

Innovation Catalogue

TfL Lane Rental Scheme



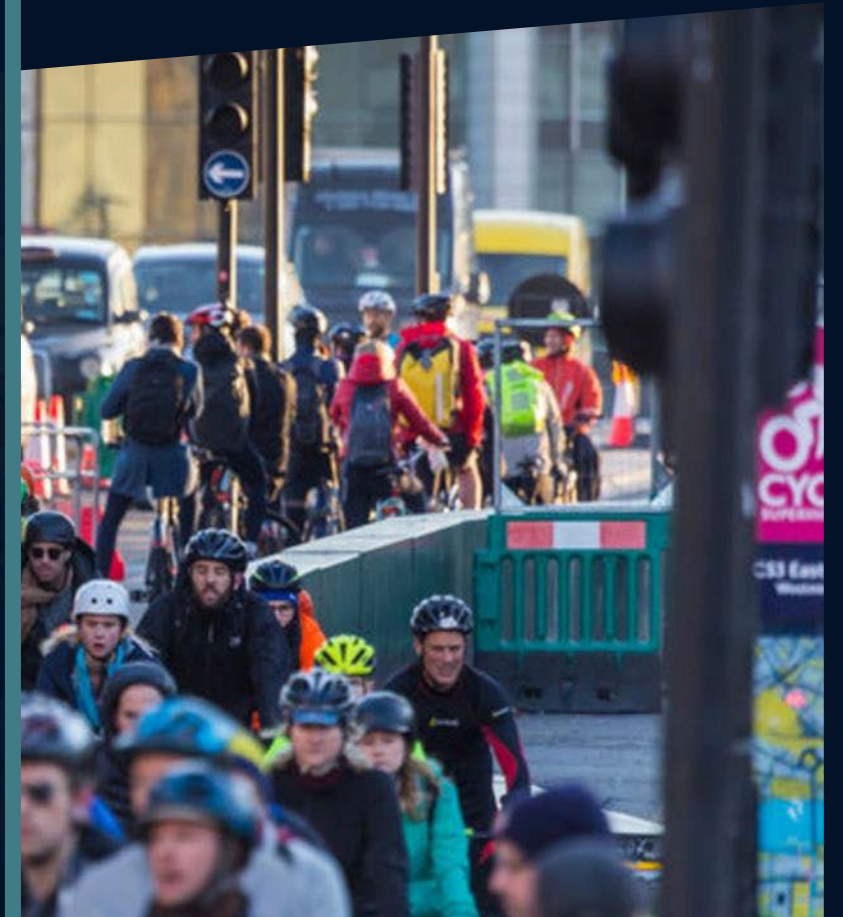
Overview

TfL's Lane Rental Scheme charges companies that undertake works on the busiest parts of the TfL road network, at times when demand from people making journeys is at its highest.

Surplus income generated from the Scheme is then reinvested back into the industry through congestion busting initiatives, which aim to improve current practices and accessed through different routes:

- Full committee
- Lite (no longer in use)
- FastTrack
- Extraordinary Measures

Since the start of the Scheme a total of 134 projects have been approved, including funding towards extraordinary measures to mitigate congestion, measures implemented as a result of the COVID19 pandemic and funds towards a quick access FastTrack pot for investment into research and development of innovative techniques and technology; and also measures that improve the skills and operational capability of those tasked with reducing congestion. Where it's been possible to calculate, £148.5m in social costs have been saved as a result.



Project Stats

- Project Authority 4
- In Progress 14
- Discontinued 8
- Completed 108
- Total 134

3  Challenges

8  Convey info.

16  Data/
Systems

19  Extraordinary

11  Future Proof

13  Mapping

8  Strategic Improvements

2  Environment

8  Robotics

15  Technology

14  Operational Improvements

17  TM/Materials

134  Total



Safety is our top priority, so all projects which aim to improve it, will have this icon.














Contents

-  Innovation Challenges
-  Conveyance of Information
-  Data & Systems
-  Extraordinary Measures
-  Future Proofing
-  Mapping
-  Strategic Improvements
-  Operational Improvements
-  Environment
-  Robotics
-  Technology
-  Traffic Management & Materials

Click on a category






2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
6		Mapping
7		Strategic Improvements
8		Operational Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

1 Innovation Challenges

- [Ofwat Bid for No Dig Leak Repair Challenge](#)
- [London RoadLab 2.0 & 3.0](#)
- [London RoadLab 1.0](#)












1		Innovation Challenges
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
6		Mapping
7		Strategic Improvements
8		Operational Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

2 Conveyance of Information

- [HAUC\(UK\) App 2 – Reinstatement Spec](#)
- [Enhanced Communications for Utility Works](#)
- [Variable Messaging Signs for Taxi Tops](#)
- [HAUC\(UK\) App – Safety Code](#)
- [Trial of intelligent Signage \(Intelliframe\)](#)
- [Digital Customer Information Board](#)
- [Roadworks Education \(Minecraft\) Storyboard](#)
- [Roadworks Education \(Minecraft\) Game Development](#)








1		Innovation Challenges
2		Conveyance of Information
4		Extraordinary Measures
5		Future Proofing
6		Mapping
7		Strategic Improvements
8		Operational Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

3 Data & Systems

- [Street Manager System Enhancements](#)
- [Supplementary Works Approvals Portal \(POC\)](#)
- [Network Operating Strategy for Bus Routes](#)
- [Virtual Site Meetings](#)
- [Detecting Road Disruption Via Social Media: SAMDesk](#)
- [Automated modelling for traffic: Immense](#)
- [Street Manager System Additional Functionality](#)
- [Journey Visualisation Mapping](#)
- [Connected Corridor Trials on the A2/M2](#)
- [Artificial Intelligence Road Condition Inspections](#)
- [Portable and Temporary Signals Specifications](#)
- [Strategic Modelling for Major Works](#)
- [Finding and Managing Culverted Watercourses](#)
- [Review of Street Works Act Organisation Codes](#)
- [Lattice Platform Geolocate Real-Time Asset Information - Data Trial](#)



1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
5		Future Proofing
6		Mapping
7		Strategic Improvements
8		Operational Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

4 Extraordinary Measures

- [Maintaining Bus Patronage in Islington](#)
- [Island Removal to Maintain Traffic on Finchley Road](#)
- [Maintaining Cyclists /Pedestrians on Ardleigh Green Bridge](#)
- [Maintaining all modes on Victoria Embankment](#)
- [Keeping Operatives Safe and Hammersmith Flyover moving](#)
- [Temporary Layout to Maintain Flow on Power Road](#)
- [Temporary Footway around HS2 works on Hampstead Road](#)
- [Removal of Island to Prevent Closure on Victoria Street](#)
- [Maintaining Cyclists on Victoria Embankment](#)
- [Island Removal to Prevent Lewisham High Street Closure](#)
- [Preventing Long Diversion on Cycle Route 4 Extension](#)
- [Temporary Surface to Maintain Buses on Tollington Road](#)
- [Maintaining Modes Through Signals on Kings Road, Chelsea](#)
- [Keeping Pedestrians Safe on London Bridge](#)
- [Maintaining Movements on Grosvenor Road](#)
- [Maintaining Flows on Vauxhall Bridge](#)
- [Bus mitigation to maintain service on Great Chertsey Road](#)
- [Island Removal to Prevent Long Diversion Nine Elms Lane](#)
- [Keeping the Public Safe on Westminster Bridge](#)



