



Department
for Transport

Funding for Innovation: Opening Local Authority Transport Data

Moving Britain Ahead

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1. Introduction

- 1.1 Digital transformation is rapidly changing the way we travel on our roads and how we provide and maintain our infrastructure. The Department for Transport is launching a competition to stimulate further transformation and to exploit the potential of local authority transport data. Our aim is to help local authorities to make road transport smarter by opening and sharing their data to improve safety, efficiency, and emissions.
- 1.2 The Department commissioned a significant discovery project about local transport data earlier this year. The North Highland consultancy report (<https://www.gov.uk/government/publications/local-transport-data-discovery-findings-and-recommendations>) concluded that the local authority transport data market is immature but there would be significant transport benefits to local authorities from opening their high value datasets (parking, real-time traffic information and Traffic Regulation Orders).
- 1.3 North Highland reported that opening transport data can be translated into direct and indirect benefits for key user groups - including local authorities, private sector and the general public. The local authorities involved in the project cited cost savings, efficiencies and improved planning, but other benefits included improving network efficiency, enhancing the user experience and fostering innovation.
- 1.4 To achieve these outcomes, North Highland identified five key themes for improvement which were supported by a number of recommended actions. Investment was considered as one of the key barriers and North Highland recommended that the Department should fund open data projects which will support collaboration across local authorities and provide stakeholders with evidence of successful projects.
- 1.5 The Department for Transport is, therefore, launching a competition to promote the opening and sharing of local authority transport data. The competition will provide £500,000 for local authority projects costing between £50,000-£100,000 which will:
 - focus on the local authority high value parking and traffic datasets;
 - enable local authorities to open, clean and standardise their selected data;
 - demonstrate the value of cross-boundary data collaboration;
 - help provide the business case for more widespread open data and data sharing;
 - improve transport operations and highlight potential efficiencies; and
 - encourage innovation in the private sector supply chain.

2. Who Is Eligible to Apply for the Fund?

- 2.1 Any English local highway authority can apply for funding. Applications can cover geographical areas that cut across local authority boundaries - in which case one authority should be identified as the lead authority with others as partner authorities. The Department for Transport is setting a limit of two bids per local highway authority
- 2.2 Where an authority forms part of a Combined Authority (CA) bids should be submitted by the CA. If a CA submits more than one bid it should provide a cover letter indicating the relative priority of the bids submitted.

3. Scope of the Competition

Types of Projects

- 3.1 Data is a critical resource for enabling more efficient and effective public services. Opening-up data and removing barriers to effective data use across the public and private sector needs to be a priority as we look to evolve and improve England's transport services. In January 2018, the North Highland consultancy was commissioned by the Department for Transport to conduct an independent review of the local transport data landscape to support the Secretary of State for Transport, Chris Grayling's priority of 'Making Britain the best place in the world to do transport digitally'.
- 3.2 North Highland discovered that the local transport data landscape in England complex and fragmented, with large amounts of data being collected and stored in closed or proprietary systems by local authorities and the private sector. The benefits of publishing open data have been demonstrated by Transport for London, where the release of open data has generated annual economic benefits and savings of up to £130m, but this success has not yet been replicated by many other local authorities
- 3.3 The aim of this competition is to encourage good practice for local authorities to open their data. We propose to allocate £50,000 to £100,000 to bids which best meet the following criteria:
 - focus on the high value datasets identified by North Highland (including real-time traffic information and parking data);
 - support the process of opening data (for example, cataloguing data within their control, cleaning data to ensure quality, and standardising datasets); and
 - develop a collaborative approach to data handling (for example, working across local authority boundaries; developing or exploiting existing data platforms).

High value datasets - the strategic case

- 3.4 The Department expects the successful bidders to make a strong strategic case for the dataset(s) they select to open. **Funding is only available for the process of opening and publishing data - and not the hardware to collect the data.** The Department has nominated two categories of data which it considers important to open:
 - (i) real-time traffic management information
 - (ii) parking data
- 3.5 Bidders should clearly explain the dataset(s) they have selected from these two categories and their process for prioritising. **Fundamentally, bidders should set out the value of the data, both in its present form and the benefits that they expect to gain operationally and/or from data exploitation from opening the data.**

