Surface Technology Programme 2021/22 – 2022/23 Overview

Focus area: Roads Technology

Project / Programme	Scope & Key Activities in 2021/22 – 2022/23
Surface Intelligent Transport Systems (SITS) Programme	We are leading the way in delivering innovative new road traffic management systems to make journeys by walking, cycling and on buses, as well as essential emergency services and freight trips, as efficient as possible. SITS delivers these systems, including Real Time Optimiser and Common Operational View – Incident Management System (COV-IMS) which are currently in delivery. Work is also underway to secure data sources, analytical tools and skills to deliver and run SITS. In 2021, we will commence procurement of new system to predict traffic displacement following un-planned events. Following delivery by 2023, ongoing funding will ensure systems remain fit for purpose. Includes third-party income for innovation in COV-IMS.
Highways Annualised Technology Programme	Smaller initiatives to ensure core technology systems which enable us to manage the road network remain fit for purpose. Systems include London Works (managing roadworks) and the incident management bulletin board which handles over 1,200 emergency incidents per day. Includes third-party income through the Lane Rental Fund to trial rapid deployable cameras.
Roads Systems Refresh	Larger refresh / refactoring of seven operationally-critical systems to ensure continuity of key roads technology. Systems are used to remotely monitor and optimise traffic signal timings, and manage tunnels, the Network Management Control Centre and the Lane Rental System.
Regulated Network and Information Systems (NIS)	Many of TfL's operating systems (such as signalling, traffic control, CCTV and tunnels operations) are of national significance to the UK's transport network, and reportable under the government's NIS directive. This project will ensure systems remain cyber-secure, and mobilised in April 2021. In August 2021, we submitted an action plan to DfT for agreement.
Innovation Fund	Surface Transport is facing key strategic issues; this fund will ensure innovative solutions to these can be explored in accordance with procurement law requirements. Following mobilisation in April 2021, we confirmed priority areas for investigation include improving our understanding of near misses which lead to collisions on London's roads and improving energy efficiency in depots.
Surface Common Operational View	Developing a common operational view across all areas of Surface Transport (e.g. Compliance and Policing On Street). Mobilisation would commence in 2022; no commitments in 2021/22 expected.

Focus area: Compliance, Enforcement and Safety Technology

Project	Scope & Key Activities in 2021/22 – 2022/23
Enforcement & Compliance Operations System	ECOS - Procurement of core IT systems to replace and improve existing CPOS digital capability. Development using internal team commenced August 2021.
Deployable Enforcement Cameras	Improve road safety and reduce congestion by targeted camera enforcement. Contract for delivery signed July 2021. Delivery of initial 50 cameras will commence later in 2021 at priority locations for road safety and bus reliability. Up to 100 additional cameras could be deployed per year afterwards.
Operational Staff Safety	Technology to enable outcomes of the Work-related Violence and Aggression strategy. This includes the roll out of safety tools including body worn video cameras and emergency communication devices in line with operational need. It also includes technology to better support TfL staff who have been victims of work-related violence and aggression.
Compliance, Enforcement and Safety (CES) Systems Refresh	Refresh of operationally-critical systems used to manage traffic orders, report on-street faults, secure data for compliance and enforcement activities, workforce rostering, and ensure systems used by TfL are secure. Varying stages of mobilisation / delivery.
Irregular Travel Analysis Platform (ITAP) 3	Use of Artificial Intelligence to spot patterns in fare evasion, improving enforcement and protecting revenue. Following two successful phases, this third phase launched in June 2021.
Micro-Mobility Management System Platform	This trial platform will collect data from operators of e-scooters and other micro-mobility modes. Platform launched in spring 2021.
Common Planning View	Rationalisation of several network planning applications, to deliver a common view of planned temporary or permanent changes to London's roads in a single application. Not currently active, project will mobilise in 2022.
Surface Technology Video Solution	Our ability to view and manage surveillance cameras is crucial in order to ensure the safe operation of our network and services. This project will implement a new video management system, allowing us to continue to view, control and record using surveillance cameras.

