction was completed on 8 August 2024 on the A23 Brixton Hill near the junction with St Saviours Road, introducing a new signalised pedestrian crossing at a location with a poor safety record and an identified pedestrian desire line.

Detailed design work continues at locations where we plan to deliver road safety schemes later this financial year, including at Redcliffe Gardens in Kensington and Chelsea, King's Cross Road junction with Pentonville Road in Camden, A23 Streatham High Road at the junction with Gracefield Gardens in Lambeth and on the A20 Amersham Road junction with Parkfield Road in Lewisham.

Public engagement on safety improvements at the junction of A503 Seven Sisters Road and Wilberforce Road ended on 25 July, with plans to implement an improved cycle crossing into Finsbury Park as well as improvements to a nearby pedestrian crossing in 2025/26.

Bus priority

We continue delivery of new bus lanes, working together with London boroughs towards a target of 25km by the end of March 2025. In Quarter 4 2023/24 we achieved our milestone to introduce 10km of new bus lanes on borough and our roads, delivering 10.06km.

In Quarter 1 2024/25, we introduced an additional 0.75km of new bus lane, taking our total to 10.84km. This delivery included the completion of Lower Clapton Road as well as four borough-led projects in Brent, Hackney and Hounslow.

In May we began a public consultation on our Safe and healthy streets proposals for A297 St Helier Avenue in Merton, including 1.6km of new bus lanes, two new pedestrian crossings, a new sustainable urban drainage system to help mitigate flood risks, and footway widening. In July, we launched a public consultation on our proposals for a new bus lane on A20 Lee High Road. The bus priority measures for both projects are due to be delivered by April 2025.

Signal timing reviews have been completed at a total of 46 sites since April to provide additional priority for buses, working towards a target of 400 sites for the year. Since the beginning of 2024/25, this work has saved nearly 2,500 bus passenger hours. Two-thirds of buses in London approaching traffic signals either arrive on a green signal or receive some form of bus priority.

In 2024/25, 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 the removal of pinch-points, kerbside activity rationalisation and improvements to bus lane operating hours.

We have identified a suite of activities to improve bus priority across the nine recently launched 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.

Transformational schemes

Catford town centre

We entered into an agreement with the London Borough of Lewisham in February and are working with them 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.

The concept design is progressing well: we submitted a planning application for the scheme in December 2023 and made a compulsory purchase order for the land required in January 2024. A public inquiry will take place on 2 and 3 October 2024. An agreement in principle has been reached with one of the key landowners and agreements are being progressed to acquire the land without the need for the compulsory purchase order.

To fund this scheme, we are also applying for funding through the DfT's Major Road Network fund. The business case was considered at the DfT Roads Investment Committee on 22 May. We have been chasing and are waiting on an update on the progress of the scheme to HM Treasury following the General Election on 4 July, however the backlog, together with the strategy of the new administration, has delayed the scheme getting to the Finance Committee for review.

Lambeth Bridge

Following completion of the detailed design, the project received its internal assurance approvals. On 4 September, BT completed their enabling works at the northern roundabout and TfL's contractors started the main works for the project on 17 September 2024.

Our advance works to remove the northern roundabout completed on 13 June and BT started their utility works on 4 July, aiming to complete all of their work by 6 September 2024 to allow the main scheme to begin on 9 September 2024, with the removal of the southern roundabout and associated works running through until Christmas 2024.

Borough funding

Safer corridors and neighbourhoods is the largest of our LIP programmes that enables all 33 boroughs to deliver a holistic range of Healthy Streets improvements across their borough. Over the course of the year, boroughs progressed and completed around 600 Safe and healthy streets schemes funded through the programme. These include walking, cycling, safety and bus schemes delivering a range of active travel and safety benefits on borough roads. The core measures introduced include new Low Traffic Neighbourhoods, school streets, pedestrian crossings, junction safety improvements, 20mph limits, cycle parking, cycle training and bus stop accessibility upgrades.

Boroughs are currently delivering the last year of their current three-year delivery plans and new guidance has been issued to help boroughs shape their LIP delivery plans for the three financial years from April 2025 to March 2028. The guidance has been developed in partnership with the LIP working group, which is made up of borough representatives from each sub-region, the London Technical Advisers Group, and the London Environment Directors Network, as well as London Councils and TfL.

To improve road safety on borough roads and deliver bus journey time improvements TfL has made an additional £80m of funding available to the boroughs. Boroughs can apply for scheme funding through the new Borough Safer Streets and the Better Bus Partnership programmes.



More than 300 countdown signs give customers the latest information

Bus safety

As of early August 2024, there are more than 1,500 buses in the fleet that meet either the 2019 or 2021 Bus Safety Standard (depending on the point at which they entered service). This means 45 per cent of the bus fleet now have intelligent speed assistance (ISA) units, which automatically restricts bus speeds to local limits. The first new vehicles that meet the new 2024 requirements are now entering the fleet, which include optimised front-end geometry and enhanced interior measures to protect passengers. Meanwhile, we continue to research and trial potential features for inclusion in the Standard in 2027 and beyond.

Working with our bus operators, vehicle manufacturers and their suppliers, we have now agreed retrofit works on more than 2,600 buses. Throughout 2024/25 key safety features will be installed on older vehicles that entered the fleet prior to the Bus Safety Standard coming into effect – and include ISA units and camera monitoring systems, which replace wing mirrors with high-performance cameras to improve driver visibility and reduce blind spots.

Fatigue detection technology is being fitted on up to 500 buses. Data from this project is expected to identify the true scale of fatigue in bus operations, which will be analysed by locations, rosters, routes and vehicles. The results will enable us to address the factors causing fatigue and mitigate their impact early on. Drivers at risk of fatigue will be offered support by their managers, who have received additional training, as well as the opportunity to understand the impact of fatigue on collisions on the network.

Bus customer action plan

We published our 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.

Following the success of our trial on Route 63, where we introduced a coordinated package of enhancements to both the vehicles and bus stop waiting areas, we have applied these customer features to a further 433 buses across 29 routes. This includes richer on-bus content displays with more detailed customer information, USB charging points, priority seat demarcation and enhanced lighting.

We have rolled out more than 300 new countdown signs at bus stops across the capital, with all boroughs benefitting from enhanced live travel information. We have also renewed more than 400 bus shelters.

In 2023 and early 2024, we also improved wayfinding information, to include points of interest on 6,900 bus shelters, and delivered enhanced bus signage at 14 multi-exit London Underground stations and 11 single-exit Elizabeth line stations, to support customers with interchanging and navigating the network.

We continued to deliver trials to address customer pain-points, including enhanced on-bus cleaning to improve passenger experience.

Environment

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



Environment

Forecast period	Cost to date (£m)	Cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: Forecast cost v authority (£m)
2022/23 to 2025/26	417	171	588	1,025	437

Change since last Investment programme report					
No change	33	(74)	(41)	No change	

Financial commentary

We invested a further £33m in our Environment programme during the quarter. This was mainly related to the Ultra Low Emission Zone (ULEZ) scrappage scheme and our road user charging programmes.

As demand for the scrappage scheme starts to tail off after intense activity last year, our investment will be focused on continuing to update our existing road user charging systems to include tunnel-user charging, reletting existing contracts, developing in house capabilities and supporting the Mayor's goal for making London a net zero city by 2030.

Performance over time commentary

Programme and Project Authority covers years which are outside the period in the table above.

Many of our projects, such as decarbonising our assets and operations, are in the development stage, and costs and funding continue to be subject to review to ensure they deliver value for money while also meeting our non-financial objectives.

We will continue to explore additional funding sources, both internal and external, to deliver our full net zero ambitions.

London-wide ULEZ

On 29 August 2023, the ULEZ was expanded to cover all London boroughs. A report published on 25 July 2024, showed that in the six months of operation vehicle compliance in outer London increased by five percentage points – from 91 per cent in June 2023, to 96 per cent. This is nearly the same level of compliance as seen in inner and central London, with 96.5 per cent and 96.4 per cent, respectively. In addition, in February 2024, the number of non-compliant vehicles seen driving in London on an average day had decreased by 90,000 compared to June 2023, a reduction of 53 per cent. Regarding emissions, pollutants across London in 2023 are dramatically

lower than would have been expected if we hadn't expanded the ULEZ London-wide. Nitrogen oxide emissions from cars and vans in outer London are estimated to be 13 per cent and seven per cent lower compared to a scenario without the ULEZ, while particulate matter exhaust emissions from cars and vans in outer London are estimated to be 20 per cent lower than they would have been, had we not expanded ULEZ to outer London.

