

SURFACE TRANSPORT

INVITATION TO TENDER

FOR

Micromobility Management System Pilot

VOLUME 2 SPECIFICATION

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1. ORGANISATIONAL OVERVIEW

1.1. Transport for London (TfL)

TfL was created in 2000 as the integrated body responsible for London's transport system. TfL is a functional body of the Greater London Authority. Its primary role is to implement the Mayor of London's Transport Strategy and manage transport services to, from and within London.

TfL manages London's buses, the Tube network, Docklands Light Railway, Overground and Trams. TfL also runs Santander Cycles, London River Services, Victoria Coach Station, the Emirates Air Line and London Transport Museum. As well as controlling a 580km network of main roads and the city's 6,000 traffic lights, TfL also regulates London's taxis and private hire vehicles and the Congestion Charge scheme.

Further background on what TfL does can be found on the TfL website here: <https://tfl.gov.uk/corporate/about-tfl/what-we-do>

1.2. Business Unit

The Transport Innovation Directorate sits within Surface Transport. Our role is to make sure transport in London is ready for the future. We actively seek out and assess new ideas and developments in the transport world, helping TfL to determine which new business models or services could help us address the challenges facing our city. We engage with market innovators, test how new ideas could work for London and set the policy frameworks to ensure new innovations are integrated and work for all.

The Transport Innovation Directorate sits within the Surface Transport Unit which has overall responsibility for the road and bus network and is responsible for delivering contracted transport services including buses, trains and trams. This unit also leads efforts to make London's streets and transport safe and secure, including the organisation's **Vision Zero** commitment to eliminate all deaths and serious injuries, increase active travel, and reduce congestion and emissions, including the Ultra Low Emission Zone. It is essential that all areas of Surface Transport work holistically both from a data and an operations stand-point.

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2. INTRODUCTION

2.1. Background

TfL and London boroughs have limited information on trips made by dockless cycles, and limited influence on dockless rental companies despite operators being reliant on public infrastructure. TfL and boroughs need a dynamic view of how new modes of transport such as dockless rental bikes and e-bikes could help to effectively deliver the Mayor's Transport Strategy goals and avoid the potential dis-benefits of thousands of mobile assets moving around London and causing obstructions in the public realm.

Understanding the impact that dockless cycles have on journeys (whether they are replacing car journeys, complementing public transport journeys or impacting active travel) is necessary to influence investment and policy decisions and promote safety. Data on dockless cycles (such as aggregating origin and destination data and routes taken) could influence decisions in areas like expanding cycle routes/infrastructure, investments in junction safety and influencing operators to expand into areas in need of better active transport options. Two-way data sharing with operators would help TfL understand the current situation, react intelligently, understand what is really going on and communicate up to date network information to operators to ensure that highways are kept clear and safe for all users.

Given the number of providers working with other cities across the world to ingest data from micromobility operators, we now want to develop and deliver a pilot system for London, before considering a longer-term solution.

2.2. Objectives

TfL is seeking to deliver proof of concept for a micromobility management system for a number of reasons:

To enable Network Performance Managers to prioritise and smooth traffic flows in line with the Mayor's Transport Strategy

Providing the Network Management Control Centre with near real-time data of where all dockless hire vehicles are in London will vastly increase the amount of information they have about how these vehicles are being used in the city. This will inform decision-making to the benefit of cyclists, pedestrians and other road users.

To complement existing aggregated and anonymous data sets that TfL and boroughs use to inform long-term planning, policy and investment decisions

TfL doesn't have much information about how people use rental bicycles in London. Data on how people use dockless hire bikes would allow TfL to analyse route choices, popular locations for hiring and ending hires, etc. and use this data to inform

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future policy decisions in relation to cycling, and planning and investment on cycling infrastructure, junction safety etc.

To allow TfL and London boroughs to ensure compliance with the Greater London Dockless Vehicle Byelaws, and therefore ensure responsible parking of dockless vehicles

Access to real-time data from micromobility operators will allow TfL and boroughs to see the locations of dockless vehicles all over London and validate compliance with the parking requirements in the Byelaws. The Byelaws are due to come into force mid-2020. This data will facilitate informed discussions with operators. Ultimately, being better informed about where these vehicles are parked is essential for TfL and boroughs being able to ensure responsible parking and keeping streets clear and safe for all users.

To support enforcement teams and relieve the burden of new vehicles on enforcement officers

Real-time operator data and the ability to see where dockless vehicles are on a map of London will allow for a more targeted approach to enforcement. This will help reduce the impact for enforcement teams of an unlimited number of dockless bikes and the potential legalisation of e-scooters, which would likely see a large increase in the number of dockless vehicles on London's streets.

To support TfL's ongoing relationship with operators, and ensure that TfL and boroughs have access to the data they need as data needs evolve

There is also an opportunity to explore other new transport business models as they appear.

