



Department
for Transport

Funding for Innovation: Connected Vehicle Data

Moving Britain Ahead



December 2017

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1. Introduction

- 1.1 The digital transformation is rapidly changing from the way we travel on our roads and how we provide and maintain our infrastructure. The Department for Transport is launching a competition to help stimulate further transformation and to enhance Britain's position as a leading transport innovator. Our aim is to help encourage highway authorities to make road transport increasingly smart through the use of data and connectivity to improve safety, efficiency, and emissions.
- 1.2 The Department for Transport is committed to supporting road authorities deliver better management of their network. This competition will help by encouraging innovation in the access to road condition information through connected vehicle technologies.
- 1.3 Connected vehicles have access to the internet/wi-fi and a variety of sensors, which are able to send and receive signals, sense the physical environment around them, and interact with other vehicles and the roadside infrastructure.
- 1.4 The Traffic Technology Forum estimate that there already 3 million connected vehicles already on UK roads, providing data and receiving information. The rapid rate of technology deployment in new vehicles will bring further opportunities for better connected vehicles that we can exploit to improve the planning and maintenance of our road network.
- 1.5 We should exploit the benefits from this data far more.
- 1.6 The Department of Transport is, therefore, launching a competition to demonstrate connected vehicle applications that provide real benefit to local authorities – to access data on road condition information and asset management.
- 1.7 The competition will provide £500,00 for local authority projects costing between £30,000 £100,000 which will:
 - demonstrate the capability of connected vehicle data;
 - improve the quality of road condition and asset management data;
 - provide the business case for more widespread deployment across a number of highway authorities;
 - enable the development of smart asset strategies based on harvested intelligence; and
 - help support innovation within 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 transport authority should be identified as the lead authority with others as partner authorities. Where an authority forms a Combined Authority (CA) bids should be submitted via the Combined Authority who should also provide a cover letter indicating the relative priority they attach to the different bids submitted.
- 2.2 The Department for Transport would welcome partnerships with private sector interest. Not only should the competition bolster innovation and opportunities for the UK private sector, but some applications may require access to systems and sensors that may require partnership.
- 2.3 The Department for Transport is setting a limit of one bid per local highway authority.

3. Scope of the Competition

Types of Schemes

- 3.1 Connected vehicles, and the communications infrastructure to support them, are not a long-term possibility, but an immediate reality. It is important that they take their place in the short-term planning conducted by local highway authorities and not just in long term plans. The way they are used and adopted by drivers and network operators is important, as the longer term deployment of autonomous vehicles that may rely on connected vehicles technology.
- 3.2 Vehicles are already becoming data collectors; many more will soon be connected by a variety of ways providing even more data. By turning this data into insights about key areas of traffic and asset management, local highway authorities can create compelling business cases for connected and data-driven solutions.
- 3.3 The Road Condition Management Group (RCMG), on behalf of the UK Roads Board, leads on the development and the consistency of road condition data as used by all highway authorities throughout the UK. This information is often the backbone for the delivery of transport services on local roads as well as being the engine that drives transport asset management plans and strategies.
- 3.4 The aim of the competition is to demonstrate that as more vehicles become connected, and by piloting innovative and/or market tested connected technologies, the data they provide can supplement the quantity and quality of road condition data as well as traffic management uses already in place.
- 3.5 Local authorities are invited to submit proposals for piloting technologies to demonstrate connected sources of road condition data including:
 - Pay as you go installed devices, with the ability to access accelerometer data and driver behaviour data
 - Other fleet devices which can be adapted for this purpose
 - Cameras in vehicles
 - Technologies to access vehicle data or using the vehicle as sensor (eg obtaining relevant CANbus data; use of axle sensors; weighing vehicles; suspension movement cameras; detecting potholes for ride)
 - Mobile phones as sensors rather than as driver interfaces
 - Any other connected vehicle technology which can collect this data.

3.6 Applications could include but not be limited to:

- Smarter Asset management e.g. continuous asset monitoring, pothole condition tracking
- Real time and trends in road condition (temperature, grip, ride quality)
- Immediate response e.g. road pavement failure/ flood/debris
- Junction Safety e.g. rapid braking, loss of control
- Auditing traffic signs and road markings
- Data for winter maintenance and road closures in bad weather
- Weather data for rural roads and flooding

3.7 Applications will also need to demonstrate:

- The techniques and tools for the transformation of raw data into meaningful and useful information for managing the road network.
- How they have considered data privacy and security of systems/data exchange in developing their proposal.

4. Funding Available

- 4.1 We envisage that potential schemes would cost between £30,000 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 31st March 2019, 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 31st March 2019 will be the responsibility of the promoter. 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 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. 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.
- 4.5 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 The strategic case should demonstrate the case for technologies 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. Bids should include evidence such as:
- the identified problem(s), with timescales and the key drivers
 - the aims of the proposed scheme, and how it addresses the problems identified.