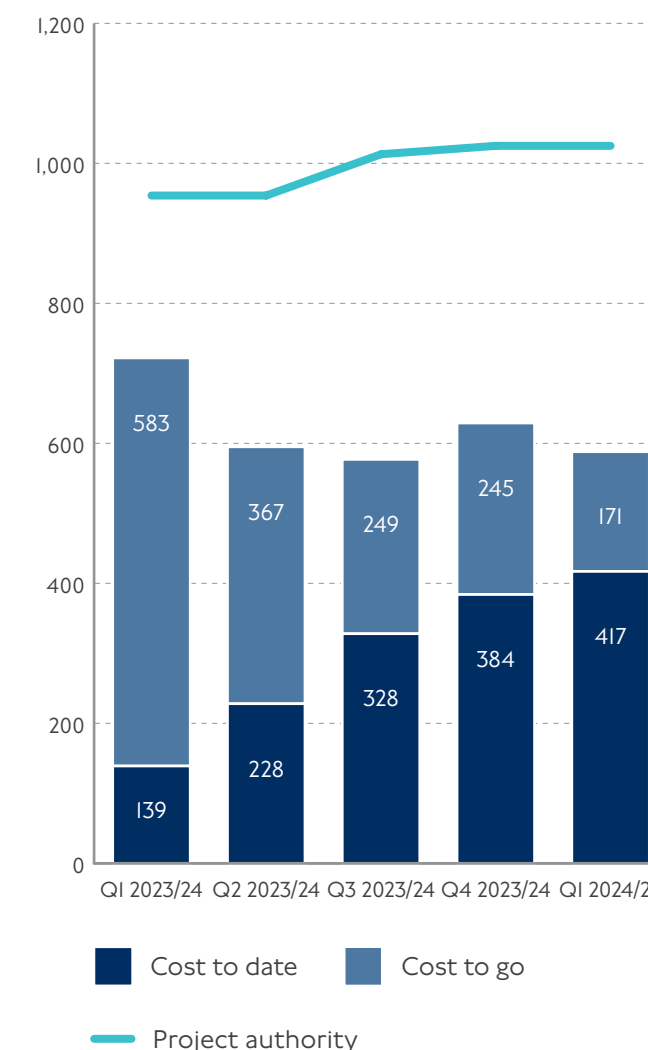
Since 30 January 2023, the largest vehicle scrappage and support scheme of its kind in the UK has been available to assist Londoners with vehicles that do not comply with ULEZ emissions standards. Up to 26 May 2024, more 50,000 applications had been approved, which equates to almost £180 million of support committed for eligible Londoners.

In March 2024, the option to donate suitable vehicles to Ukraine was added to the scheme. A trusted intermediary, British Ukrainian Aid, has supported the transfer of 409 vehicles to Ukraine to be used for humanitarian purposes.

We have installed an extensive camera network to support the effective operation of the scheme. Up to 21 June 2024, we had more than 3,500 cameras enforcing road user charging schemes in London.

Unfortunately, vandalism of ULEZ cameras has continued in Quarter I. All incidents are reported to the police. Several 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.

Environment performance over time (£m)



All the figures in the table above are shown excluding income and third-party contributions.

Direct Vision Standard phase 2

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 28 October 2024, HGVs will need to have at least a three-star rating for Direct Vision Standard or fit additional safety measures known as the Progressive Safe System (PSS), to operate in London. Applications for HGV safety permits under PSS conditions opened on 24 June 2024. Operators who think they will need more time to install the PSS can apply for a grace period. This was originally expected to run for three months from 28 October 2024 to 31 January 2025. However, following an update on industry readiness to London Councils on 18 July 2024, it was agreed to extend the grace period by a further three months, to 4 May 2025.

These changes will build on safety improvements from the current scheme which, using a baseline of 2017-2019 (averaged), has seen a 49 per cent reduction in the number of fatal collisions, and a 30 per cent decrease in serious collisions involving an HGV and those who walk, cycle and motorcycle.

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 aims to 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 charging bays in May 2023, and two further batches 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, with the latest batch released on 7 June 2024. In addition, we are working with GLA property to assess four sites, which could unlock GLA land for public electric vehicle charging.

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 (LEVI) 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 are being delivered by London boroughs using £9.7m of LEVI pilot funding and additional borough delivery funded by the then Government's on-street residential charge point scheme. TfL is using the LEVI capability funding it has been allocated (spread over 2022/23 to 2024/25) to support the boroughs through additional resource provided through London councils and a research programme. We are also providing strategic oversight to guide borough delivery in line with London's Electric Vehicle Infrastructure strategy.

Zero-emission support fleet

We aim to decarbonise our operational support fleet by transitioning all cars and vans to become zero emission capable (ZEC) by 2030, contributing towards the Mayor's net zero ambitions.

We remain on course to achieve the Mayor's Transport Strategy target requiring all cars in the fleet to be ZEC by 2025.

We are currently investigating options to make our remaining fleet ZEC, including innovative ways to deliver the charging infrastructure needed to accommodate new ZEC vehicles, which will all meet the strictest safety standards.

Zero-emission bus fleet

There are currently more than 1,500 zero-emission buses operating across numerous routes in London. This means more than 17 per cent of the bus fleet operates with hydrogen, battery electric and 'opportunity charged' electric buses. London has the largest zero-emission bus fleet in western Europe. Cleaning up London's toxic air and decarbonising the bus network is an imperative, both for people's health and tackling the wider global threat of climate change.

TfL works with multiple bus manufacturers to develop a vibrant and competitive zero-emission market and invest in the latest buses. Alongside being zero-emission, all new buses will have enhanced customer features, such as improved flooring, seating, lighting and customer information, and will meet the industry-leading Bus Safety Standard. We continue to support investment in innovative zero-emission bus technology and jobs and production across the bus industry.

Waste heat

Waste heat from London Underground ventilation shafts is a constant and reliable source of energy. This project will capture thermal energy from the ventilated air to feed to local users, powering heating and hot water.

The project could contribute to serving thousands of residential premises, plus commercial and public buildings. The proposed supply of waste heat would reduce a requirement for gas combustion and could be associated with improved air quality through a decrease in emissions.

Activity is focused on delivering an initial site. A report on the viability of this site is expected by autumn 2024. The delivery model would be for an energy supplier to fund the design and delivery of the infrastructure. We would hold a technical assurance role, to prevent any adverse impact on operations.

Our approach to establishing a longer-term programme on the identification of waste heat opportunities will be driven by the outcome of a recent consultation from the Department of Energy Security and Net Zero. This relates to the creation of heat network zones. More will be known on how this will impact our future projects in the coming months, with engagement ongoing with the Department to understand details as they emerge.

Solar private wire

As London's largest single 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. Not only does this guarantee renewable energy and carbon savings, it also offers potential financial savings as grid costs – estimated to be around £80 per megawatt hour by 2030 and £120 per megawatt hour by 2035 – are bypassed.

Approximately 40 per cent of TfL's carbon emissions are from electricity. Initial investigations suggest our power network can accommodate 64 megawatts of renewable energy from a private wire connection. This represents five per cent of the annual load and is equivalent to the power consumption of an electric car driving more than 230,000 miles.

The intention is for a delivery partner to be procured 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 currently finalising procurement and contractual documentation to support an invitation to tender. Once a contract is secured with a preferred delivery partner, work will begin on creating a design-and-delivery schedule across a variety of proposed sites.



As a large power consumer, we need to make use of renewable energy



We are working to improve the thermal efficiency of our buildings

Buildings decarbonisation

Emissions from our buildings represent around eight per cent of total operational carbon emissions. As a high number of assets in our buildings directly burn fossil fuels – primarily gas-powered heating systems – their emissions are broadly unaffected by grid decarbonisation when compared to other operational emissions, such as running the London Underground network on electricity generated by renewables. This programme has been created to prioritise the removal of fossil-fuel heating systems and improving the thermal efficiency of our buildings.

We have received several feasibility studies across a variety of high-priority sites, to assess the opportunities for reducing their respective carbon footprint. Work is underway to interpret these results and use a newly created prioritisation tool to determine the optimal design-and-delivery schedule. Criteria used to prioritise site interventions include the current condition of our assets, the potential for carbon reduction relative to cost, and overall deliverability.

Grant funding of £2.3m has been secured through the Public Sector Decarbonisation Scheme to deliver heat decarbonisation interventions by March 2026 at Neasden depot and Finchley Central signals depot. These sites will have initial designs completed by March 2025.

In the last year, funding has also been allocated to some targeted interventions. A trial of reduced escalator speeds achieved an average 10 per cent power reduction, with associated carbon savings and no observed impact on passenger flow. In the next year, 25 escalators across eight stations are scheduled for delivery, to save 32,500kg of carbon dioxide emissions. Monitoring of these additional sites will be undertaken to help inform future plans for a wider rollout.

Technology

This 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	Cost to date (£m)	Cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: Forecast cost v authority (£m)
2022/23 to 2025/26	426	406	832	848	16
Change since last Investment programme report					
No change	44	(45)	(1)	No change	

Financial commentary

Projects with the highest spend in the last quarter include Project Hina (a project to replace ticket reader technology essential for revenue collection); Project Oval (a DfT initiative to expand the acceptance of pay as you go with contactless to suburban rail services across south-east England); deployable enforcement cameras; iBus2 (a project to replace on-bus hardware and back-office systems, providing improved data and tools to operators and improved service reliability and information provision for customers); next-generation computer refresh; London Underground station security integration, and CARP (connectivity asset renewal programme), which renews and extends the operational network to ensure the continued safe and reliable running of the London Underground.

Increased Programme and Project Authority was approved by the Programmes and Investment Committee in February 2024, covering the period through to 2025/26.