1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
6		Mapping
7		Strategic Improvements
8		Operational Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

5 Future Proofing

- [300m Capacity installed at Baylis Road, Lambeth](#)
- [6m Wide Service Corridor as Part of Nine Elms](#)
- [364m Capacity Provided During Archway Gyratory](#)
- [380m Spare Ducting Installed at Stockwell Gyratory](#)
- [Spare Capacity in Southwark](#)
- [Redundant subway Utilisation, Elephant & Castle:](#)
- [Future Capacity Installed at Cycle Highway 5 Inner](#)
- [Spare Ducts, Cycle Highway North/ South \(CS6\)](#)
- [Spare Capacity Service Bridge Power Road](#)
- [Increasing Longevity at King's Scholars' Pond Sewer](#)
- [Future Longevity of Blackfriars Road Trunk Main](#)




1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
7		Strategic Improvements
8		Operational Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

6 Mapping












- [Viewing Abandoned Utility Assets Without Excavation](#)
- [Playbook Mapping Enhancements for external access](#)
- [Abnormal Load Route Mapping and Training](#)
- [Improving Operations via LondonWorks Map](#)
- [London Mapping Infrastructure Application v3](#)
- [Enhanced User Experience Around Events](#)
- [Mapping Works Using Crowd Sourced Data](#)
- [Mapping Buried Assets using Streetview](#)
- [London Mapping Infrastructure Application v2](#)
- [Improved planning of asset renewal via Playbook](#)
- [Underground Asset Recording BIM/London Vault](#)
- [Augmented Reality \(AR\) Maps and 3D AR Planning](#)
- [Utility Survey Exchange for Underground Assets](#)
- [One Platform Mapping: Playbook Iteration 5](#)




1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
6		Mapping
8		Operational Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

- ## 7 Strategic Improvements
- [Infrastructure Coordination Service: Phase 3](#)
 - [Infrastructure Coordination Service Expansion](#)
 - [Croydon Infrastructure Coordination Pilot](#)
 - [Infrastructure Coordination Service Pilot](#)
 - [Improving Practices at Road and Street Works \(DIAT\)](#)
 - [Investigation into Future Pipe Subway Potential](#)
 - [Smart Roads](#)
 - [Tunnelling Underground Construction Academy R&D](#)




1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
6		Mapping
7		Strategic Improvements
9		Environment
10		Robotics
11		Technology
12		Traffic Management & Materials

8		Operational Improvements
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- [Improving Noise from Road Works](#)
- [Temporary Traffic Management Handbook](#)
- [Public Liaison for Out of Hours Working](#)
- [Safer Conditions During Traffic Signal Outages](#)
- [Street/Road Works Training and Accreditation](#)
- [Digital CCTV Video Sharing between Stakeholders](#)
- [Improved Recording of Underground Assets \(PAS256\)](#)
- [Improving Iron Works Through Engagement](#)
- [Supplementary Works Approval Portal Feasibility](#)
- [Street Works Engagement Events](#)
- [Improving the Real-Time Management of Works](#)
- [Artificially Intelligent Inspections \(Route Reports\)](#)
- [Improving HGV and LGV Routing and Route Planning](#)
- [Joint Authority Group Reinstatement Support Material](#)



Contents

1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
6		Mapping
7		Strategic Improvements
8		Operational Improvements
10		Robotics
11		Technology
12		Traffic Management & Materials

9 Environment

- [Discovering the Road to Net Zero \(Phase 1\)](#)
- [Designing the Road to Net Zero \(Phase 2\)](#)



Contents

1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
6		Mapping
7		Strategic Improvements
8		Operational Improvements
9		Environment
11		Technology
12		Traffic Management & Materials

10 Robotics

- [Minimal dig CISBOT Robot for 48in gas mains](#)
- [Automated Utility Mark-Out System \(AUSMOS\)](#)
- [Distribution Network Information Modelling](#)
- [Advanced Inspections for Larger Mains](#)
- [Multi-Sensor Robotic Inspection Surveys](#)
- [SOLO: Unmanned Sewer Inspection Robot](#)
- [Large CISBOT](#)
- [Untethered Leakage Robot](#)



- 1  Innovation Challenges
- 2  Conveyance of Information
- 3  Data & Systems
- 4  Extraordinary Measures
- 5  Future Proofing
- 6  Mapping
- 7  Strategic Improvements
- 8  Operational Improvements
- 9  Environment
- 10  Robotics

- 12  Traffic Management & Materials

Technology

- [Trunk Mains Lining Technology](#)
- [Emissions Based Gas Mains Replacement](#)
- [Core & Vac Second Generation 2](#)
- [Cured In Place Pipe \(CIPP\)](#)
- [Vac-Ex Soft Touch \(VEST\) System](#)
- [Appendix A9 Trial for Key Hole Technology](#)
- [Highway Spillage Control](#)
- [High Volume Gas Escape Toolkit \(HVGET\)](#)
- [Bridge Strike Mitigation](#)
- [Traffic Signal Communication Resilience](#)
- [Kingsway Piped Subway Fire Suppression](#)
- [Event Solution Trial](#)
- [Rapid Pothole Repair System \(Road Mole\)](#)
- [Timberline: Polyethylene Repair System](#)
- [Gas Stent \(4 & 6 inch\) Implementation Trial](#)



1		Innovation Challenges
2		Conveyance of Information
3		Data & Systems
4		Extraordinary Measures
5		Future Proofing
6		Mapping
7		Strategic Improvements
8		Operational Improvements
9		Environment
10		Robotics
11		Technology

12 Traffic Management & Materials

- [Westway Bridging Solution to Prevent Closure](#)
- [Plastic Recycling in Roads](#)
- [Asphalt Solutions Research Programme](#)
- [Pothole Repair and Reinstatement Trial](#)
- [Improving Cyclist Movements at Stratford Gyratory](#)
- [Temporary Traffic Signals via Urban Traffic Control](#)
- [Footway Ramp Trial](#)
- [Cycle Highway Trench Bridge to Maintain Flow](#)
- [Vented Footway Board for Gas Escape](#)
- [Water Displacing Material to Expedite Works](#)
- [Smart Streetworks Barrier to Improve Compliance](#)
- [Solar Powered Welfare Unit](#)
- [Cycle Lane Wand Specification](#)
- [Specification for the Reinstatement of Openings in Highways Support Material to aid Inspectors and Operatives](#)
- [Strengthening Roads via Plastic Recycling](#)
- [Early Trafficking of Road via On-Street Trials](#)
- [Preventing Ice Formation on Cycle Lanes](#)





Innovation Challenges

Unlocking Potential



London RoadLab 2/3

Innovation challenge to find solutions to four problem statements selected by the sector, being carried out over two sprints.