(Real-time) Traffic Management Information

- 3.6 There is no one size fits all here - different local authorities will operate their traffic network using different information sources and on different scales. There are, therefore, no defined criteria for the traffic information that may be included within the bid but projects which focus on real-time information will be welcomed.
- 3.7 The North Highland report did identify urban traffic control (UTC) and urban traffic management control (UTMC) systems as mostly closed data operations but with potentially high value datasets. Table 1 (below) ranks the openness of different datasets, gained from a local authority survey conducted by North Highland.
- 3.8 **We would, therefore, welcome bids from local authorities to open and publish UTC and UTMC data - but bids are not limited to these categories.** UTC systems are a specialist form of traffic management which integrate and co-ordinate traffic signal control over a wide area in order to control traffic flows on the road network.
- 3.9 UTMC systems are designed to allow the different applications used within modern traffic management systems to communicate and share information with each other. This allows disparate data from multiple sources such as Automatic Number Plate Recognition cameras, variable message signs, car parks, traffic signals, air quality monitoring stations and meteorological data, to be amalgamated into a central console or database.

Table 1 - Openness of data (Source: North Highland local authority survey)

| | Do not generate and own | Closed (Local authority access only) | Shared (Group based access) | Shared (Public with usability limits) | Open (Public with no limits) | Generate and own, but openness not specified |
|-------------------|-------------------------|--------------------------------------|-----------------------------|---------------------------------------|------------------------------|--|
| Traffic Counts | 5% | 45% | 15% | 20% | 10% | 5% |
| Road Network | 7% | 31% | 17% | 7% | 36% | 2% |
| Geo | 10% | 13% | 3% | 16% | 42% | 16% |
| UTC | 17% | 67% | 8% | | 8% | |
| UTMC | 22% | 44% | 11% | 11% | 11% | |
| Traffic Data | 29% | 50% | 10% | 5% | 4% | 2% |
| Bus and coach | 30% | 12% | 3% | 19% | 22% | 13% |
| Pedestrian | 36% | 40% | 8% | 8% | 4% | 4% |
| Taxi | 36% | 28% | | 22% | | 14% |
| Crime & Safety | 39% | 17% | 6% | 11% | | 28% |
| Land Use Planning | 40% | 15% | 8% | 13% | 8% | 18% |
| Air quality | 42% | 15% | 4% | 8% | 15% | 15% |
| Public Parking | 53% | 20% | 7% | 6% | 9% | 5% |
| Cycle | 54% | 18% | 5% | 8% | 5% | 10% |
| Electric Charging | 78% | 11% | | 6% | 6% | |
| Freight | 80% | 12% | | 4% | | 4% |
| Private Parking | 93% | 4% | | | 4% | |

- 3.10 In addition to those datasets already referenced, UTC and UTMC potentially contain data that could be made available for exchange from this competition including:
 - Journey times and delays
 - Diversion or preferred routes
 - Event information
 - Highways works
 - Traffic count data identifying busy routes

- Queue lengths and link speed / occupancy
- Traffic signal junction layout and operational data

Parking data

- 3.11 Parking is different from most other transport data as it directly supports commercial and revenue raising activities for local authorities. Local authorities are dependent on parking data to deliver these services. Opening and combining this data should provide local authorities with additional capability to analyse historic parking occupancy data, investigate the potential for new ways of ensuring compliance, optimise use of parking spaces and assess policy options.
- 3.12 Better use of parking data will also contribute to the future of mobility agenda. Physically paying for parking in a car park or on-street will no longer be necessary as apps, connected cars and eventually autonomous cars will pay for their own parking. A multitude of parking digital systems are already developing, primarily in the private sector to serve vehicles which are connected, and truly interoperable systems will need to emerge with a dependency on open source and standardised parking data.
- 3.13 Local authorities are required to publish their parking account in accordance with Section 55 of the Road Traffic Regulation Act 1984 as modified by Regulation 25 of the Civil Enforcement of Parking Contraventions (England) General Regulations 2007. The parking account includes all income from off street parking and enforcement activities. Expenditure includes costs for the provision and maintenance of designated parking spaces by the local authority and enforcement activities.
- 3.14 Local authorities also manage a significant amount of parking data that is not covered by Regulation 25. The list below is not intended to be exhaustive, but highlights some of the potential data relating to parking that local authorities can open within the scope of this competition:
- area/street/ad hoc/junction (or access) etc - geographical information
 - on-or off-street parking definition
 - restricted/unrestricted
 - restriction - the type of vehicle or permit accepted, yellow line restriction etc
 - parking spaces - the number of parking spaces in a bay
 - times of operation - the days and hours the parking restriction is in operation
 - area-wide restriction - Controlled Parking Zone, restricted parking zone etc
 - real-time availability - camera, sensor or other data source
 - duration - length of stay
 - tariff - the price and availability of parking
 - transaction - by cash/card/phone/smarter parking app etc
- 3.15 Real-time information for parking space availability is particularly valuable - sensor and camera data are being increasingly used for smarter parking applications, including the notification of parking bay availability. Whilst this data may not be available to many local authorities it has high value for app developers and SMEs.