All the figures in the table above are shown excluding income and third-party contributions.

Performance over time commentary

Over the last five quarters our forecast spend has decreased by £76m, due to forecast reductions across some projects.

Movement in Programme and Project Authority during the last year was due to two factors. The Quarter 2 2023/24 increase was additional authority approved by the Programmes and Investment Committee in March 2023 and the Quarter 3 reduction was due to £82m of the Quarter 2 increase relating to 2026/27 onwards being removed (a period not covered within this forecast period of 2022/23 to 2025/26).

Programme update

Since the drafting of this report, TfL has been affected by a cyber security incident. This meant that a number of internal measures were implemented, the implications of which continue to be reviewed. A more in-depth review of these implications will be covered in full in the Quarter 2 2024/25 report.

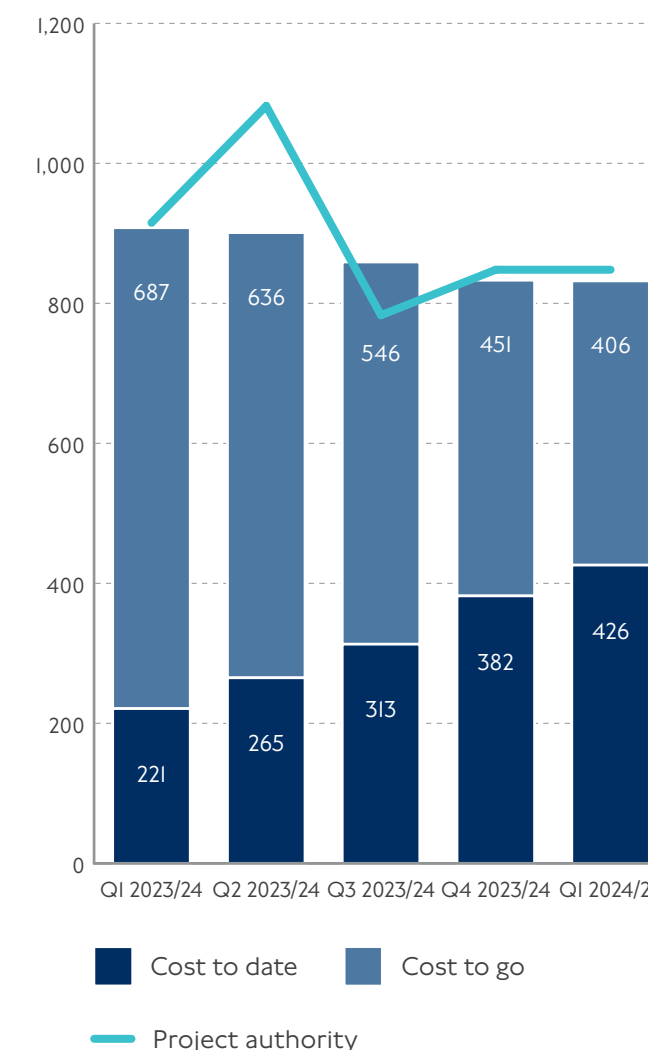
Operations technology Enforcement, compliance, safety and security

Work continues on the rollout of deployable enforcement cameras on our road network, enabling us to target specific safety and non-compliance hotspots with the aim of contributing to meeting our Vision Zero goal. We have identified the sites that will have the most impact and are well underway with the delivery of cameras. There are currently more than 190 sites live and monitoring compliance, with a further 100 sites having equipment installed and being prepared for go live.

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 our strategy to address this, the operational employee safety programme has supplied 6,200 body-worn video cameras as part of the essential kit for employees in front-line customer-facing roles, available to all employees when out on the network. We successfully distributed 294 emergency communication devices by the end of 2023. We are currently upgrading the systems we use to record cases of workplace violence and aggression to improve how we manage and report on cases and will be undertaking strategic work to understand our emergency communication requirements in the future.

Technology performance over time (£m)



As part of the station security technology improvement programme, we have completed the design of critical incident management functionality for 26 stations, with installation at four stations and a further 22 due for installation this year. The delivery of this functionality in 2024 will enable us to manage these stations during a critical incident and other key events. We will start design of a further 98 stations next year. We are rolling out safety improvements to our CCTV estate. We can now remotely view CCTV at 243 stations and have started design and installation at a further 22 stations, with installation completed at 10 stations. We are also improving customer Help Points, making sure emergency calls are handled promptly by those best able to assist. We have prioritised improvements at 15 stations, and design has started for a further 82 stations in 2024.

Digital capability is an essential part of our compliance and enforcement activities and without this there would be a significant loss in revenue and operational capability, as well as impacts on customer and employee safety. We are delivering a new digital platform and mobile applications to support enforcement, compliance, policing and community safety officer functions across our network. In April 2024, we launched the first phase for bus revenue inspections to 135 officers who are benefitting from quicker, more streamlined processes to support their day-to-day work. A soft launch of the second phase for transport support and enforcement officers occurred in July 2024.

We are in the process of transferring a small number of Taxi and Private Hire licensing and regulations projects into the Operations technology programme. This includes the existing Taxi and Private Hire re-let and statutory standards projects which deliver a replacement system for the management of driver/operator licensing to meet DfT statutory standards. User acceptance testing for the replacement licensing and regulation system is progressing at pace and an initial go-live is planned for February 2025.

Network and public transport management

We are delivering an innovative new road management system to reduce delays, improve journey times, and encourage a shift to more sustainable modes of transport.

Real-time optimiser (the system for managing TfL's 6,000 traffic signals) was delivered into live operations in March 2024. This paves the way for FUSION (the optimiser for traffic signals) to be implemented. Combined, the systems will allow TfL to optimise traffic signals for all modes, improving network performance and our ability to manage incidents. Further enhancements to the system are planned for 2024.

The Common Operating View – Incident Management System remains on schedule to complete delivery in Quarter 3 2024/25. This will enable more effective and efficient management of the road network and help us manage incidents by providing a direct link to variable message signs on the street.

Having finalised contracts in February 2024, we are now proceeding through the detailed design stages for the iBus 2 project, which will renew and upgrade the on-bus system providing live bus information to our control centres and interfacing with passenger information displays at bus stops. Work remains on track to complete in 2027. Linked to this project, we are continuing to evaluate suppliers for the new Countdown 3 system, which will provide improved passenger information relating to bus arrival times and other relevant information, such as network disruption updates. We remain on schedule to award a contract for this project in late 2024.

We are also working to replace around 100 end-of-life ticket vending machines on the DLR to maintain passenger service levels and to introduce passenger counting on London's bus fleet, enabling our bus passengers to make improved journey choices.

Micromobility rental

Procurement is ongoing for a new operating contract for the Santander Cycles scheme, as the existing contracts expire from 2025.

Government legislation is needed to give cities the powers to properly manage both non-docked rental e-bikes and rental e-scooters to improve safety, ensure parking is better controlled and to provide a better user experience for customers. In the meantime, TfL, London Councils and London boroughs are exploring the design of a single coordinated future scheme to manage dockless e-bikes and e-scooters in London through a contract, to improve parking of the vehicles while also increasing the quality and sustainability of these services in London. The London e-scooter

rental trial continues to operate in parallel, delivering more than four million sustainable trips since it began in June 2021.

Connectivity

Since replacing the 20-year-old legacy radio base stations at 293 sites across the London Underground, we are now benefiting from increased reliability, with no failures to date, and reduced power consumption, which has lowered our carbon emissions. We continue to rollout new handheld radio devices to London Underground staff, with the Bakerloo, Piccadilly and Victoria lines now complete, and more than half of the Northern line completed.

We are renewing three obsolete data networks with a single new network infrastructure capable of transmitting multiple types of communication. This work will ensure that critical information like operational data, CCTV and radio continues to be transmitted reliably, facilitating the continued safe operation of the London Underground. As it rationalises multiple existing systems, this new data network will be cheaper to operate and will further reduce our carbon footprint. Detailed design works have begun, fibre optic connectivity has started, and in 2024 we are planning to complete early testing of the migration process. Work has begun on the project which will re-tender the operational and maintenance contracts for these critical communication services.

We are renewing network connectivity and Wi-Fi at 36 bus and coach stations/offices, to provide colleagues with access to tools which will improve customer service. Colleagues at Vauxhall bus station, which went live in May, are experiencing a 10-fold increase in connectivity speed.

Digital asset management

A programme is being developed to digitise our asset management capabilities to improve future planning, decision-making and efficiency. Procurement activity is ongoing for a system to support strategic investment decision-making in a consistent, transparent and evidence-based way.

Technology and data

Payments

We have successfully delivered the introduction of a new concession for eligible care leavers aged between 18-25 and living in London. From 21 February, in partnership with London Councils, those eligible can apply for an Oyster photocard which entitles them to half-price adult fares on bus and tram services.

On 3 March we delivered the annual fares revision. As directed by the Mayor, pay as you go fares on our services have not increased. However, fares for joint products, including pay as you go fares for journeys involving National Rail, daily and weekly caps and Travelcards increased by an average of 4.9 per cent, in line with the DfT's direction to the train operating companies.