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3. SCOPE

3.1. General Requirement

This contract is for a provider to deliver an 18-month data-sharing pilot between micromobility operators in London and TfL, with several London boroughs participating as users.

The Provider shall develop the necessary Application Programming Interface (APIs) to enable two-way data sharing between micromobility operators on the one hand, and TfL and London boroughs on the other.

The Provider shall ingest from operator's data such as verifiable near real-time data (up to one minute latency) on the locations of all dockless micromobility hire vehicles in London (with unique identifiers, vehicle type and propulsion type for each vehicle), their statuses (available for hire/out of service), and journey start and journey end data. The Provider's solution shall share this near real-time data with TfL and the participating boroughs. The Provider's solution shall include functionality to allow TfL and boroughs to download and store historical data for analytical purposes. The Provider's solution shall enable TfL and London boroughs to communicate with operators and supply operational information (e.g. network availability information and policy updates).

The Provider's solution and processes must comply with the requirements of the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 or any amendment or re-enactment from time to time or national replacement of such legislation. This includes, but is not limited to, the obligation for 'data minimisation'. The Provider will need to work with TfL in defining the specific scope of data collected from operators and aligning this with clear purposes of use, to ensure we only collect the minimum data required.

The Provider's solution shall include a front-end dashboard mapping data over London, with access provided to TfL, the London boroughs, the City of London, and other public authorities that TfL may nominate during the course of the contract. TfL will use this dynamic view of micromobility vehicles in London to help target resources and on-street activity.

The Provider's solution shall allow users to filter historic and real-time data by operator, by vehicle type, by propulsion type, by borough, by time and by other categories as request by TfL/boroughs over the course of the contract. The Provider shall ensure that each individual user is required to complete a secure log-in process to gain access to the system, and shall implement role-based access controls, to ensure users only access information which they are authorised to do so.

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Over the course of the contract new operators, micromobility modes or other new transport solutions may arrive in London, or TfL may want to be able to collect data on other measures. This could include new data sets that become available as technology develops, such as the ability to ingest and share 'swerve' data should vehicles be fitted with gyroscopes or other technology capable of communicating such data. The Provider's solution should be scalable and come with the option of adding further standard features or developing customised features.

The Provider shall bring their experience working with a large and complex city like London, with multiple levels of government. London has one Mayor and a strategic transport authority (Transport for London), but it also has 33 individual boroughs, and those boroughs are highways authorities for their own road networks. TfL is leading this pilot but has invited boroughs to register interest in taking part as users. The Provider shall support TfL in onboarding boroughs to the pilot and providing technical support to all users throughout the pilot.

During this pilot, the Provider shall obtain the required data such as Mobility Data Specification (MDS) or General Bikeshare Feed Specification (GBFS) data) from operators and share it with TfL and all participating boroughs in a way that is compliant with data protection legislation, including the GDPR, and agreed security standards, always carefully balancing the privacy of micromobility service users with TfL and borough data needs. Over the course of the pilot, the Provider shall support TfL's ongoing relationship with operators, and ensure that TfL and boroughs have access to the data they need as data needs evolve.

The Provider's solution should be compatible with a range of devices, including desktops, laptops, tablets, and smartphones.

The Provider shall provide training to TfL and borough users upon deployment of the solution, as new users are added, and as required for any new features, updates or other changes.

Appendix 1 contains a summary of requirements.

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4. DELIVERABLES / MILESTONES

The pilot will run for 18 months. We expect to go live in May/June 2020.

The initial period after the contract commences will be important for mobilisation. Within 14 days of the Contract Date the Provider shall have appointed an account manager, produced a programme plan and have presented it to TfL.

Within six weeks of the Contract Date the Provider shall:

- Have overlaid a dashboard/platform over a map of London that is consistent with those used by TfL and our partners and have started to ingest data from existing micromobility operators
- Have gone live with the following standard features: view of fleet by operator including the real-time locations, unique identifiers, vehicle types and propulsion types of those vehicles, journey start and end locations and vehicle status (available for hire/out-of-use).
- Have onboarded the boroughs that will be taking part in the pilot
- Have agreed workflows with TfL analysts/data experts and borough nominees, which TfL will facilitate.
- Have provided a data management report (exact requirements to be agreed but to include the number of ping data points, number of derived data points, data quality (source) and data quality (sent to TfL/boroughs))
- Once TfL is satisfied that the provider has delivered a minimum viable product (including having enabled data-sharing with existing TfL systems) on a daily basis the Provider shall refresh any data that is not real-time.

On a monthly basis after month one the Provider shall:

- Produce a report showing monthly summaries and trends. TfL will define the exact requirements of these reports before the first report is due and will refine the requirements subject to business need over the course of the contract.