Project Lead: Transport for London

Approved: August 2022

Category: Innovation Challenge

Route: Full Committee

Status: In progress



No Dig Leak Repair

Contribution towards a wider initiative by the water industry to develop technology capable of repairing water mains from within the pipe and accessed via nonintrusive means.

Project Lead: Thames Water

Approved: February 2023

Category: Innovation Challenge

Route: Full Committee

Status: In progress

London RoadLab 1

Identify problem statements to canvass market innovators for solutions with a view to developing a viable product for showcasing back to the sector.

Project Lead: Transport for London

Approved: August 2020

Category: Innovation Challenge

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Conveyance of Information

Evolving the Distribution and Audience



HAUC(UK) App 2

Continued development of the HAUC App, including the creation of a digital version of the Specification for the Reinstatement of Openings in Highways, to support operatives undertaking works and obtain their views on current matters.

Project Lead: HAUC(UK)

Approved: May 2022

Category: Conveyance of info.

Route: Full Committee

Status: In Progress



Enhanced Communications during Utility Works

Trial of enhanced communications at known utility works to analyse and establish best practice.

Project Lead: Transport for London

Approved: November 2016

Category: Conveyance of info.

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Variable Messaging Signs for Taxi Tops

Trial of displaying traffic related information on taxis. Targeted messages will inform road users of traffic conditions and planned works at 50 areas where there are known or expected delays as a result of roadworks.

Project Lead: Transport for London

Approved: February 2016

Category: Conveyance of info.

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



The HAUC(UK) App

Development of a smart device app which will provide the most up to date reference library and toolbox talks for site operatives and street works industry stakeholders. This includes the creation of a digital version of the Safety at Road and Street Works (Red Book).

Project Lead: HAUC(UK)

Approved: May 2018

Category: Conveyance of info.

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Digital Customer Information Board

Digital environmentally friendly customer information board to improve customer experience.

Project Lead: Cadent Gas

Approved: August 2021

Category: Conveyance of info.

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Trial of Intelligent Signage (Intelliframe)

Trial of intelligent signs to reduce site inspections and keep road users informed via Sat-Nav notifications

Project Lead: Eurovia Contracting/ Transport for London

Approved: September 2022

Category: Conveyance of info.

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)

Street Works Education (Minecraft) Story Board

Storyboard development for a street works Minecraft game to help school children better understand the works and how to navigate them.

Project Lead: Cadent Gas

Approved: December 2022

Category: Data and Systems

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Minecraft: Inspiring Children to Travel Responsibly Phase 2

Game development implementing the storyboard developed under phase 1 for a street works Minecraft game to help school children better understand works and how to navigate them.

Project Lead: Cadent Gas

Approved: May 2023

Category: Data and Systems

Route: FastTrack

Status: In progress

[Link to Industry Publication](#)

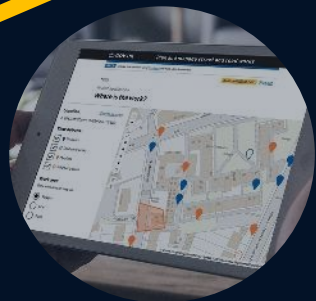




Data & Systems

Providing Connectivity and Enabling Decisions





Street Manager System Enhancements

Enhancements in Street Manager to improve capabilities for network management during road works on bus routes.

Project Lead: Department for Transport

Approved: February 2023

Category: Data and Systems

Route: Full Committee

Status: Project Authority

Supplementary Works Approvals Portal POC

Development of a POC and Beta version of a portal to provide a one entry form when applying for consents associated to road and street works.

Project Lead: Transport for London

Approved: February 2023

Category: Data and Systems

Route: Full Committee

Status: Project Authority



Network Operating Strategy for Bus Routes

Project to bring together bus and street works data in a single software platform by developing functionality to automate the identification of potential clashes between bus routes and road interventions to improve stakeholder engagement.

Project Lead: Transport for London

Approved: November 2021

Category: Data and Systems

Route: Full Committee

Status: In Progress



Virtual Site Meetings

Development of a virtual environment where interactive site meetings can be undertaken by multiple parties without the need to meet on site.

Project Lead: Transport for London

Approved: May 2019

Category: Data and Systems

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Detecting Road Disruption via social media: SAMDesk London RoadLab I

Develop an AI powered, disruption detection engine, that proactively spots and identifies issues and crisis events by sifting through the billions of social media (Twitter, Snapchat, Facebook) posts generated daily

Approved: August 2020

Category: Data and Systems

Route: Full Committee

Status: Completed



Automated modelling for traffic: Immense London RoadLab I

Develop a software solution which will automate modelling to understand the traffic impacts of works.

Project Lead: Transport for London

Approved: August 2020

Category: Data and Systems

Route: Full Committee

Status: In Progress

Street Manager System Additional Functionality

Expand scope of the project to supersede EToN so that more functionality and user requirements can be implemented.

Project Lead: Department for Transport

Approved: February 2019

Category: Data and Systems

Route: Full Committee & FastTrack

Status: Completed

[Link to Industry Publication](#)



Journey Visualisation Mapping

Research and development into journey and movement spatial visualisation around roadworks. This will combine smart sensors/cameras and different data sources, such as population movement from mobile operators and local highway authority data.

Project Lead: LB Southwark

Approved: February 2019

Category: Data and Systems

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Connected Corridor Trials on the A2/M2

Use of connected vehicle technology to manage the road network more effectively, particularly around roadworks and incidents.

Project Lead: Transport for London

Approved: February 2018

Category: Data and Systems

Status: Completed

Route: Full Committee

[Linked to Industry Publication](#)



Road Condition Surveys Using Artificial Intelligence

Trial the use of artificial intelligence to undertake road condition inspections to enable a standardised approach to determine the borough resurfacing / reconstruction programme.

Project Lead: LB Enfield

Approved: May 2020

Category: Data and Systems

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Portable and Temporary Signals Specifications for amalgamation

Update and amalgamate a number of specifications relating to traffic signals to ensure latest technology is used to ease congestion.

Project Lead: Transport for London

Approved: May 2018

Category: Data and Systems

Route: Full Committee

Status: **Discontinued**



Strategic Modelling for Major Works

Trial the use of modelling for major utility works to ensure best solution is in place to mitigate disruption.

Project Lead: Transport for London

Approved: June 2017

Category: Data and Systems

Route: Full Committee

Status: **Discontinued**





Finding Culverted Watercourses

Establishing accuracy regarding location / ownership of culverted watercourses while producing a process to resolve unidentified assets.