As part of this fares revision, we implemented a trial of removing peak-time fares on Fridays from 8 March to 31 May 2024. This change meant that off-peak Tube and rail fares on pay as you go with contactless and Oyster applied all day, removing the higher-peak fares which apply

between 04.30 and 09.30 and between 16.00 and 19.00. The change also meant that 60-plus and older persons' Freedom Passes were valid all day during the trial, removing the pre-09.00 restriction. This trial change was introduced to stimulate economic growth on Fridays, where demand has not recovered as strongly as on other days of the week.

Digital workplace

Activity on our future desktop initiative (successor to Windows 10) continues apace, with multiple project workstreams underway and scheduled to continue well into 2025. The importance of this project means it will be the primary focus for our Digital Workplace team and many other areas of Technology and Data during this time.

We are at the midway point in two significant hardware refresh projects. Our London Underground iOS refresh project has replaced 733 of 1,872 legacy mobile devices used primarily by our front-line staff to deliver a first-class customer service. In parallel, our laptop refresh project has now replaced 1,200 devices across the business, ensuring our colleagues have hardware to support the delivery of Windows 11. All decommissioned devices have been donated to the Devices for Schools initiative led by our colleagues in the End-user computing team, who have thus far donated more than 800 devices to 38 London state schools in support of our sustainability objectives.



We have donated 800 digital devices to 38 London state schools so far

Networks

Work to extend mobile coverage on the Tube has continued this quarter. Building on the delivery of 4G to all Elizabeth line stations, the tunnel sections on the Elizabeth line from the Royal Oak portal through to Paddington and on to Liverpool Street have gone live with 4G and 5G.

Following successful testing on the Piccadilly and Victoria lines, tunnels and stations are being launched on all three lines, which significantly improves connectivity, particularly in Zone 1.

Some key stations that have gone live in Quarter 1 are Bank, Bond Street, Covent Garden and Piccadilly Circus. We remain on track to deliver improved coverage across the whole of the Tube network, as well as the Elizabeth line, DLR and London Overground, by the end of 2025.

Our project to replace the end-of-life data network services that underpin virtually all surface services is nearing completion. Our contract with the incumbent provider (GTT) expired at the end of August, and we have completed the migration of all critical services and shutdown of the legacy network.

In addition to reducing cost and improving reliability, this project is reducing the amount of active equipment employed to deliver data network services, saving power and reducing our Scope 3 emissions.

We have completed the delivery of WiFi to 26 London Underground train crew accommodation locations, with a further two to be delivered in Quarter 2 2024/25.

This will provide train operators with reliable access to critical operational data and systems.

Technology services operations

As a central part of the GLA Group 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 Group.

Within the ITSS initiative, we have migrated a total of 1,338 colleagues to their OneLondon (TfL) devices across the GLA and the Old Oak and Park Royal Development Corporation, with the device rollout scheduled to complete in Quarter 2 2024/25. TfL print devices have also been deployed across all applicable GLA sites.

Additionally, within ITSS, eight GLA and Mayor's Office for Policing and Crime business systems have been re-hosted within the TfL environment, with a further two business systems in flight. Finally, Office365 tenant migration design activities are nearing completion.

We have concluded early market engagement activities for two further key initiatives, the provisioning of an IT service management (ITSM) strategic solution and the introduction of a software asset management (SAM) service provider. Procurement activities across both ITSM and SAM have now begun.

Enterprise resource planning

The myJourney phase 2 project has started user acceptance testing in readiness for going live on 23 September. This project replaces our core HR system of records

and digital system for recruitment and onboarding new colleagues across TfL and the GLA. It is a prerequisite for the new payroll system in future years.

Our core SAP ERP system and its upgrade to SAP S/4 HANA has revised its procurement strategy, with the foundation infrastructure and hosting decision being prioritised ahead of the system integrator market tender. This change in approach by Commercial does not change the target contract completion date to onboard an implementation partner by March 2025. In parallel, preparatory process and data improvement work in advance of contract award is progressing well, especially in Operations.

At the end of June, we upgraded the SAP Ariba procurement system to enable supplier commerce automation. This will enable our suppliers to automatically transact through the SAP Ariba e-commerce network increasing procurement and payment efficiency. The Procurement and supply chain team are now onboarding suppliers to the service.

The Operational workforce management project continues with its Agile build activities ahead of the launch of new software, UKG Workforce Dimensions. Phase 1 for the rostering and scheduling of compliance, policing on streets, London Underground revenue control and bus operations colleagues goes live in March 2025. 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

We successfully completed the transition of all contactless payment cards customer-contact handling services from the previous incumbent, Novacroft, to our new service suppliers in April. Journeycall are now managing 40 per cent of our customer call handling service and 100 per cent of all customer correspondence. Marstons are managing the remaining 60 per cent of customer calls. Initial performance has been good, with call service levels improving every period and correspondence response metrics at a record high.

We have started the re-tender project for adult Oyster contact handling and card fulfilment. We have agreed how the work will be tendered and how we will be taking all suppliers on the contact framework through these decisions and the re-tender process. We completed the tender pack documentation in July and published the tender in August 2024.

Following approval of the contract award recommendation for the contact centres' interactive voice response service, the contract has been awarded to Eckoh. The new contract started on 1 July 2024.

Data analytics

Following the endorsement of our strategic vision for data and our delivery approach, we continue to work on planning and piloting a detailed programme of work which seeks to both deliver value and improve our data maturity through the delivery of new data products, using best practice to guide and enhance our ways of working with data and use of enabling technology, and uplift our skills and capabilities.



Our new platform supporting mobile payments will help protect revenue

Further to a request from our Chief Customer and Strategy Officer, we have added year-on-year comparisons to the Taps public dashboard. This now allows users across the business to easily compare passenger travel counts with last year's equivalent day. Previously, counts were compared to 'normal' pre-pandemic demand but as customer behaviour continues to return to normal, pre-pandemic baseline comparisons were growing increasingly outdated.

Digital

The TfL Go app has now been downloaded almost 6.5 million times, with 892,000 monthly active users in June 2024.

In May we launched our first commercial partnership in TfL Go with Team London Bridge, helping to promote sustainable travel and a vibrant London in a trial that ran until the end of August. We are actively exploring future opportunities with other venues and destinations and have several new partnerships in place through to early 2025.

We continue to migrate the Mobile Payments API to a new, supported platform. This will protect the approximately £120m in revenue that we collect via our apps. In June we successfully deployed several more components as part of the ongoing iterative release process, and deployed the remaining two APIs in early August, ahead of the August deadline to maintain service. This is a prerequisite for the launch of payment functionality in TfL Go, which is on track for September 2024.

Alongside this, we are readying digital platforms for the London Overground line naming. This will include a new status page on the TfL website. We are also finalising the delivery of Tube status push notifications in the app, with a launch planned for Quarter 3 2024/25.

Technology challenges

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. We have now introduced a system to track our strategic resourcing situation in the Investment Portfolio. The system is now live, with the majority of our resources allocated, however there is still work to be done before we get the full picture. We are engaging at senior level with the PMO team, which owns the tool to overcome the early adoption challenges and ensure that the data is complete. Of itself, this will not resolve the issues with resource capacity or capability, but will allow us to make faster, more accurate decisions on workload prioritisation and allocation.

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, with one of our strategic suppliers now reporting that they have secured all the resources they were seeking.

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	Cost to date (£m)	Cost to go (£m)	Forecast cost* (£m)	Programme and Project Authority (£m)	Variance: Forecast cost v authority (£m)
2022/23 to 2025/26	418	368	786	1,137	351
Change since last Investment programme report					
No change	52	1	53	No change	

Financial commentary

There has been a £53m forecast increase since the previous quarter, more than offsetting the £23m reduction reported in the previous quarter. This forecast update reflects an increase in the Streets side of programme, more closely aligning future years' investment with the asset strategy reprioritisation exercise that was completed during the 2024/25 budget.

Performance over time commentary

The forecast over the last five quarters has been broadly stable, with an increase of £39m (five per cent) over this timeframe, predominantly in Streets. Programme delivery in Quarter I was £52m, aligned with the average spend for the previous four quarters. The increase in Programme and Project Authority in the year was granted by the Programmes and Investment Committee in June 2024 for scope to be delivered through to the end of 2025/26, and DLR station controllers to the end of 2028/29.

Programme update

The programme consists of a capital programme, surface operations assets, surface major assets and LIP support to the London boroughs for bridges and roads. It also includes renewals such 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 successfully achieved the planned outputs and benefits, therefore mitigating asset risk and ensuring the continued reliability and safety of our networks. However, the level of investment was significantly below that required (up to 50 per cent lower on some asset types) to remove the backlog of renewals and maintain service levels.

All the figures in the table above are shown excluding income and third-party contributions.

Plans for 2024/25 are now fully developed but, due to constrained budgets, several projects have been deferred.

