

Date: 13 September 2023

Item: TfL Corporate Environment Plan - Operations

This paper will be considered in public

1 Summary

- 1.1 In September 2021, we published our first ever Sustainability Report and Corporate Environment Plan (CEP), in order to outline our approach to sustainability and the environment to our customers, colleagues and suppliers.
- 1.2 The Sustainability Report is structured around the three pillars of sustainability (society, environment and economy) and the CEP provides more detail on our plans and ambitions for the environment pillar.
- 1.3 This paper provides an update on how the key themes within our CEP are continuing to be embedded by the TfL Operations team.

2 Recommendation

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

3 Implementation of the Corporate Environment Plan in TfL Operations

Our Approach

- 3.1 TfL Operations is responsible for the customer facing operations of our network, maintenance and asset renewal across numerous asset groups and networks, security and revenue protection. This update will focus on the environmental improvements and related business changes on which Operations colleagues are leading. Further updates relating to investments pipelines, construction and engineering led technical change will be made in the future.
- 3.2 The TfL Operations team are playing an active role in the implementation of CEP through mobilising delivery of investment activity to decarbonise our operations, build resilience to climate change and develop green infrastructure.
- 3.3 Over the past two years, TfL Operations' senior leadership has established environmental priorities at the heart of its decision making through the incorporation of carbon targets across our scorecards and ensuring that progress on key green milestones is monitored by the Operations leadership team. During the course of 2023/24, an Operations Environment Plan is being developed to ensure that the priorities of the CEP are translated into day-to-

day environmental performance alongside investment in our infrastructure and assets.

Engaging Our People

- 3.4 **Carbon Literacy:** Within TfL Operations, our focus is on activating the leadership community with plans underway to train our 260 senior managers and other key roles during this financial year.
- 3.5 **Sustainability training:** As part of a wider TfL programme, our Directors and senior managers will be participating in sustainability training following a successful training intervention with the Executive team in December 2022.
- 3.6 **Environment Leads:** Each directorate has a nominated Environment Lead, who are now working collaboratively to ensure that delivery milestones are being progressed and colleagues at all levels are engaged in the challenge.

Decarbonisation

- 3.7 **Zero emission TfL buses:** 1,150 zero emission buses are now operating on the network, which equates to over 13 per cent of our 8,700 fleet. This is helping to cut our reliance on diesel, cut harmful emissions in the capital and reduce CO₂. We are on track to deliver 1,400 zero emission buses by spring 2024. The longer-term target is for the full fleet to be zero emission by 2034 at the latest, but with appropriate funding and infrastructure enablers we want to bring this forward to 2030.
- 3.8 The current zero emission bus fleet also includes 20 double-deck zero emission hydrogen fuel-cell buses, launched in June 2021. The technology helps to reduce emissions and ensures our buses emit nothing except water vapour from their propulsion systems.
- 3.9 **Bus shelters, street lighting and traffic signals:** 80 per cent of lights in London bus shelters now have Light Emitting Diode (LED) lighting. Our analysis shows that new lighting uses around 57 per cent less energy, while offering 10 per cent brighter lighting, making shelters more welcoming and improving safety for customers especially at night. We expect to complete the conversion of all bus shelters to LED lighting including the advertising panels by the end of March 2024. Once completed the LED lights and advertising panels will save TfL at least £1.5m and reduce carbon by more than 1,000 tonnes of CO₂e annually.
- 3.10 Two-thirds of our traffic signals are already LED and 53 per cent of our street lighting are LED as of the start of 2023/24. £9.2m of Green Financing Facility funding will be used to accelerate the delivery of LED street lighting. This will bring the total number of LED street lighting up to 70 per by April 2025.
- 3.11 **Building decarbonisation:** We have secured funding through Phase 3B of the Public Sector Decarbonisation Scheme (PSDS) to deliver a low carbon depot project at Therapia Lane Tramlink Depot (Croydon). A project team has been mobilised and work is underway to meet the delivery completion date of March 2025. We are currently working with the Greater London Authority's

(GLA) Programme Delivery Unit to assess the viability of sites for a PSDS Phase 3C grant funding application this autumn. We are also commencing work to install additional solar panels on our Cable Car terminals.

- 3.12 **Lighting and systems:** The existing small station program has installed LED lighting at over 100 stations across the network. Building on this existing progress to roll out LED lighting, we plan to use £18m of Green Finance Facility funding to guarantee the continued delivery, reaching 100 per cent of small stations by 2032, saving an additional 28,000 tonnes of CO_{2e} in seven years and an additional 7,300 tonnes of CO_{2e} annually upon completion. Additional work is being completed to scope the remaining larger stations, with a view to potentially including a second application to roll out LEDs to 100 per cent of all stations by 2032.
- 3.13 The ongoing midlife refurbishment of the Central line fleet will enable the adoption of LED lighting in saloon cars.
- 3.14 **Energy management:** Our station operations have reinstated energy consumption reporting through a PowerBI dashboard. This will enable a network of Sustainability Champions to monitor usage at a local level and drive local behaviour change, as well as informing the case for infrastructure improvements.
- 3.15 **Electric vehicles and charging points:** We are now planning for the phased removal of all internal combustion engine powered vehicles from the large support vehicles fleet. This also includes reviewing how we use and store road vehicles to enable the differing needs of charging and maintaining electric vehicles at this scale to be met.
- 3.16 The Acton Depot redevelopment will incorporate 52 charging points for electric vehicles and we will convert at least 50 combustion engine vehicles to be battery powered.