Project Lead: Thames Water

Approved: November 2017

Category: Data and Systems

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Review of Street Works Act Organisation Codes

Remove inactive/unregulated organisations, publish an organisation status list, and produce a project report.

Project Lead: GeoPlace

Approved: October 2019

Category: Data and Systems

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Street Manager Optional Permit Response Times

Remove inactive/unregulated organisations, publish an organisation status list, and produce a project report.

Project Lead: Department for Transport

Approved: October 2019

Category: Data and Systems

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)

Geolocating Real-Time Asset Information Trial

Undertake a trial of the Lattice platform to record data associated to the installation of signs and mapped to potentially create a digital twin of surface assets which can then be uploaded to asset management systems.

Project Lead: Transport for London / TKJV

Approved: May 2023

Category: Data and Systems

Route: FastTrack

Status: In progress





Extraordinary Measures

Going the extra mile to reduce congestion



Maintaining Bus Patronage in Islington

Use of extraordinary measures put in place to mitigate disruption.

Project Lead: Thames Water

Approved: December 2017

Category: Extraordinary Measures

Route: Lite

Status: Completed

[Link to Industry Publication](#)



Island Removal to Maintain Traffic on Finchley Road

Central Island removed to maintain lanes of traffic.

Project Lead: Cadent Gas

Approved: May 2017

Category: Extraordinary Measures

Route: Lite

Status: Completed

[Link to Industry Publication](#)

Maintaining Cyclists /Pedestrians on Ardleigh Green Bridge

Extraordinary measures implemented to mitigate the impact of the works on the traffic, cyclists and pedestrians at the Ardleigh Green bridge replacement works.

Project Lead: Transport for London

Approved: February 2017

Category: Extraordinary Measures

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Maintaining all modes on Victoria Embankment

Extraordinary measures undertaken to mitigate disruption on Victoria Embankment.

Project Lead: Cadent Gas

Approved: February 2017

Category: Extraordinary Measures

Route: Lite

Status: Completed

[Link to Industry Publication](#)



Keeping Operatives Safe and Hammersmith Flyover moving

Use of extraordinary measures to dramatically reduce the overall impact of the works, mitigate traffic disruption and ensured safe working practices were maintained.

Project Lead: Transport for London

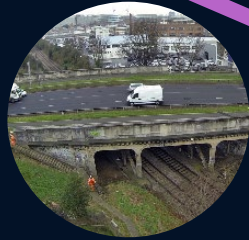
Approved: February 2015

Category: Extraordinary Measures

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Temporary Layout to Maintain Modes on Power Road

Construction of a temporary highway layout during the bridge construction to maintain traffic flow.

Project Lead: Transport for London

Approved: February 2018

Category: Extraordinary Measures

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Temporary Footway around HS2 works on Hampstead Road

Contribution towards the Installation of a temporary footway to maintain pedestrian access past works.

Project Lead: HS2

Approved: December 2021

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Removal of Island to Prevent Closure on Victoria Street

Removal of a temporary social distancing measures to facilitate traffic movement while works are undertaken on a district meter.

Project Lead: Thames Water

Approved: April 2022

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Maintaining Cyclists on Victoria Embankment

Removal of a segregation island to maintain cycle movements while works are undertaken.

Project Lead: Cadent Gas

Approved: May 2022

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Island Removal to Prevent Lewisham High Street Closure

Removal of a temporary social distancing measures to facilitate traffic movement while works are undertaken on a gas main.

Project Lead: SGN

Approved: May 2022

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Preventing Long Diversion on Cycle Route 4 Extension

Maintain cycling facilities throughout work to prevent 9.5km diversion being undertaken.

Project Lead: Transport for London

Approved: September 2022

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed

Temporary Surface to Maintain Buses on Tollington Road

Temporary Road Surface to maintain traffic movements and 14 bus routes after a burst water main.

Project Lead: Thames Water

Approved: October 2022

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Maintaining Modes Through Signals on Kings Road, Chelsea

Retaining the multi-stream signal phasing through wired in signals to maintain multi mode movement; in particular, pedestrians.

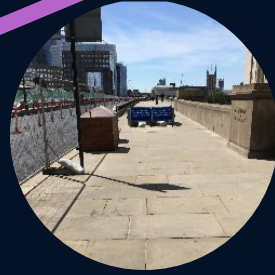
Project Lead: Transport for London

Approved: February 2022

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Keeping Pedestrians Safe on London Bridge London Bridge

Maintain pedestrian movement around the works on London Bridge.

Project Lead: Transport for London

Approved: February 2022

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Maintaining Movements on Grosvenor Road

Measures to maintain movement around Thames survey works.

Project Lead: Environment Agency

Approved: January 2021

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Maintaining Flows on Vauxhall Bridge

Measures to maintain safe movement around the bridge works.

Project Lead: Transport for London

Approved: September 2020

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Bus mitigation to maintain service on Great Chertsey Road

Bus mitigation to maintain service over and above usual requirements.

Project Lead: Cadent Gas

Approved: February 2021

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed

Island Removal to Prevent Long Diversion Nine Elms Lane

Central island and speed cameras removed to prevent directional closure, long diversions and disruption to the wider network.

Project Lead: PowerOn

Approved: April 2021

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed



Keeping the Public Safe on Westminster Bridge

Measures to maintain safe movement around the bridge works.

Project Lead: Transport for London

Approved: November 2021

Category: Extraordinary Measures

Route: Extraordinary

Status: Completed





Future Proofing

Mitigating Excavations through Spare Capacity



300m Capacity installed at Baylis Road, Lambeth

Installation of additional ducting capacity as part of a scheme in a future development area.

Project Lead: LB Lambeth

Approved: February 2020

Category: Future Proofing

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



6m Wide Service Corridor as Part of Nine Elms

Installation of additional capacity provided in a regeneration area.

Project Lead: LB Lambeth

Approved: May 2017

Category: Future Proofing

Route: Full Committee

Status: Complete

[Link to Industry Publication](#)

364m Capacity Provided at Archway Gyratory

Installation of additional ducting capacity as part of the Archway Gyratory Development Scheme to reduce the number of future interventions.

Project Lead: Transport for London

Approved: January 2017

Category: Future Proofing

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



380m Spare Ducting Installed at Stockwell Gyratory

Installation of additional ducting capacity as part of the Stockwell Gyratory Scheme to reduce the number of future interventions on the network.

Project Lead: Transport for London

Approved: April 2016

Category: Future Proofing

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Spare Capacity in Southwark

Installation of additional ducting capacity to future proof network ahead of known future developments in the locality.