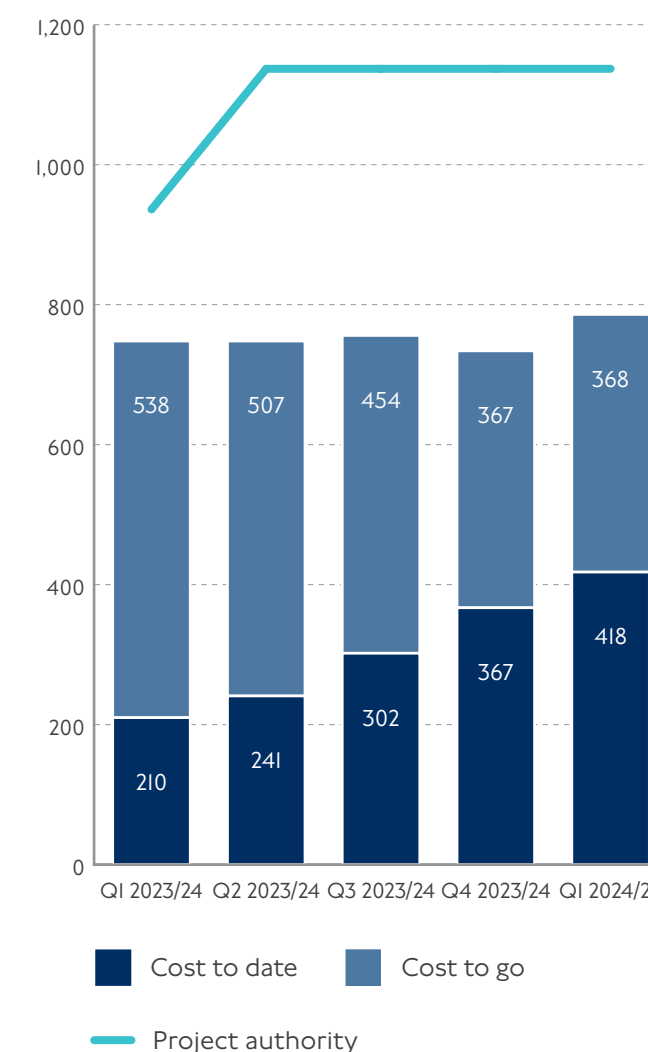
Securing third-party funding, for example through the DfT's Major Road Network programme, is therefore essential to help mitigate asset risks. Nevertheless, through tough decisions and our work to reduce costs, we are beginning to work through the programme of long-delayed and vital improvement to the network, including further work on the A40 Westway. This a key strategic route and one of our most important freight corridors. It is one of London's busiest roads, carrying around 90,000 vehicles per day.

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 Joint Venture as design and build contractor in April 2023 and plan to complete the design work by November 2024 with delivery timescales subject to budgets and value for money. Any closures required to deliver the project will be after the opening of the Silvertown tunnel.

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



* Forecast cost reflects forecast starting 2022/23 vs authority which includes legacy Public Transport programme starting 2017/18.

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.

The concept design using the existing foundations to support the new deck structure has been completed. The outline business case was formally approved by the DfT and Treasury in April 2024, unlocking up to £57m support through the Major Road Network Fund towards the required repairs. The contract for design and build has now been awarded and the detailed design stage begun. The construction phase is programmed to start March 2025 subject to DfT approval of the full business case.

A40 Westway

Following successful completion of the major roller shutter joint replacement, the project is now focused on delivering the remaining scope. This includes further joint replacements, parapet renewals and repairs to concrete deterioration. The project will deliver essential renewals of one of London's key highway assets, ensuring that the road network is safe and operable and avoiding unplanned closures and disruption.

Concept design work for the remaining elements has been completed and we have awarded the contract for work on eight expansion joints. Detailed design is progressing well. We began the next

stage of the delivery on 21 July this year as planned. This includes work on the slip roads at the Westway roundabout. We are working with key stakeholders to coordinate and plan the delivery of this stage and have ensured advance publicity is in place alongside a travel demand management campaign. Our plans have been carefully co-ordinated to, as far as possible, take place during the summer holidays when traffic volumes are lower.

We are also progressing with the design work on two further 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 longer-term strengthening works to fully restore the bridge.

Carriageway renewal

This quarter we have completed the resurfacing of A1202 Commercial Street (Wentworth Street to A10 Shoreditch High Street). We have also started the resurfacing of A4 Hyde Park Corner, A302 Grosvenor Place and A23 Brixton Road. The project team continue to plan works for A1 Upper Street, A316 Lower Mortlake Road and Apex Corner.



Repairs to the Westway keep this key highway safe and avoid disruption

Buses

Kingston Cromwell Road bus station

The major redevelopment of Kingston Cromwell Road bus station 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 3 2024/25.

New Routemaster refurbishment

This programme is the mid-life refurbishment of 998 TfL-owned New Routemaster hybrid powered buses. To date, 607 buses have been refurbished, 32 of which were during financial year 2024/25. The programme target for financial year 2024/25 is to complete a cumulative total of 700 refurbishments.

Bus refurbishment centres have been rephasing their resources to a smaller TfL pipeline, reprioritising other work to ensure they generate enough revenue by working with other bus operators across the UK to protect jobs. The operating expenditure budget impact of this reduced investment will be up to £35m of additional pressure in the next five years.

The programme has successfully delivered enhanced customer experience improvements while driving revenue, safety benefits, patronage growth 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-yearly out-of-water assessment and maintenance cycle on both Woolwich Ferry vessels, in line with our regulatory obligations. Both vessels have now received Lloyds Class approval, with successful completion of the Lightship survey on the second ferry at the end of March 2024.

Preparatory work to allow the annual out-of-water checks on the vessels to be undertaken using existing infrastructure at Woolwich is being undertaken, with the objective of enabling the on-site maintenance grid to be usable by October 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 operation of the existing auto-mooring system is being reviewed with this work being used to understand the options available to deliver more reliable auto-mooring in the future and to build a strong business case.

Our contractor, Telent has begun preparations for installing our customer Help Points at ferry terminals.

A proof of concept to provide live journey information for the ferry service will be trialled in September 2024 to inform next steps with a further project.

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

Concept design work is being advanced for the project to improve the flexibility and capacity of the Woolwich Ferry north terminal, in tandem with a Safe and healthy streets scheme to improve the streetscape on Pier Road and facilitate an affordable housing scheme on land adjacent to the terminal.

London Overground

We have considered a range of procurement options for the replacement of the East London line signalling control system. These include working collaboratively with Network Rail and exploring sourcing replacement by TfL. A robust procurement strategy has now been developed capturing the requirements to enable the services of dedicated original engineering manufacturers (OEM) suppliers and it has been agreed that TfL will put out a tender directly rather than through Network Rail. Four suppliers have expressed interest. Tender is expected to go out in September 2024.

Rhomberg Sersa UK were selected to replace a total of 2,300 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. Further preparation of 400 locations was carried out under possession in March 2024. There have been unforeseen issues with ground conditions – we are therefore undertaking a review of the most appropriate way of completing these works and expect to reach a final decision by September.

Work has started on replacing the redundant BT Kilostream circuits that control the traction power switches for the East London line. BT, Dyer & Butler and Motion Rail are all collaborating on this project, which started delivery work in July and will be completed by the end of September 2024.

DLR renewals

Procurement activities for the renewal programme continue, with continued 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 our 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 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 work is now finished, and migration is ongoing to bring the new system into use. This system is used for station announcements, which are essential for evacuations as the majority of DLR stations are unstaffed. Automatic people-counter equipment server migration is complete, and a contract has been awarded to replace the DLR transmission network.

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 Hitachi (formerly known as Thales), following a successful negotiation. The existing first-generation station controllers will be replaced with fourth-generation controllers which will support the rollout of the new DLR trains in 2024 and expansion of the DLR network.

The project is looking to ensure that work required to integrate the new trains, funded through the Housing Infrastructure Fund, is combined to reduce any risks on operational requirements. Loop cable renewal continues, with the majority changed on the east, south, west and Stratford International 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 was delayed until July 2024, requiring some key projects to be re-programmed so as not to affect services. The Poplar direct current (DC) switchgear has been commissioned into service. Custom House DC replacement switchgear is 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 Heron Quays planned to be completed in Quarter 4 2024/25. West India Quay lighting renewal has been commissioned into service. Poplar low-voltage renewals are complete, including the migration to the new switchgear.

Platform resurfacing

The second phase of platform resurfacing has begun, with works fully completed at All Saints, Royal Albert and Prince Regent DLR Stations. Construction work has begun and is currently being delayed to allow New Train testing to progress. 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

Track-fixing works continue. In Quarter 1 we completed the last remaining worksites and closed out minor defects. Switch and crossings renewals were undertaken with the full renewal of I,141 and I,142, on a four-day closure during Easter. Re-railing was undertaken with a total of 700m of track rail renewed and four structural expansion switches upgraded.

Lift and escalator upgrades

The lift system upgrade project has started on the next phase of 46 lifts. In addition, three of the four escalators at Cutty Sark have been refurbished and returned to service, while works have yet to begin on the remaining escalator. Currently three of the four escalators at Cutty Sark are out of service due to faults.

Two escalators at South Quays have returned to service following refurbishment. Work has begun on lift renewals at Westferry, Limehouse, City Airport, King George and Star Lane. We have also begun mid-life refurbishment on the escalators at East India and Canary Wharf stations.

London Trams renewals

Our renewals programme continues across five asset groups: rolling stock, power, civils, systems and permanent way infrastructure.