After three months the Provider shall:

- In partnership with TfL, have identified and resolved any issues in data-sharing agreements with micromobility operators

Over the course of the 18-month pilot the Provider shall:

- Have the ability to add further standard features or develop customised features
- Have the ability to ingest and share with TfL/boroughs data from additional dockless bike operators, or any operators of a new transport solution that TfL wants to be able to collect MDS-standard or similar data from.

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5. SERVICE LEVEL AGREEMENTS (SLAS)

5.1. SLAs

Over the course of the pilot, for the purposes of tracking and monitoring progress, a number of SLAs are envisaged. They are likely to include:

Description	Service Level
Regularity of receiving data from operators	<ul style="list-style-type: none">• Daily refreshing of data that isn't real-time for analytical purposes
Agreed response and repair times if the system experiences issues/bugs	<ul style="list-style-type: none">• Technical support response times and channels to be agreed before contract is signed• Ongoing support to be available
Advance notice of deploying any service impacting modifications (excluding emergency patches/fixes).	<ul style="list-style-type: none">• Notification period to be agreed within 7 days of the Contract Date
Advance notice of releasing any major improvements or enhancements to the System, including a description of the intended improvements or enhancements.	<ul style="list-style-type: none">• Notification period to be agreed within 7 days of the Contract Date
A regular meeting/call with the account manager.	<ul style="list-style-type: none">• Weekly

TfL expects a minimum viable product to be fully functional within six weeks of the Contract Date.

The precise nature of SLAs and their reporting frequencies will be subject to the exact solution that is procured and will be subject to agreement within 7 days of the Contract Date, with the possibility for review during the course of the pilot (with the first review point at 6 months).

5.2. General requirements

As well as SLAs such as those set out above, the Provider will be subject to service requirements such as:

Description	Measure
Ongoing compliance with all data protection legislation and	<ul style="list-style-type: none">• To be regularly reviewed with the account manager and TfL's privacy

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agreed security standards including GDPR	team. <ul style="list-style-type: none">• Regularity to be agreed within 7 days of the Contract Date
Reporting meetings	<ul style="list-style-type: none">• Account manager, TfL policy and relevant technical experts to be in attendance.• Regularity and exact requirements to be agreed within 7 days of the Contract Date

6. PROJECT PLAN/TIMESCALES

TfL anticipates regular meetings between the account manager and the policy and technical leads in TfL, and regular reports on findings/trends/issues. The regularity and specific details of these meetings will be agreed within 7 days of the Contract Date.

May/June 2021: consider the long-term legacy of the pilot and agree transitional arrangements. We expect the Provider to be part of this review process.

November/December 2021: pilot ends and transitional arrangements are in place. The Provider shall produce an end of pilot review report, the exact requirements of which will be determined by TfL before the end of the pilot.

APPENDIX 1 - SUMMARY OF REQUIREMENTS

- Develop Application Programming Interface (APIs) to enable two-way data sharing between micromobility operators and TfL/London borough users.
- Solution must be able to ingest as near as possible to real-time data and share this with TfL/boroughs within one minute of receiving the data.
- Required data from operators:
 - locations of all dockless micromobility hire vehicles
 - unique vehicle identifiers
 - vehicle type for each vehicle
 - propulsion type for each vehicle
 - vehicle status (available for hire/out of service)
 - journey start data
 - journey end data
- Develop a front-end dashboard displaying this data to users. Users shall be provided with secure, role-based access and shall be able to filter historic and real-time data by:
 - operator
 - vehicle type
 - propulsion type
 - borough
 - time
 - any other categories as request by TfL/boroughs over the course of the contract.
- Data can be downloaded and stored by TfL and boroughs as needed for analytical purposes.
- TfL and London boroughs able to communicate with operators and supply operational information (e.g. network availability information and policy updates)
- The solution should be scalable and come with the option of adding further standard features or developing customised features.
- The Provider shall support TfL in onboarding boroughs to the pilot and providing technical support to all users throughout the pilot.
- The Provider shall support TfL's ongoing relationship with operators and ensure that TfL and boroughs have access to the data they need as data needs evolve.
- The Provider should use a standard data format such as Mobility Data Specification (MDS) or General Bikeshare Feed Specification (GBFS)
- The Provider's solution should be compatible with a range of devices, including desktops, laptops, tablets, and smartphones.
- The Provider shall provide training to TfL and borough users at the start of the contract, as new users are added, and as required for any new features, updates or other changes.

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- Compliance with the requirements of the General Data Protection Regulation (GDPR) and the Data Protection Act 2018 or any amendment or re-enactment from time to time or national replacement of such legislation.
- 'Data minimisation': The Provider will need to work with TfL in defining the specific scope of data collected from operators and aligning this with clear purposes of use, to ensure collection of the minimum data required.