Project Lead: LB Southwark

Approved: August 2015

Category: Future Proofing

Route: Full Committee

Status: **Discontinued**



Redundant subway Utilisation, Elephant & Castle

Utilise the soon to be redundant subway by installing additional ducting capacity during the major improvement scheme of the roundabout

Project Lead: Transport for London

Approved: August 2015

Category: Future Proofing

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Future Capacity Installed at Cycle Highway 5 Inner

Installation of additional ducting capacity, as part of the Cycle Highway scheme, with the intention of reducing future interventions of the network

Project Lead: Transport for London

Approved: May 2015

Category: Future Proofing

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Spare Ducts, Cycle Highway North/ South (CS6)

Installation of additional ducting capacity, within locations of known development as part of the cycle highway scheme, with the intention of reducing future interventions of the network.

Project Lead: Transport for London

Approved: March 2015

Category: Future Proofing

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Spare Capacity Service Bridge Power Road

Maintaining pedestrian and cycle access while carrying out the Power Road Bridge replacement works.

Project Lead: Transport for London

Approved: February 2018

Category: Future Proofing

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Increasing Longevity: King's Scholars' Pond Sewer Repair Trial

An innovative modular bridge used to strengthen and rehabilitate the trunk sewer beneath busy Marylebone Road and Baker Street intersection.

Project Lead: Thames Water

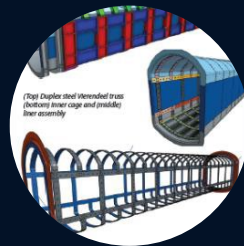
Approved: February 2018

Category: Future Proofing

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



36 inch Trunk Main Repair

Future Proofing the water network by using an innovative modular bridging solution, reducing the overall disruption caused to the road network and increasing longevity

Project Lead: Thames Water

Approved: September 2020

Category: Future Proofing

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)





Mapping

Providing a Positive Route to the future



Viewing Abandoned Utility Assets Without Excavation

Augmented reality mapping application to display underground abandoned mains and spare utility infrastructure.

Project Lead: Transport for London

Approved: August 2018

Category: Mapping

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Playbook Mapping Enhancements

Series of internal and external enhancements to improve functionality within the Playbook mapping system

Project Lead: Transport for London

Approved: May 2018

Category: Mapping

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Abnormal Load Route Mapping and Training

An abnormal loads road network will be produced, and formal training course developed to increase the knowledge and skills required to authorise the movement of abnormal loads across London.

Project Lead: Transport for London

Approved: May 2018

Category: Mapping

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Improving Operations via LondonWorks Map

User led improvements to infrastructure and functionality enhancements.

Project Lead: Transport for London

Funding: £320,000

Benefit: £480,000

Status: Completed

Route: Full Committee

[Link to Industry Publication](#)

London Infrastructure Mapping Application v3.0

Continuing development and testing of the application over the next 24-month period to ensure ongoing integration with existing databases and other data source systems across the industry securely, while promoting the application with a view to wider use.

Project Lead: Greater London Authority

Approved: November 2017

Category: Mapping

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Enhance Road User Experience around Events

Development of a tool to map events around London. This will be shared with work promoters, emergency services and the public to enable better planning of activities around events.

Project Lead: Transport for London

Approved: February 2017

Category: Mapping

Route: Full Committee

Status: **Discontinued**

Mapping Works Using Crowd Sourced Data

Innovative mapping solution using GPS based crowd sourced intelligence to affect the management of London's road network where capacity is compromised by unknown events such as roadworks

Project Lead: Transport for London

Approved: November 2017

Category: Mapping

Route: Full Committee

Status: **Discontinued**



Mapping Buried Assets using Streetview

Trial artificial intelligence photo recognition capabilities to see if improvements can be made to the recording of buried assets.

Project Lead: Transport for London

Approved: August 2016

Category: Mapping

Route: Full Committee

Status: **Discontinued**





London Infrastructure Mapping Application v2.0

Development and testing of the application over the next year to ensure integration with existing databases and systems across the industry securely.

Project Lead: Greater London Authority

Approved: August 2016

Category: Mapping

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Improved Planning of Asset Renewal via the Playbook Map

Development of iteration 2 work to enable London Boroughs and GLA to access and interrogate details of the schemes and programmes planned for the London Road Network over the next 10 years through an interactive mapping application.

Project Lead: Transport for London

Approved: February 2016

Category: Mapping

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Underground Asset Recording BIM/London Vault (HADES)

Trial a shared data platform that will map all buried services in 2D with the aim of moving to 3D in future.

Project Lead: Thames Water

Approved: May 2017

Category: Mapping

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Augmented Reality Maps and 3D AR Planning

Trial of the latest GPS technology combined with Augmented Reality (AR) to bring existing GIS data 'alive' and 'intuitively' accessible.

Project Lead: Cadent Gas

Approved: February 2017

Category: Mapping

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Utility Survey Exchange for Underground Assets

Platform to share utility survey data with asset owners to improve data quality across the industry with a view to assisting London HADES.

Project Lead: UK Power Networks

Approved: February 2019

Category: Mapping

Route: FastTrack

Status: completed

[Link to Industry Publication](#)



One Platform Mapping: Playbook Iteration 5

Improving the sharing of data between utilities and authorities through the creation of a single platform for increased security and sharing capabilities.

Project Lead: Transport for London

Approved: October 2021

Category: Mapping

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)





Strategic Improvements

Improving the Future of Road/Street Works



Infrastructure Coordination Service (ICS): Phase 3

The ICS will support the decarbonisation of London while providing support to collaboratively manage London's complex road networks to deliver better outcomes for people, businesses and essential services.

Project Lead: Greater London Authority

Approved: February 2023

Category: Strategic Improvements

Route: Full Committee

Status: Project Authority



Infrastructure Coordination Service (ICS): Expansion

Expansion phase of the Infrastructure Coordination Service is to run for a further two years which will build upon learnings from the pilot and roughly double delivery across the three service lines, while further developing data tools, policy and exploring other potential interventions.

Project Lead: Greater London Authority

Approved: February 2021

Category: Strategic Improvements

Route: Full Committee

Status: In Progress

Croydon Infrastructure Coordination Pilot

Project to share data on a common web map in order to promote collaborative working. This will aim to feed into the GLA's Infrastructure Mapping Application (IMA) and complement the GLA's ICS Pilot

Project Lead:: LB Croydon

Approved: August 2018

Category: Strategic

Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Infrastructure Coordination Service Pilot

New Infrastructure Coordination Service (ICS) for London to facilitate improved coordination of major development and infrastructure works in areas of development growth, to improve the efficiency and effectiveness of delivery, promoting best practice, and breaking down governance and institutional blockers.

Project Lead: Greater London Authority

Approved: August 2018

Category: Strategic Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Improving Practices at Road and Street Works

Provide funding for dedicated, experienced, and technically astute resources who can proactively lead on strategically reducing highway congestion as a result of roadworks.

Project Lead: Transport for London

Approved: March 2015

Category: Strategic Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Investigation into Future Pipe Subway Potential

Feasibility study into the expansion of the pipe subway network.

Project Lead: Transport for London

Approved: February 2017

Category: Strategic Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Smart Roads

Feasibility design of the A2 corridor and selected ramp metering sites. Focuses on the improved management of traffic on the TLRN with added potential to provide greater control during roadworks.