Track renewals

The first phase of the East Croydon and George Street track renewal was successfully completed during the track closure in February 2024 and the second phase was completed in the second closure in April 2024. The ballasted track renewal at Sandilands junction was also completed in the April 2024 closure.

We have initiated site surveys and design work for future track renewals projects, such as Shirley Hills road crossing, Kent Gate Way road crossing, Saffron Curve and Barclays Curve embedded track renewals in Croydon town centre, and Mitcham Interlace ballasted track renewal.

These projects are expected to be on site in 2025. We are looking into accelerating the Barclays Curve renewal due to deteriorating asset condition concerns.

Birkbeck tram stop

We completed site investigations and design to renew the ramp and retaining wall which provided access to Birkbeck tram stop. However, due to funding constraints this year, a value engineering exercise is currently being undertaken. This will allow the most critical elements of scope to be completed in 2024, with the final phase of works postponed to 2025.

London Trams depot

The fire doors were completed in March 2024 and compartmentation aspects have been released to TfL framework suppliers for tendering, due to non-performance by the previous contractor. The plan is to complete delivery by the end of financial year 2024/25.

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

Tram control system renewal

The feasibility study for the tram control system renewal to replace critical life-expired components is ongoing and will complete in Quarter 2 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	Cost to date (£m)	Cost to go (£m)	Forecast cost (£m)	Programme and Project Authority (£m)	Variance: Forecast cost v authority (£m)
2022/23 to 2025/26	858	773	1,631	3,721	2,090
Change since last Investment programme report					
No change	106	(29)	77	No change	

Financial commentary

Quarter I begins the 2024/25 financial year with a strong performance delivering ahead of budget expectations, with £106m of cost to date for Quarter I 2024/25.

Project delivery this quarter is mainly observed across the Central line improvement programme (£11m), Fleet overhauls (£31m) and Track (£27m), with the balance delivered across remaining asset categories.

Cost to go has reduced by £29m due to the reprioritisation of spend until after the 2025/26 reporting period. Forecast cost has increased by £77m following additional financial authority granted as part of 2024/25 budget setting.

Performance over time commentary

In Quarter I, London Underground renewals are delivering ahead of forecast with spend to date during the reporting period of £858m and achievement of £1.5m in cost reductions.

The accelerated performance in the quarter was assisted by a strong start and delivery confidence in the current year's programme remains high. There are planned increases in the volume of fleet overhauls. Furthermore, the Central line improvement programme and incremental signalling renewal project are moving to their main delivery phases.

Network-wide track renewals

In Quarter I, we converted 1,975 metres of bullhead rail with the more modern flat-bottom form. We also completed 419 metres of deep tube renewal reconditioning works, improving reliability and reducing noise.

During weekend possessions we delivered the following ballasted track renewal on the District line:

- 193 metres between Gloucester Road and South Kensington (possession also included 25 metres of 'open-cut' drainage works)
- 195 metres at Hammersmith through platform I

Victoria line (fleet overhaul and depot control system renewals)

We completed installation of the pressurised ventilation system, coupler overhaul, trailer wheelset overhaul and phases I and 2 of door works across all trains in service. We also continue to undertake level 7 activities such as cab seat overhaul.

Metropolitan line (fleet overhaul)

We completed overhaul of the fleet. Overhaul of doors is scheduled to start in October 2024.

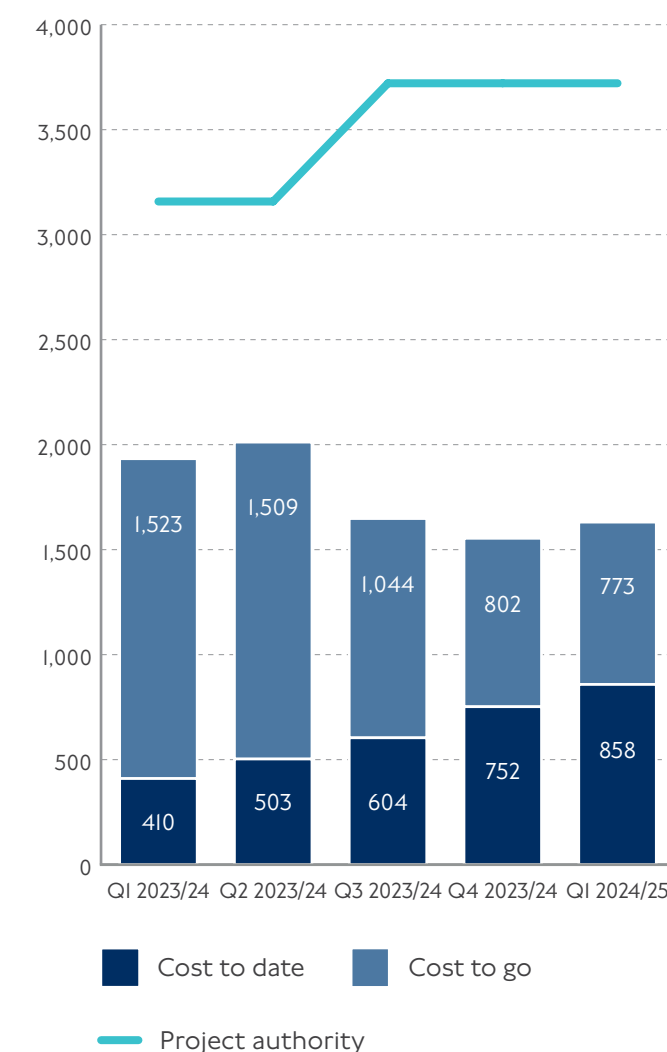
Metropolitan line (Liverpool Street escalators)

We completed installing the three escalators ahead of schedule. They are positioned as designed, and step and chain installation has begun. Electrical and fire system work continues as planned.

District line (fleet overhaul)

We will start the S7 fleet overhaul in April 2025. Work in advance of the main overhaul is complete on 14 trains (11 per cent of the fleet).

London Underground performance over time (£m)



All the figures in the table above are shown excluding income and third-party contributions.

Jubilee line (fleet overhaul and component renewal)

Work is in progress to start door overhauls in July 2025. We are also planning to develop designs to modify the drawgear in line with the external supplier underframe solution. We have also completed 40 out of the 63 trains for the programme lift element of the works.

Jubilee line (ventilation systems)

We have fitted 60 per cent of the smoke damper actuators to the ventilation systems at Bermondsey and Stratford Market depot. Works for the replacement of controls and refurbishment of fans on the east end of the Jubilee line are progressing to programme. The overall ventilation programme is scheduled to finish in September 2026.

Jubilee and Central lines (escalators)

In Quarter I, we continued work on the next three escalator refurbishments. At Bank and London Bridge, the escalators returned to service in mid-July. Canning Town is currently forecast to be returned to service in September 2024. Station-specific design challenges have slightly extended the on-site activities. 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 for the replacement of central computers on the Northern line has been completed and installation works are underway for the first pair of computers. The detailed design for works to replace the train operator displays on both lines is ongoing.

Northern line (Kentish Town escalators)

Work to fully replace both of the escalators at the station is progressing well and we are on track to complete the installation of the new escalators this summer. Remedial work on platform and corridor tiling is progressing as planned.

Earlier this year, we identified essential assets that require complex structural works to repair. Unfortunately, due to the condition of the assets and the ongoing complexity of this work, we are now expecting to reopen the station by the end of this year. The nature of the essential work, which involves removing and replacing the concrete ticket hall floor, concrete ceiling and supporting steelwork, has required additional time to design and take forward safely. We are looking at all possible options to reopen the station as quickly as possible without compromising the safety of our customers and colleagues. This includes looking at whether we can safely reopen the station while some works continue behind hoardings.

Piccadilly line (fleet overhaul and signalling renewals)

We have completed life-extension works and service access door overhaul across the fleet. We continue to remove components which contain polychlorinated biphenyls (PCBs – a hazardous chemical) on the Piccadilly line, all of which are in non-customer-facing areas, with nearly 200 track capacitors replaced during the quarter.

Piccadilly line (Holloway Road lifts)

The replacement of lift 2 has started following the completion of lift 1 in June 2024. The project is scheduled to complete in January 2025.

Central line (fleet and signalling renewals and incremental signalling)

In Quarter I, the Central line improvement programme team successfully completed the annual Independent Investment Programme Advisory Group assurance with no critical issues. We have also relocated existing manual boarding ramps to the new position of the accessible car.

The Central line life-extension project continues to replace old equipment, with hardware installations completed at Ealing Broadway, Epping, North Acton and Woodford. On the control and information side, we have started the installation of the control centre network, with 10 out of 17 sites completed.

Feasibility and planning for the first tranche of the incremental upgrade to the signalling interlocking computers on the east end of the line is ongoing, with full contract award expected in the first quarter of 2026.

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

We completed the last cyclic overhaul, and a new cycle started with five per cent of the fleet's programme lift completed. We have fitted wheelchair bays on 13 trains and the first fully accessible train to run the whole length of the Bakerloo line is planned to enter service in early November 2024.