Climate Adaptation and Resilience

- 3.17 Operations are contributing to strategic work streams addressing adaptation project pipeline development; studies of climate impact risk; engineering standards reviews; and cross industry working. As part of the development of our Operations Environment Plan, we will determine the best way to incorporate the outcomes of these strategic activities into our investments, change activity and day to day operations.
- 3.18 **Sustainable Drainage Systems (SuDS):** SuDS, like raingardens and green roofs, are a way of reducing and/or slowing the flow of water into our overwhelmed drainage systems, and so help reduce the risk of surface water flooding. They can also deliver a wide range of other benefits, such as supporting biodiversity and improving visual amenity. A project pipeline is in development to meet the Adaptation Plan target of an additional 5,000 square metres catchment draining into SuDS per year. Projects draining in excess of 20,000 square metres into SuDS have been identified. These include Old Street and Tolworth roundabouts, which are scheduled to be completed by the end of this calendar year and will drain 7,970 square metres into SuDS.

- 3.19 **Planning for extreme weather events:** We have robust adverse weather plans and emergency procedures that help us prepare for and recover quickly from extreme weather events. In addition to the 54321 Weather Plan, we undertake seasonal maintenance specifically designed to improve the resilience of our assets, such as regular cleaning of gullies (drains), enhanced temperature monitoring of critical assets, and targeted vegetation management in preparation for leaf fall season. We work closely with our multiagency partners within London Resilience, sharing best practice and offering mutual aid when needed. An internal assessment of our severe weather plans is currently underway. We will use the results to improve the plans consistency and accessibility.

Green Infrastructure and Biodiversity

- 3.20 **Defining the tree canopy cover and green cover baselines:** Innovative modelling and data science techniques have been used to understand the current percentage of our estate that is covered by tree canopy, as well as the percentage that is vegetated. We are working to enhance the modelling so that we can more accurately assess change over time using aerial imagery freely available to the public sector.
- 3.21 **Wildflower verges on the road network:** After successful trials at six pilot sites, we are adding 74,000 square metres of wildflower verges since spring 2023. Combined with the existing converted wildflower verges of 55,000 square metres, this will create a total area of 130,000 square metres or equivalent to 18 football pitches. Wildflower verges encourage biodiversity, supporting pollinators such as bees and butterflies. New locations include Gants Hill roundabout in Redbridge, Clockhouse roundabout in Feltham and on the A21 Sevenoaks Road (Green Street Green) in Bromley. We aim to convert 50 per cent of viable verge by the end of 2024.
- 3.22 **Tree planting:** We remain on track to meet the target of a one per cent year-on-year increase in street tree numbers between 2016 and 2025. We have planted over 400 trees in 2022/23. This exceeds the TfL Road Network tree planting target and delivers the one per cent year-on-year increase in street tree numbers between 2016 and 2025.
- 3.23 **Reduced pesticides:** We are committed to showing leadership in reducing the use of pesticides in line with the Mayor's London Environment Strategy. We have already reduced the use of pesticides on the road network by 70-80 per cent over the last three years (by aligning with the application frequency used on London Underground (LU)) and will continue to minimise our use where operationally and financially possible. Several trials are running over the summer 2023 growing season in different environments; including diluting pesticide products below manufacturers' recommended mix ratios and trialling more natural alternatives.

Air Quality on the London Underground

- 3.24 We have a three-pillar strategic approach to address Tube dust through monitoring, research and cleaning innovation.

- 3.25 **Monitoring:** We have implemented annual monitoring at 24 locations across the network. Air quality monitoring from within the train saloon was introduced in March 2023 and is now conducted every two months to inform cleaning.
- 3.26 **Research:** Strong progress is being made with two commissioned research projects by independent researchers at Imperial College London. These projects are examining sickness absence in LU working exposed to Tube tunnel dust and an epidemiological study related to Station Staff, Train Operators and similar staff groups.
- 3.27 **Cleaning:** The Tube cleaning budget has been increased from £1.5 to £2m per year. Cleaning is targeted at priority locations with at least 130km being cleaned, equating to 40 per cent of the total network of 330km of tunnels.
- 3.28 **Communications:** We have a proactive communications strategy. In April 2023 the media observed the innovative cleaning measures we have in place. In addition, a new permanent position will be appointed this September to work across TfL and GLA on corporate air quality, with a particular focus on Tube dust.

Noise on the London Underground

Reducing noise on the Tube remains a priority for us. We continue to monitor noise levels on the network closely.

- 3.29 **Rail grinding:** Rail grinding is currently our principal means of addressing Tube noise. We also continue to carry out other targeted interventions to reduce noise including removing redundant rail joints, maintaining points and crossings and re-ballasting track, where appropriate to the location.
- 3.30 **Engineering solutions:** We are also investigating alternative engineering solutions to manage Tube noise. For example, we have been trialling the replacement of Pandrol Vanguard track fastenings, which impact in-carriage noise, with alternative engineering solutions.

List of appendices to this report:

None

List of Background Papers:

None

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