Opening data process

- 3.16 *The Local Government Association's 'Local transparency guidance – publishing data 2015'* (<https://www.local.gov.uk/our-support/guidance-and-resources/data-and-transparency/local-transparency-guidance>) set outs some processing steps for publishing local authority data. Whilst this is an indicative approach, it may help

provide a framework for the bidders to include an end-to-end process for opening and sharing their data.

3.17 Specifically, the guide " recommends for data to be published in open machine readable formats and refers to the Sir Tim Berners-Lee suggested five star journey to publishing open data. Open public-sector data becomes significantly more useful and productive if it can be published in human- and computer-readable form, consistently across the sector, capable of being linked or connected widely with other open data and uses open data standards so that the data becomes comparable between different organisations." **All bids must demonstrate that the open dataset(s) they propose will be provided in human- and computer-readable formats.**

3.18 The opening data process may include;

- identifying and cataloguing relevant datasets - the types of data that the organisations collect and stores, with an indication of which types of dataset might be suitable for release
- extracting the data from internal systems
- transforming the data to standard templates or schemas if they exist - which will define the formats used by the local authority to publish its open data. Local authorities can provide a schema for publishing, along with simple guidance for adopting it.
- meeting data privacy requirements - ensure that any dataset identified for opening will meet the General Data Protection Regulation requirements and other relevant data protection laws and standards that relate to the collection and subsequent sharing of data
- adding further attribute information that may be required
- cleaning and checking the data for, and get rid of, any inconsistencies
- converting the data into a machine-readable format or another open data format
- ensuring that appropriate standards are applied to ensure interoperability
- check if the data is licenced to be published under Open Government Licence
- publishing the data – with supporting information and commentaries for users
- recording metadata about the data and register the data so that it can be found
- data feeds - a mechanism for users to receive updated data from data sources.

3.19 **Bidders will need to define the current status of the dataset(s) they have selected and the processes for which they are seeking funding within their strategic case.**

Working Collaboratively

3.20 The North Highland report recognised that the fragmented local authority landscape makes it hard to access transport data at scale. A localised view towards data can lead to a "boundary effect" where services and data are not being shared or thought about consistently across the local authority boundaries.

3.21 Data should not be restricted by local authority boundaries and bidders will need to demonstrate a collaborative approach to opening their data. At a local authority level, for example, a successful bid could include integration of parking data between county, unitary and/or district authorities. London boroughs could work with a neighbouring authority to promote better integration of parking services and/or traffic management at their boundaries.

- 3.22 This collaborative approach is not restricted to local authorities. The North Highland report discovered good examples of private sector/local authority projects that demonstrate the benefit of collaboration but the lack of formal relationships with the private sector can hinder mutual benefit and potential investment. Collaborative bids from local authorities, private sector partners, academia and other sectors which develop joint approaches to opening and exploiting traffic and parking open data would be welcomed.
- 3.23 Examples for the parking sector could include, for example, opening and standardising parking exchange between County/Unitary/District or compiling and aggregating local authority and private sector car parking information to improve user information about availability. With respect to real-time traffic information, collaboration could include the private sector, to enhance the quality of the data, or working with neighbouring highway authorities. Collaborative projects with Highways England could provide real benefits in providing integrated traffic management outcomes.

Publishing the data and outcomes

- 3.24 It is essential that bidders indicate how their open data is to be made available to users. Local authorities can publish their data in numerous ways. Many good practice examples now exist showing how data can be published. Various software is also now available for free and as open source to help with publishing the data.
- 3.25 Wherever you publish the data, you should give further information and contact details to help those with enquiries. This will improve relationships with those using the data and prevent them having to go down more formal routes, such as issuing FOI requests.
- 3.26 Following the outcome of this competition, the Department will create a Local Authority Data Group consisting of the successful bid applicants, to sit alongside the existing Smart Parking, Asset Management, Signals Phasing and Timing (SPAT) and Connected Information groups. This group will share good practice and learning from the process of opening data. Through this group, the Department will work with the successful bidders to determine a common platform for publishing their data, in addition to the proposal made by the authority, to ensure that these datasets have maximum reach.