Project Lead: Transport for London

Approved: May 2016

Category: Strategic Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Utilisation of TUCA for Training and R&D

Business case for expanding the current remit of the Tunnelling and Underground Construction Academy (TUCA) to include training and R&D with Utilities companies, highway authorities and developers.

Project Lead: Transport for London

Approved: May 2015

Category: Strategic Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Operational Improvements

Improving today for tomorrow



Improving Noise from Road/Street Works

Establish a common approach to undertaking roadworks at night while exploring innovative environmental mitigation measures.

Project Lead: Transport for London

Project Lead: City of London & Westminster City Council

Approved: February 2020

Category: Operational Improvements

Route: Full Committee

Status: In Progress



Temporary Traffic Management Handbook

Dedicated and experienced traffic management specialist to manage, coordinate, design, consult and review all aspects of traffic management (TM) documentation, to produce a consolidated document for works undertaken on the TLRN.

Project Lead: Transport for London

Approved: May 2017

Category: Operational Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Public Liaison for Out of Hours Working

Trial of a new approach to out of hours working in order to establish best practice.

Project Lead: City of London & Westminster City Council

Approved: February 2017

Category: Operational Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Safer Conditions During Traffic Signal Outages

Produce and agree temporary traffic management layouts at key locations in the event of signals outages to expedite resolution and mitigate disruption.

Project Lead: Transport for London

Approved: February 2017

Category: Operational Improvements

Route: Full Committee

Status: **Discontinued**



Street/Road Works Training and Accreditation



Review the suitability of the current NRSWA training package offered in England with a view expanding and developing future packages for use across the UK.

Project Lead: Transport for London

Approved: August 2018

Category: Operational Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Digital CCTV Video Sharing between Stakeholders



Develop a future digital CCTV 'sharing' interface protocol to ensure the continuation of service from analogue. Joint funding arrangement sort between LRGC, the Metropolitan Police and Highways England.

Project Lead: Transport for London

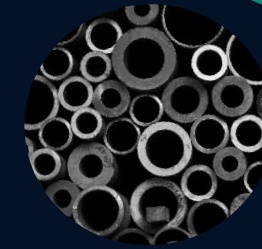
Approved: February 2016

Category: Operational Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Improved Recording of Underground Assets (PAS256)

Establish a standard national format for gathering and recording underground apparatus spatial data in the form of a Publicly Available Specification (PAS256).

Project Lead: Institute of Civil Engineers / British Standards Institute

Approved: November 2015

Category: Operational Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Improving Iron Works Through Engagement

Facilitate a Pan-London Ironworks Summit at the Transport Research Laboratory (TRL) to establish proposals which will reduce the amount of ironwork failures on the network.

Project Lead: Transport for London

Approved: March 2015

Category: Operational Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Supplementary Works Approvals

Feasibility study and options paper for developing a scalable supplementary works approval solution to establish the most viable and cost-effective delivery path for works consents.

Project Lead: Transport for London

Approved: August 2021

Category: Operational Improvements

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Streetworks Engagement Events

Stakeholder engagement event with highway authority teams discuss future challenges to establish a template so other industries can follow suit.

Project Lead: Thames Water

Approved: June 2019

Category: Operational Improvements

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Improving the real-time management of major works, events and incidents

Development of a collaborative working space for borough and utility colleagues to respond to high impact, works, events and emergencies

Project Lead: Transport for London

Approved: June 2019

Category: Operational Improvements

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)

Artificially Intelligent Inspections (Route Reports)

2 month trial of bespoke devices and cameras on inspection vehicles to carry out artificially intelligent defect identification as part of routine highway inspections to understand potential use in future.

Project Lead: Transport for London

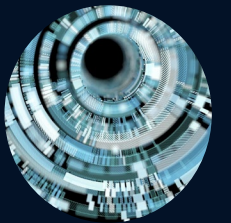
Approved: September 2021

Category: Operational Improvements

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)





Improving HGV and LGV Routing and Route Planning

Phase I survey to establish how the construction HGVs and LGVs route plan and factors to consider when taking breaks.

Project Lead: Transport for London

Approved: May 2023

Category: Operational Improvements

Route: FastTrack

Status: Project Authority

Joint Authority Group - Reinstatement Support Material

Development of guides for the Specification for the Reinstatement of Openings in Highways (SROH) to enable a consistent approach, which will feed into the HAUC App2 project.

Project Lead: London Borough of Enfield

Approved: July 2022

Category: Operational Improvements

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)





Environment

Improving the world around us



Designing the Road to Net Zero (Phase 2)

Design phase of the RNTZ which will gain sector commitment, refine baseline emissions, set reduction targets, carry out an economic study to understand approaches, actions and costs, develop design options and their associated social, environmental and economic consequences to provide scientific justification of selected methods.

Project Lead: HAUC(UK)/TfL

Approved: February 2023

Category: Environment

Route: Full Committee

Status: In progress



Discovering the Road to Net Zero (Phase I)

Funding to undertake research into the future sustainability of the road and streetworks industry, to establish a holistic view of current practices, explore the available innovations for betterment and identify opportunities for further improvement to help tackle climate change.