We continue to install key signalling and control interface equipment in lineside rooms. Fifteen out of 16 sites have been completed, with work at Paddington still in progress. Cable installation and initial testing is ongoing. Initial design works for the new control room has begun.

Bakerloo line (Marylebone escalators)

The work finished on the final escalator replacement in September 2023. In Quarter I, we completed station welfare renewal works and fire hydrant upgrade works. We also completed work on the gateline, the final Bostwick gate and panelling works.

Bakerloo, Central and Waterloo & City lines (accessibility)

The DfT consultation to extend the rail vehicle accessibility regulations exemption for the Bakerloo line closed earlier this year. Discussions with the DfT on the exemption, previously paused due to the general election, have resumed. We have also converted all fixed-term contractors to permanent staff to ensure that full resources are in place to meet the compliance date.

Rail adhesion train

Work is in progress to start the overhaul of the District line rail adhesion train (D78), with completion expected by September 2025.

Mechanised track renewal vehicle

After consulting with our trade unions, we are making further safety improvements to the mechanised renewal vehicle (MRV). Final trials are expected by September 2024, once this work is complete. After the trials, we will make the MRV available for other projects.

Modular points and crossings

We are working on handing over our Kirow cranes from the project team to the business-as-usual teams. They will take over routine maintenance and ensure the cranes are available for other projects. We expect this to be completed by November 2024.



Ecology surveys are undertaken prior to devegetation of embankments

Remote track monitoring

This project is delivering new equipment which will be installed on two wagons to enable track condition recording. This will replace the older technology. A feasibility study to determine the next phase of the project has identified several technical issues which need further investigation. We are currently working on an options assessment report to determine the best way forward for the project. A decision is expected by September 2024.

Engineering vehicle overhauls

The battery locomotive and repair process for the bogie frames is under trial, with completion now expected by the end of September 2024. Successful completion of this 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. A full scoping document for the overhaul is currently being reviewed by engineers.

We have mobilised a new workshop facility at our Acton works depot to enable directly employed maintenance teams to carry out overhaul works on our fleet of engineering wagons. The facility is now up and running. We expect to be able to achieve two wagon overhauls per period by September 2024. Work to overhaul one of our Matisa tampers is also underway.

Network-wide water ingress remediation

Feasibility work for Mayor Sworders Arches substation has been agreed by the power engineering team and the project team is undertaking final checks. This will be followed by the update of the concept design by the end of January 2025 and then procurement for the build.

Concept design completions for Chancery Lane and St Paul's stations are scheduled for September 2024. Detailed designs for Charing Cross and Liverpool Street stations are planned for completion in June 2025.

Network-wide cutting and embankments

We have completed works on site on the cutting between Grange Hill and Chigwell stations on the Central line and we are preparing to close the project. Procurement of drone topographical surveys has been completed for the embankments between Finchley Central and Mill Hill East and Triangle sidings.

An ecology survey was carried out at both sites in July 2024, which will enable completion of the de-vegetation of the assets in mid-September. After that, a physical topographical survey will be completed to supplement the drone surveys that were done in August 2024.

Ground investigation surveys have been completed between Debden and Loughton and the report was received in August 2024. Ground investigation surveys are ongoing between Northolt and South Ruislip with the report expected in September 2024. Procurement of a constructability report for North Acton to Hanger Lane is now completed; the report has been received and distributed to stakeholders.

Plaistow power substation roof replacement

All works have been delivered. The project was planned to close in August 2024. However, this will now happen at the end of October, due to engineering resource availability to sign off closed documentation.

Station platform remediation works

Remedial works at 10 sites (delivery phase 1) started in July 2024 and are scheduled to complete in December 2024. Procurement for delivery phase 2 has been paused due to reprioritisation of delivery phases. The project is now pursuing procurement and main works for delivery phase 3 in 2024/25 based on risk and limited funds. The invitation to tender is scheduled for May 2025 and contract award in August 2025. The order of delivery for phases 2 and 4 is to be determined.

Welfare facility renewals

We have completed five rooms at Westbourne Park, with works near completion at an additional two sites. We have awarded contract for five sub-stations and preparing for mobilisation on site. Two tenders are under review, with further tenders to be released in Quarter 2 2024/25.

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. We have started site works at Stratford, which are scheduled for completion in late October 2024.

Secondary lifts (supporting step-free access)

Green Park lift replacement is progressing to plan. Hounslow East lift 2 is currently two weeks behind schedule due to a delay caused by late finish of lift 1 due to design issues. Bermondsey is 10 weeks behind programme due to unforeseen additional electrical works.

Uninterruptable power supply (UPS)

Rolling replacement of UPSs are continuing as planned. Fourteen have now been commissioned on the Jubilee and Victoria lines and power control centres, with 12 planned to be completed by April 2025.

Offline battery power inverters

As part of the replacement programme, 20 units have been commissioned in phase 1. Following successful factory-testing in May 2024 of an enhanced unit, five more have been commissioned as part of a second tranche of 40. These new units include development changes and recycling of key components to help mitigate the obsolescence risk of the remaining units. A separate market engagement has been conducted and contract specifications are being prepared for further units as part of the strategy work on the longer-term solution.

Traction power

Design work to replace isolation switches in sidings were planned to begin in 2024/25 but will need to be deferred to prioritise spending in more critical areas. A replacement DC switchboard at Holborn was fully commissioned in April and the removal of the old 1960s equipment has been completed. We are de-mobilising to hand the site back to allow TfL Hidden London tours to resume in this area.

LED lighting

We continue work at three depots, with Hainault and Ruislip 95 per cent complete. Stonebridge Park (phase 1) is 92 per cent complete. Work will slow down in 2024/25 due to constrained funding.

LED conversion at King's Cross St Pancras station is currently 37 per cent complete. The conversion will be completed by the end of this financial year.

Small station conversion continues, with replacement of 1,000 lamps per period across several different sites currently in delivery such as Canada Water, Hammersmith, Hyde Park Corner, Loughton, Oakwood, Park Royal, Roding Valley, Southgate, Tooting Broadway and Westminster.

East Ham wall rebuild

Early contractor engagement to review feasibility of the works has been completed and a technical proposal for the design and rebuild of the wall was submitted in July 2024. The delivery approach has been routed for endorsement through commercial assurance meetings. Access licences and processes are progressing under the party wall, with 20 of 28 properties that border the railway having agreed terms. Site works are expected to start in Quarter 3 2024/25.

Elizabeth line renewals

The project to renew lighting and fittings (475 units) at Canary Wharf station with a compliant design was completed in June. The project to renew 20 voltage transformers was also completed in June, including 10 that required Network Rail possessions. During this period, the delivery programme for the 2024/25 asset renewals workbank has been developed and baselined to align with priorities.

A track renewal including two sets of half-points was completed at Whitechapel in a weekend possession in June. Works involved the first use of the Robel track machine in a live renewal environment (rather than a trial) and were completed within schedule. They were funded by Crossrail, but lessons learnt will be relevant for TfL-funded works.

Railway systems enhancements

We continue delivery of the Northern line signalling software updates, with the most recent achievement being successful operator checkout of the final release to be commissioned onto the railway in December 2024.

These software updates address residual issues and requirements following completion of the Northern line extension and the Bank station closure works.

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.