Standardisation

- 3.27 **Bidders should explicitly state how they will ensure that the datasets that they are opening will be provided in a standardised format that will enable data exchange.** Creating transport data standards is all about interoperability: the ability to exchange data between different transport systems owned and/or managed by different organisations.
- 3.28 Authorities should specify existing standards when planning to open up data for use by external bodies. Data should be made available in XML or JSON formats, utilising the CEN DATEX II standards for sharing traffic information and traffic data and CEN Transmodel implementations such as SIRI or NetEX for public transport data.
- 3.29 The Alliance for Parking Data Standards (APDS) was formed by the British Parking Association, the European Parking Association and the International Parking and Mobility Institute. The Department has funded the creation of a consensus-built international parking data standard to establish a common language for data elements and definitions in the parking, transport, and mobility sectors through the Alliance. This standard will facilitate seamless integration, compatibility, and communication between parking entities, the automotive industry, IT developers,

Intelligent Transport System operators, services, and map and app providers, as well as other stakeholders.

3.30 Bidders can contact APDS at chair@allianceforparkingdatastandards.org. More details about APDS and the parking standard can be found at:

www.allianceforparkingdatastandards.org

3.31 **These parking standards will be ready for use in April 2019 and bidders should seek to apply these for any parking dataset that is relevant. The Department will only expect a commitment to adopting these standards at the bidding stage.**

4. Funding Available

- 4.1 We envisage that projects would cost between £50,000 and £100,000 - we anticipate this level of funding will be able to support a wide range of use cases.
- 4.2 This funding is 100% capital grant. The Department's funding can only be used for expenditure in line with accepted accounting practices, and may not be used for non-research activities. Decisions about what constitute capital costs are down to the local authority to agree with an independent local auditor in the usual way.
- 4.3 There will be no facility for the Department's funding to be spent beyond 30 March 2020, and the Department will not be liable for any cost overruns or delivery slippage. Any additional costs over the Department's agreed maximum contribution and any spend incurred after 30 March 2020 will be the responsibility of the authority. We would expect any bid to include a Section 151 Officer letter confirming the promoting authority accepts this liability.
- 4.4 **All bids will also need a statement to demonstrate additionality, i.e. that Department for Transport funding is not simply being used to replace other sources of funding which have, or would have, been provided.** In addition, to ensure strong local commitment, promoters should contribute at least 5% of total scheme costs for schemes. This can be made up of both local authority and other third party funding.
- 4.5 Bid applications must identify the source of the local contribution and explain how the funding has been secured. We would expect to see a letter from the promoter's Section 151 Officer confirming that the authority has the available funds to meet the total local funding contribution.
- 4.6 The application process set out in a later section of this guidance explains the requirements for submitting proposals for the competition.

5. Assessment Criteria

Essential Criteria

- 5.1 The Department for Transport's assessment of the bids will be consistent with the Transport Business Case process covering strategic, financial, economic, commercial and management cases. These sections are set out in the application form, with further guidance therein.
- 5.2 Given the objectives of the competition, particular attention will be given to the factors set out below:

Strategic Case

- 5.3 Data is vital for enabling the efficient and effective provision of services, and the release of open data is a government priority. Local authorities hold a significant amount of static and real-time transport data. This competition is designed to demonstrate the benefits for local authorities to open and exploit transport data.
- 5.4 The strategic case should, therefore, demonstrate the case for the datasets proposed – that is, a clear rationale for making the investment; and strategic fit, how an investment will further the aims and objectives of the relevant local authority/authorities.
- 5.5 The strategic case will intrinsically be linked to value for money. Bidders will need to develop indicators for success, clearly linked to a strategic vision about how the value of the data can be realised. Bids could follow the North Highland approach to measuring the value of transport data - as set out below:
 - Community and environment - contributing towards wider societal and behavioural change, such as improving air quality and accessibility of services
 - Operational/efficiency - streamlining ways of working and processes for individuals or organisations, which improves overall cost efficiencies
 - User experience - residents or customers receiving an enhanced or improved service through enriched information
 - Safety/regulation - ensuring that information is transparent and that any legislation is fully adhered to
 - Economic growth - helping the flow and movement of people and businesses contributing to wider economic activity.
- 5.6 **The strategic case should reflect the advice and guidance presented throughout this document.**
- 5.7 **The bid should also provide a commitment from the bidder that the datasets opened are maintained and updated for the foreseeable future.**