Project Lead: HAUC(UK) /TfL

Approved: November 2021

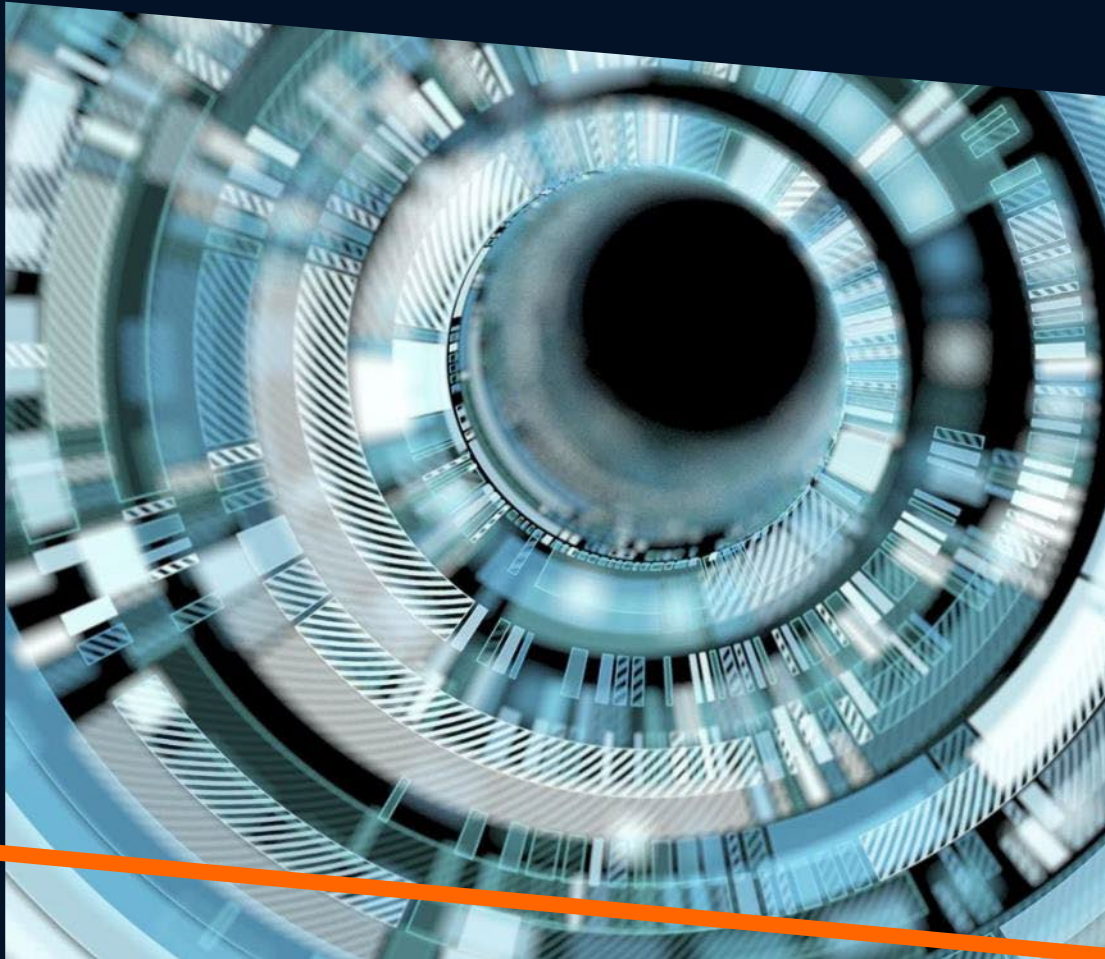
Category: Environment

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Robotics

An Artificial Step in the Right Direction





Minimal dig CISBOT Robot for 48in gas mains

Development of the current CISBOT technology to incorporate 48 inch cast iron gas mains.

Project Lead: SGN

Approved: February 2023

Category: Robotics

Route: Full Committee

Status: Project Authority

Automated Utility Service Mark-out System (AUSMOS)

Development of a robotic unit capable of scanning an area of interest, recording the locations of utility assets, and marking out the ground in the relevant colours.

Project Lead: SGN

Approved: August 2021

Category: Robotics

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Distribution Network Information Modelling (DNIM):

R&D into a prototype that can travel in the pipe network untethered to establish the location of underground gas network in preparation for a hydrogen network.

Project Lead: SGN

Approved: May 2020

Category: Robotics

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Advanced Inspections for Larger Mains

Development of a crawler system capable of traversing Weko Seals within gas mains between 24"-48" pipe to enable pre-inspection of mains prior to rehabilitation and accurate mapping of buried infrastructure.

Project Lead: Cadent Gas

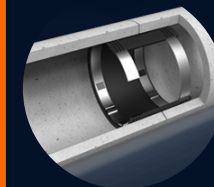
Approved: November 2015

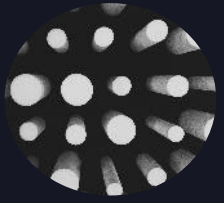
Category: Robotics

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Multi-sensor Robotic Inspection Survey

Trial of multi-sensor inspection survey robot for use on large sewers to determine levels of deformation, corrosion, and sediment build-up without excavation.

Project Lead: Thames Water

Approved: August 2015

Category: Robotics

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

SOLO Unmanned Sewer Inspection Robot

Trial of autonomous sewer inspection robot from the USA which if proved successful will gather data quicker, with minimal traffic disruption and provide the ability to analyse remotely.

Project Lead: Thames Water

Approved: December 2014

Category: Robotics

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Large CISBOT

Development of CISBOT robot, which repairs live cast iron gas pipes internally, so that it can operate within larger 30" cast iron gas mains. This will expand upon the ability to reduce the negative impact of works.

Project Lead: SGN

Approved: December 2014

Category: Robotics

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Untethered Leakage Robot

Feasibility study and gap analysis into the potential benefit of an untethered leakage robot which could eventually replace Core & Vac.

Project Lead: Cadent Gas

Approved: February 2021

Category: Robotics

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Technology

Developing Tools to Improve Today



Trunk Mains Lining Technology

Trial of the die draw technology at Seven Sisters Road.

Project Lead: Thames Water

Approved: April 2021

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Emissions Based Gas Main Replacement

Trial of the Picarro system to detect gas leakage via vehicle mounted sensors, to enable a more targeted approach to gas main replacement.

Project Lead: Cadent Gas

Approved: April 2021

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Core & Vac 2nd Generation

Undertake a trial of new core and vac technology to establish benefits above the current technology.

Project Lead: SGN

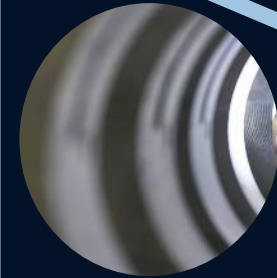
Approved: February 2020

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Cured In Place Pipe (CIPP)

Trial of cured in place pipe technology, a trenchless rehabilitation solution, usually used by the water industry but the first of its kind for the gas industry.

Project Lead: Cadent Gas

Approved: August 2021

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





VacEx Soft Touch(VEST) System Trials

Trial the redesign of the Vacuum Excavator (VacEx) to enable the wider use of the technology.

Project Lead: SGN

Approved: February 2021

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Appendix A9 trial for Keyhole Technology

An appendix Trial of Keyhole Technology for it to be recognised as an industry standard within the Specification for the Reinstatement of Openings in Highways (SROH).

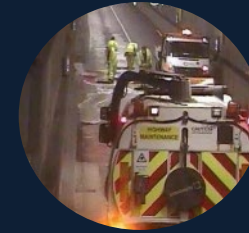
Project Lead: National Grid Gas

Approved: December 2014

Category: Technology

Route: Full Committee

Status: Discontinued



Highway Spillage Control

Carry out a trial to establish a toolkit which will allow operatives to use the best solution for different types of common spillages to avoid unnecessary carriageway resurfacing.

Project Lead: Transport for London

Approved: August 2016

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

High Volume Gas Escape Toolkit (HVGET)

Produce and trial a toolkit to better respond to gas escapes and expedite remediation.

Project Lead: SGN

Approved: May 2020

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Bridge Strike Mitigation

Install telemetry and CCTV at 8 over height vehicle detectors protecting the 4 highest risk structures to analyse data captured and establish future mitigation.

Project Lead: Transport for London

Approved: February 2016

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Traffic Signal Communication Resilience

Trial of wireless mesh technology to back up traffic signal connectivity to reduce disruption.