Value for Money and financial requirement

- 5.4 Value for Money will form part of our assessment of the bids but will not be the only factor. For this bidders are requested to provide details on the costs and potential benefits going forward from the project.
- 5.5 On costs, it is requested bidders provide a breakdown of the costs of the project and the funding requested. In addition, information on on-going maintenance and operating costs associated with the project if any should be provided and an explanation on how these will be funded.
- 5.6 On the benefits, it is recognised it is difficult and not proportionate given the nature of the projects that are likely to be funded, to attempt to monetise the benefits of the projects. Instead bidders are requested to provide qualitative description of the data that will be collected from the project and how these could provide potential benefits going forward. This should also capture any examples, which generate revenue from the data collected and an indication on the number of users that benefits.

- 5.7 To ensure strong local commitment, promoters should contribute at least 5% of total scheme costs for schemes. This could be used to ensure the data is developed into information that will inform local authority strategies.
- 5.8 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. 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.
- 5.9 Responsibility for estimating and controlling all project costs lies entirely with the bidding authority or authorities. 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

- 5.10 This will be a decisive factor in determining the awards. Realism of scheme deliverability is of paramount importance and bids should demonstrate that the scheme will be delivered within the funding timetable with supporting evidence. Schemes which include a clear statement of intent from a high-level political representative and/or local authority representative will be prioritised.
- 5.11 Delivery risks identified from previous Departmental programmes include:
- a. supply chain capacity and procurement timescale risks
 - b. over ambitious timeframes (with no contingency built in at all)
 - c. securing third party contributions to timetable; and/or
 - d. the local authority's capacity and capability.
- 5.12 Procurement is also important and proposals that involve lengthy procurement processes may struggle to meet the delivery timeframes of the Competition and those schemes that can be delivered through existing framework contracts may be assessed higher than those who have to go through a tendering process.
- 5.13 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.

Evaluation of Schemes

- 5.14 The Department intends to evaluate the competition and bidders are requested to support our evaluation activities through the provision of information. For example, we may ask you to complete a survey or take part in an interview. In particular we will be interested to gather your views on:

- The delivery process e.g. have you delivered your proposal to cost and schedule and whether you encountered any barriers to delivery?
- The technology implemented e.g. did it work as intended?
- The data collection process e.g. do you have confidence in the data collected?
- How the data has been used / how you are planning to use it?

5.15 We also request that your bid clearly articulates how you are expecting to use the data collected (if you know) and the expected benefits for both road users and road operators. Please also outline how you could measure the expected benefits from the application of the harvested data.

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). 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 Section 2, applications for funding are welcomed from any English local highway authority.
- 6.3 The deadline for submitting bids is 5pm on 16 February 2018. 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.gsi.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:

Graham Hanson
Head of Intelligent Transport Systems Policy Team
Graham.Hanson@dft.gsi.gov.uk
Tel: 07786972298

7. Clarification Note for Bidders

Q. Are authorities allow to submit more than one bid?

A. No.

Q. How important is it that local authorities set out proposals for turning the connected vehicle data into meaningful information?

A. This competition should help promote innovation and outcomes that are readily scalable and transferable. Bidders will need to explain the process for exploiting the data that their scheme will provide and outline the outcomes they expect from the information collected.

Q. What should the bid contain regarding data privacy and security?

A. The Department for Transport would expect a clear statement that the local authority bidder has reviewed the scheme and they are satisfied that there are no data privacy issues and an appropriate and commensurate security assessment.

Q. What commitment should bidders provide to the evaluation stage?

A. The evaluation of the successful schemes is a key outcome for the Department for Transport, so that we can potentially help build business cases and best practice for other authorities. We therefore expect bidders to demonstrate that adequate resource is included within the scheme bid.

Q. How strict is the guidance on the number of pages of submissions?

A. It would be helpful if you could stick to the limit as much as possible.

Q. If we submit a scheme bid we will not have all of the economic case ready in time? How do we deal with this issue?

A. We will be assessing the economic case on the basis of the information that promoters supply – and the more robust that information is, then the more confidence we can have in the assessment. Clearly, this should be appropriate to the level of schemes put forward; as such, a cost benefit analysis is not required, although for larger schemes costing above £100,000 we would expect some indication of the value for money.

Q. Can authorities submit a joint bid with other authorities or with private sector parties?

A. This is for local highway authorities to decide. The Department is happy to receive separate bids but is also happy to receive a joint bid with other authorities and/or the private sector.

Q. Can we use staff time/resources as the council's local contribution?

A. No.

Q. Will feedback be provided on failed bids?

A. No – authorities will be informed as to whether they have been successful or not. More details can be provided on request.

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