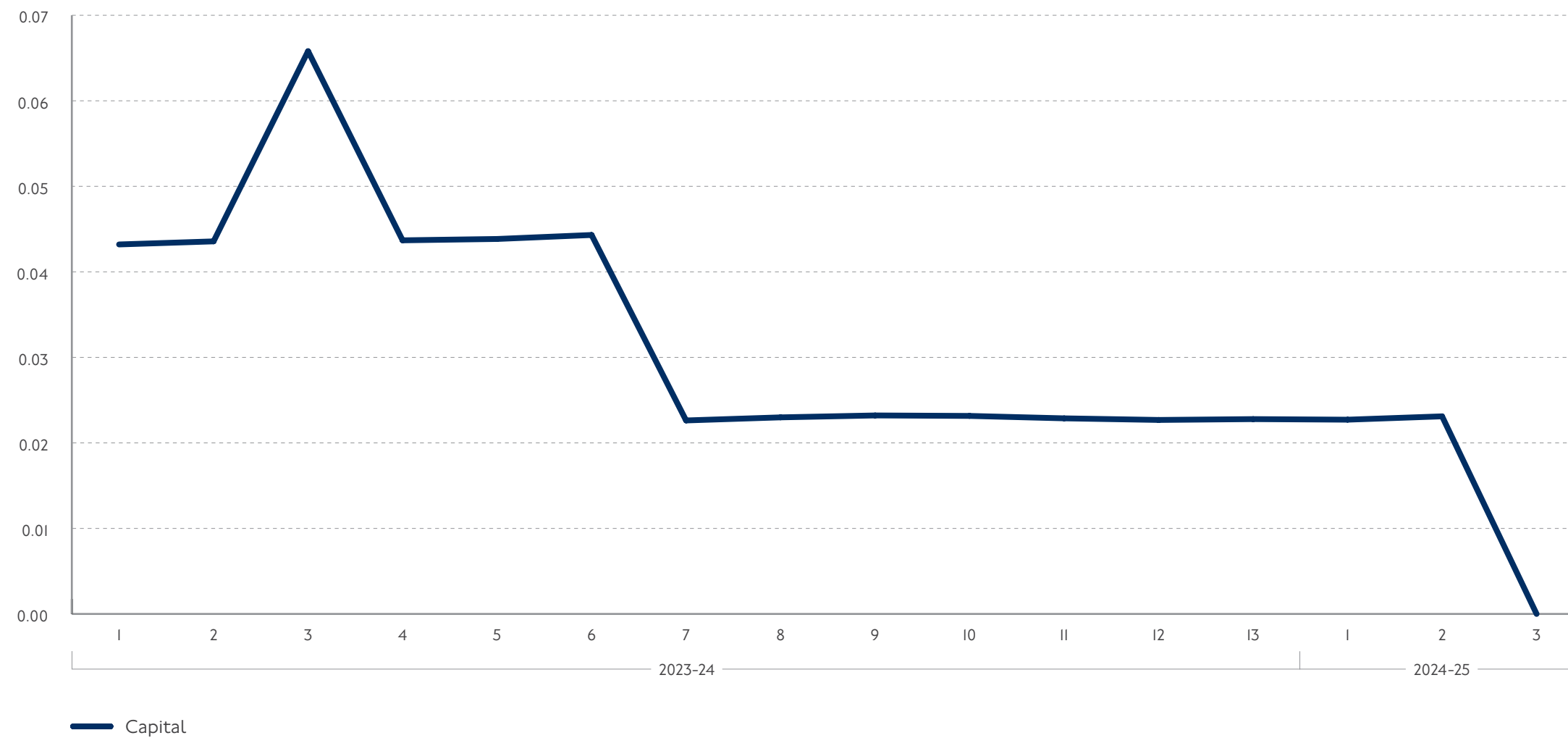
Delivery of the Jubilee line signalling software updates continues. The final software release is currently scheduled for Quarters 3 and 4 2025/26. This depends on successful delivery of the Four Lines Modernisation programme on the Jubilee line taking place in Quarter 2 2024/25. A revised delivery strategy is being considered to enable the Jubilee line signalling software to be delivered in advance of the above dates.

Appendix

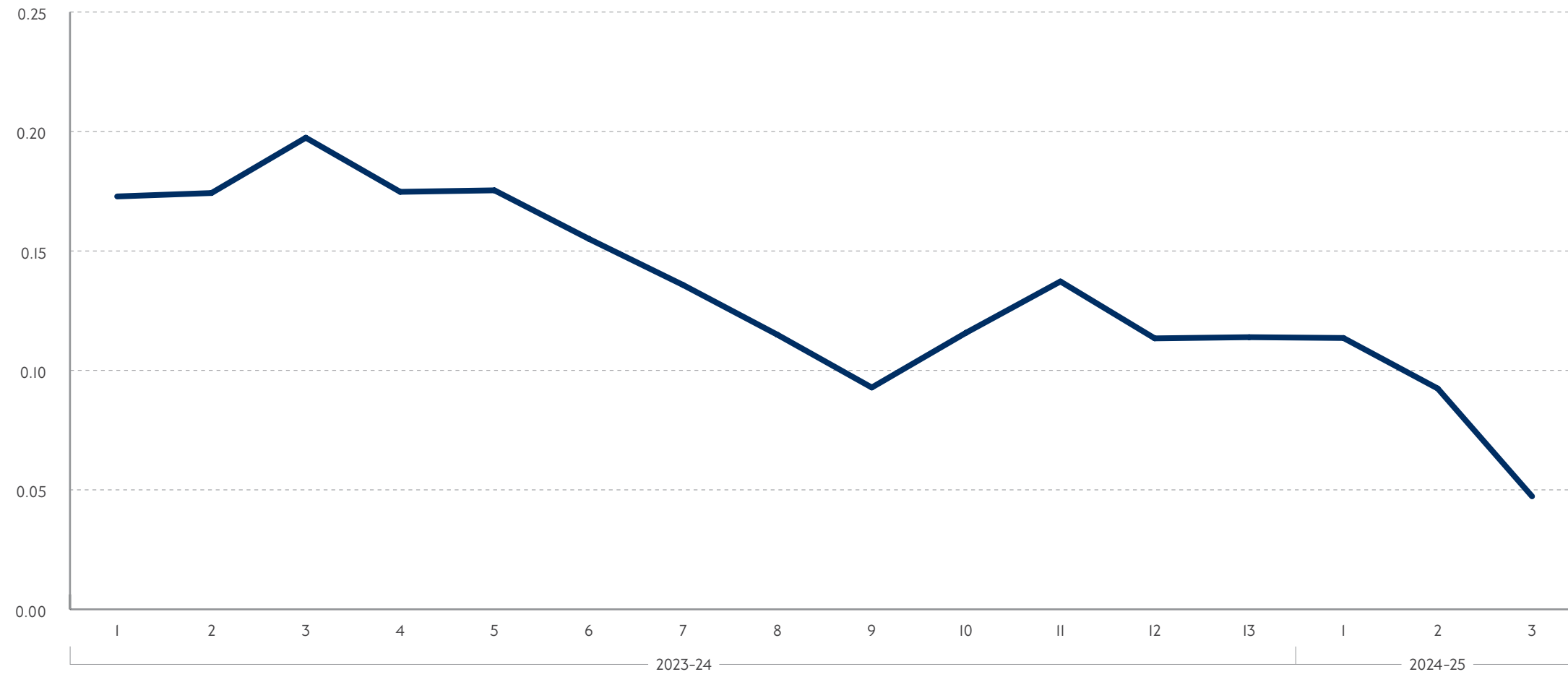
Our safety performance data

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)

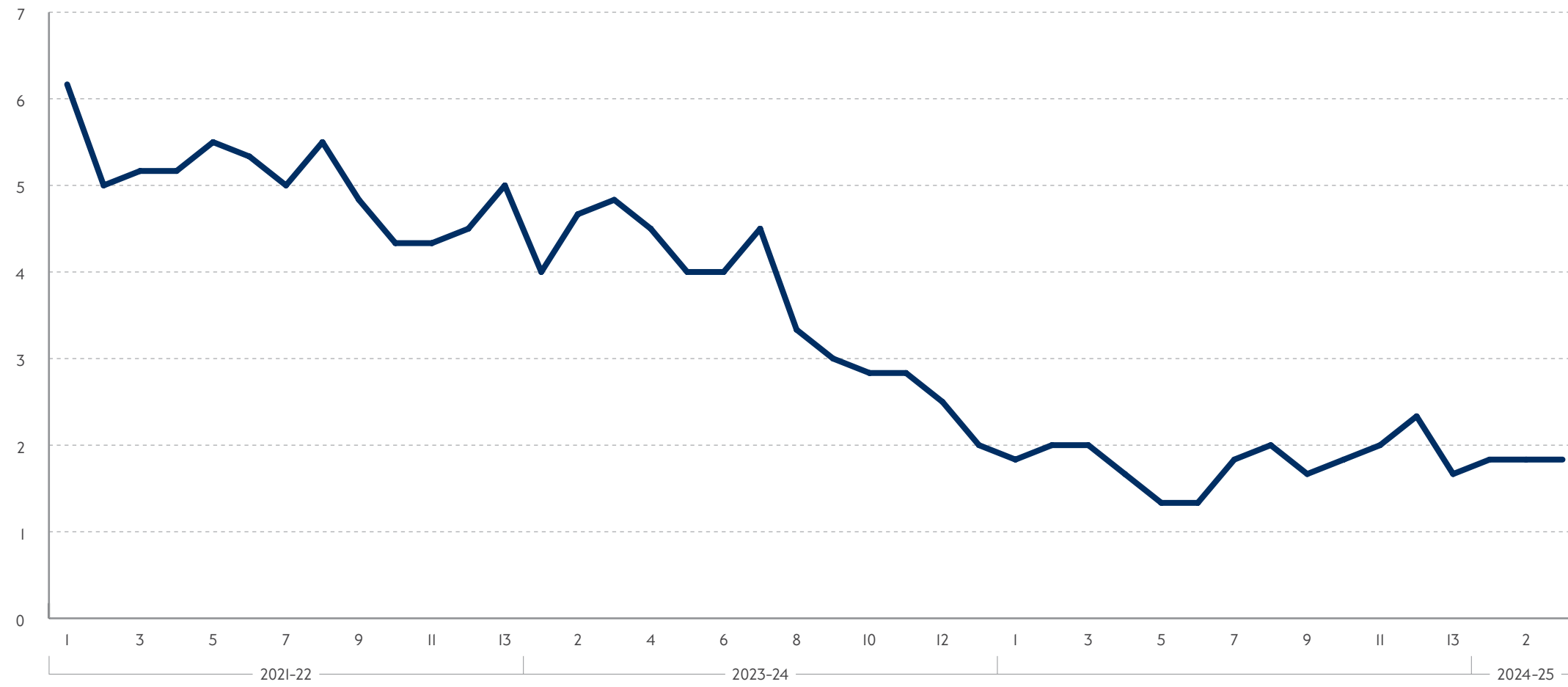


Lost time injury frequency rate
(per 100,000 hours worked)



Capital

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



Capital

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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