Project Lead: Transport for London

Approved: November 2016

Category: Technology

Route: Full Committee

Status: Complete

[Link to Industry Publication](#)

Kingsway Pipe Subway Fire Suppression

Trial of fire suppression equipment within Camden's Kingsway Pipe Subway to reduce disruption caused by fire.

Project Lead: LB Camden

Approved: August 2018

Category: Technology

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Events Solution Trial

Trial of an events solution which looks to use intelligent signals in conjunction with 4G routing to enable a dynamic use of left and right hand turning during planned and unplanned events.

Project Lead: Transport for London

Approved: May 2017

Category: Technology

Route: Full Committee

Status: Discontinued



Rapid Pothole Repair System (Road Mole)

Trial of the road mole. An innovative pothole repair system using a circular repair method.

Project Lead: Transport for London

Approved: June 2019

Category: Technology

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Timberline: Polyethylene (PE) Repair System

Development and trial of a new method of repair for PE gas pipes. Project Lead: Transport for London

Approved: August 2021

Category: SGN

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)

Gas Stent (4 & 6 inch) Implementation Trial

Development and trial of a new method of repair for PE gas pipes. Project Lead: Transport for London

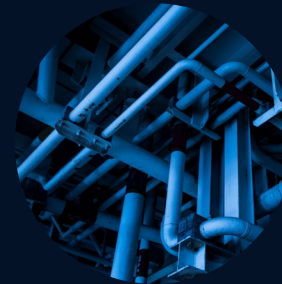
Approved: September 2020

Category: SGN

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Development of Dust Suppression by Vacuuming

Development of a tool which can suppress excavation dust via vacuuming.

Approved: April 2023

Category: SGN

Route: FastTrack

Status: Project Authority





Traffic Management & Materials

Improving the everyday





Westway Bridging Solution to Prevent Closure

Innovative 'bridging' solution to maintain traffic flow while replacement of one of only 3 roller shutter joints in the UK is undertaken.

Project Lead: Transport for London

Approved: August 2021

Category: Traffic Management & Materials

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

Plastic recycling in Roads

Trial the use of recycled plastic pellets within polymer modified bitumen and stone mastic asphalt to strengthen surface and increase longevity. (Roadmender).

Project Lead: UK Power Networks

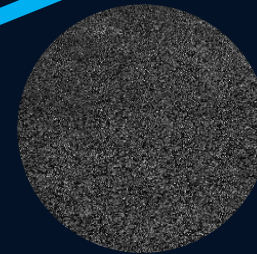
Approved: November 2015

Category: Traffic Management & Materials

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Asphalt Solutions Research Programme

Laboratory trials to stress test different asphalt treatment options to find the best solution to reduce pothole formation on London's roads and increase longevity.

Project Lead: Transport for London

Approved: May 2016

Category: Traffic Management & Materials

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)

ARI5/30 Pothole, Crack Repair and Reinstatement Trial

Trial of a new pothole repair system, extensively used in the USA, which looks to reduce disruption and limit noise resulting from these types of repair.

Project Lead: LB Hammersmith & Fulham

Approved: June 2019

Category: Traffic Management & Materials

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Improving Cyclist Movements at Stratford Gyratory

Trial of an alternative method of temporary cycle lane segregation at works sites, which can be moved according to programme.

Project Lead: London Borough of Newham

Approved: January 2018

Category: Traffic Management & Materials

Route: Lite

Status: Completed

[Link to Industry Publication](#)



Temporary Traffic Signals via Urban Traffic Control

Development of portable traffic signal control system which can be remotely controlled from TfL's Urban Traffic Control system. Potential to reduce the overall impact of works.

Project Lead: Transport for London

Approved: December 2014

Category: Traffic Management & Materials

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Footway Ramp Trial

Two stage trial of a new ramp to assist the public, particularly, vulnerable road users. Off-street trials followed by on-street trials. Report and specification to be produced.

Project Lead: UK Power Networks

Approved: February 2018

Category: Traffic Management & Materials

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Cycle Highway Trench Bridge to Maintain Flow

Design and develop a prototype bridge, which will be a lightweight durable structure to place over excavations when carrying out works on cycle highways to aid cyclists.

Project Lead: Cadent Gas

Approved: August 2016

Category: Traffic Management & Materials

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)



Vented Footway Board for Gas Escapes

Development of a vented footway board which can be used during emergency gas escape repairs to maintain pedestrian access in high footfall locations.

Project Lead: Cadent Gas

Approved: October 2021

Category: Traffic Management & Materials

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Water Displacing Backfill Material to Expedite Works

Trial of new material which can be used with water in the excavation to backfill, which will displace the water out of the excavation.

Project Lead: Thames Water

Approved: July 2021

Category: Traffic Management & Materials

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)

Smart Streetworks Barrier to improve Compliance

Proof of concept to establish if a smart streetworks barrier system can detect barriers that have fallen and provide notification to the undertaker to rectify obstruction in a timely fashion.

Project Lead: UK Power Networks

Approved: January 2020

Category: Traffic Management & Materials

Route: FastTrack

Status: In progress



Solar Panelled Welfare Unit

Trial of solar powered welfare unit on the TLRN to establish if they provide an effective environmentally friendly alternative.

Project Lead: Cadent Gas

Approved: August 2021

Category: Traffic Management & Materials

Route: FastTrack

Status: In progress





Cycle Lane Wand Specification

Produce technical guidance and specification for the installation / maintenance of wands.

Project Lead: Transport for London

Approved: April 2022

Category: Traffic Management & Materials

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)



Specification for the Reinstatement of Openings in Highways Support Material to aid Inspectors and Operatives

Develop guides for the SROH to enable a consistent approach and will feed into the HAUC App2 project.

Project Lead: LB Enfield

Approved: July 2022

Category: Traffic Management & Materials

Route: FastTrack

Status: In progress



Strengthening Roads via Plastic Recycling

Trial the use of recycled plastic pellets within polymer modified bitumen and stone mastic asphalt to strengthen surface and increase longevity (MacRebur)

Project Lead: LB Enfield

Approved: January 2018

Category: Traffic Management & Materials

Route: Lite

Status: Completed

[Link to Industry Publication](#)

Early Trafficking On-Street Trials

Carry out a trial to stress-test the curing time required prior to trafficking of readily available concrete used in highway reinstatements.

Project Lead: Transport for London

Approved: August 2017

Category: Research and Feasibility

Route: Full Committee

Status: Completed

[Link to Industry Publication](#)





Preventing Ice Formation on Cycle Lanes

Investigate solutions to prevent cycle lane closures where diversions into carriageways increase risk, especially where Roadworks are already present
Project Lead: Transport for London

Approved: July 2019

Category: Traffic Management & Materials

Route: FastTrack

Status: Completed

[Link to Industry Publication](#)





Optimising customer journeys through the delivery of safe, innovative
and sustainable roadworks

[Tfl.gov.uk/LaneRental](https://tfl.gov.uk/LaneRental)
LaneRentalFunding@tfl.gov.uk