Value for Money and financial requirement

- 5.8 Value for Money will form part of our assessment of the bids but will not be the only factor. **Bidders will be expected to provide an indication of the benefits and value for money, as identified in the strategic case.**
- 5.9 To ensure strong local commitment, promoters should contribute at least 5% of the total project costs for schemes. This funding should be justified by the bidder as a contribution toward the strategic case for opening the dataset(s).
- 5.10 Higher levels of contribution would be welcome but are not essential. This can be made up of both local authority and other third-party funding. Bid applications must identify the source of the local contribution and explain how the funding has been secured.
- 5.11 **We would expect to see a letter from the promoter's Section 151 Officer confirming that the authority has the available funds to meet the total local funding contribution.**
- 5.12 Responsibility for estimating and controlling all project costs lies entirely with the bidding authority or authorities. **The Department will expect each project to provide a breakdown of costs for each project activity and the successful applicants will be expected to provide a report against these.**
- 5.13 The Department's agreed contribution will be the maximum that the scheme will receive and the Department will not entertain any contribution to cost increases that may arise. The bid should also provide a narrative setting out how the authority will mitigate against any financial risks associated with the scheme.

Deliverability

- 5.14 This will be an important factor in determining the awards. A clear statement of intent is of paramount importance and bids should demonstrate that the proposal will be delivered within the funding timetable with supporting evidence. **Projects which include a clear statement of intent from a high-level political representative and/or local authority representative will be prioritised.**
- 5.15 Delivery risks identified from previous Departmental programmes include:
- over ambitious timeframes (with no contingency built in at all)
 - securing third party contributions to timetable; and/or
 - the local authority's capacity and capability.
- 5.16 The Senior Responsible Owner for the project should be identified and details of the project management arrangements should be provided. All applications should include a short summary of the key risks to delivery and planned measures for managing those risks.

Monitoring of Scheme Impacts, Evaluation and Benefits Realisation

- 5.17 **Bidders should provide a theory/logic map to demonstrate how their data proposal will achieve the intended benefits.** The strategic case should provide a clear strategy for the intervention and bidders will need to describe the overall logic of the how opening the data will lead to the intended outcomes and hypotheses on which these are based.
- 5.18 **Bidders must also commit to maintaining a record of the process by which they have opened data and to monitor/evaluate the impact after the datasets are opened.** As part of the application process promoters will be expected to provide details on the likely benefits and how they will be measured and reported during and on completion of the project.

5.19 The Department intends to evaluate the data opening scheme as a whole and the impact of individual projects, and bidders are requested to support our evaluation activities through the provision of information. The Department is currently working with Newcastle University to evaluate the Connected Intelligent Transport Systems (C-ITS) and data projects it funds, with the intention of developing national evaluation frameworks, business cases and guidance for C-ITS projects. Successful bidders will also be required to contribute this work as required, as part of the delivery of their project.

5.20 For example, we may ask you to complete a survey or take part in an interview. We will be interested to understand how your monitoring process can help develop our knowledge - for example;

- delivery process e.g. have you delivered your proposal to cost and schedule and whether you encountered any barriers to delivery?
- the data publication process e.g. do you have confidence in the data published?
- for what applications the data has been used / how you are planning to use it?

6. Application Process

- 6.1 An application form, sets out the criteria against which applications will be assessed (as set out in Chapter 5 of this Guidance). This can be found at: <https://www.gov.uk/government/publications/co-operative-intelligent-transport-systems-funding-competition> [TO BE CONFIRMED]. Applicants should complete all sections on the form and any necessary supporting material (as set out in the application form) should be annexed and clearly referenced in the bid document itself.
- 6.2 As stated in Chapter 2, applications for funding are welcomed from any English local authority.
- 6.3 The deadline for submitting bids is **5pm, 8 February 2019**. Decisions on successful bids will be made as soon as possible.

Submission of Bids

- 6.4 The Department requires an electronic version of the bid and this should be submitted to: TRAFFIC.COMP@dft.gov.uk.
- 6.5 Local authorities should also publish the applications on their websites and provide the web link to the Department for Transport.

Enquiries

- 6.6 If you have any questions about this guidance, including clarification on the information and appraisal requirements for bids to the Fund, please contact:

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