Focus area: Public Transport Technology

Project	Scope & Key Activities in 2021/22 – 2022/23
iBus2	Replacement iBus system which tracks buses in real time. This system is vital to providing up to date information on where buses are, for passengers on the bus, waiting at bus stops and online. It also makes sure that performance bonuses TfL pays to bus operators are fair. The refreshed system will aim to improve pain points, including providing better information when a bus cannot follow its normal route,

Project	Scope & Key Activities in 2021/22 – 2022/23
	and linking with more traffic signals to help buses avoid congestion. Procurement is progressing as planned, with invitation to participate in dialogue issued to shortlisted bidders on 6 August 2021.
Countdown 3	Replacement Countdown system, providing live bus information through electronic signs and online apps. Procurement to start later in 2021.
Future Bus Systems (FBS) 3 (Network Planning & Development)	This project has delivered software which automates inefficient manual processes currently required to plan bus services, saving over 80 per cent of time for planners and allowing consideration of a broader range of datasets. Project closed in September 2021.
FBS 2 (Contracts, Payments and Fleet Data)	By replacing end-of-life back office systems used to manage bus contracts and bus fleet, FBS2 will allow us to operate buses more efficiently. Project mobilised in September 2021.
SAFE (Buses / LU Incident Management) Refactoring	Refactoring SAFE system used to manage incidents in NMCC to ensure map-based incidents appear in SITS COV-IMS. Project will mobilise in late 2021.
Assisted Transport Services (ATS) Dial-a-Ride (DaR) Bookings, Scheduling and Roadmap	Replacement of current booking & scheduling system for ATS DaR, introducing potential to book and manage trips online and harnessing technology advances to drive ride-scheduling efficiencies. Procurement commenced in late 2020, with system to be delivered from 2021-2023. Delivery of technology enablers set out in the Assisted Transport Services Roadmap.
Emirates Air Line (EAL) Passenger Comms System	Replacement of safety critical EAL connectivity system, which currently operates on a legacy 2G Wi-Fi solution, with poor network and increased interferences. Delivery commenced September 2021
Pan-TfL Booking & Retail Platform	Developing a shared TfL platform for bookings and retail across EAL, London River Services, London Transport Museum, Visitor Centres and buskers.
Cycle Hire (Santander Cycles) Modernisation	Major modernisation of the back-office operating system for Santander Cycles, introducing 500 e-bikes and other additional features to ensure the scheme remains attractive in the micro-mobility market. Authority for delivery by 2022 granted at 16 December 2020 Committee meeting.
Cycle Hire (Santander Cycles) Expansion	Expansion of the Santander Cycles scheme to locations with high demand and potential for Santander Cycles trips. Mobilised early 2021. Includes third-party income for contributions to new docking stations.
Cycle Hire (Santander Cycles) Renewals	Ongoing maintenance of Santander Cycles assets to ensure the scheme is fit for purpose.
Cycle Hire (Santander Cycles) Re-Let	Refresh of key contracts for Santander Cycles operations, with key existing contracts due to expire in 2022-25. Mobilisation from 2022.
E-Scooter Trial	Twelve-month trial of an e-Scooter rental service. Includes third-party income through receipt of income from e-scooter rental operators which is redistributed to participating London Boroughs.

Project	Scope & Key Activities in 2021/22 – 2022/23
Bus and Coach Service Delivery Technology Improvement Programme	Improvement of technology used within Bus and Coach Service Delivery, supporting passengers and colleagues. Initiatives include improvements to bus station security, connectivity and workforce management.
Buses Business Intelligence Reporting	Developing a tool to report bus speeds within all of London's bus stations.
Minor Capital Interventions	Ensures minor changes can be made to critical systems, for example, in response to externally-driven changes.