

**North Yorkshire County Council**

**Business and Environmental Services**

**Executive Members**

**26 January 2018**

**Department for Transport Funding competition for local authorities;  
Connected vehicle data**

**Report of the Assistant Director – Highways and Transportation**

**1.0 Purpose of Report**

1.1 The purpose of this report is to seek agreement from the Corporate Director, Business and Environmental Services (BES), in consultation with BES Executive Members, to submit a bid to the Department for Transport (DfT) Funding competition for local authorities; Connected vehicle data.

**2.0 Background**

2.1 The digital transformation is rapidly changing the way we travel on our roads and how we provide and maintain our infrastructure. The DfT is launching a competition to help stimulate further transformation and to enhance Britain's position as a leading transport innovator. Their 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.

2.2 The DfT 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.

2.3 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.

2.4 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.

2.5 The DfT 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.

2.6 The competition will provide £500,000 for local authority projects costing between £30,000 to £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.

2.7 We have already had a demonstration by Vaisala/Vionice of the RoadAI system, during which they made the following claims:

*‘RoadAI is a data production tool that utilises smartphone produced video and various other sensors. The smartphone application is used to collect raw data from a vehicle or hand held. The raw data is refined with elaborate image recognition algorithms and signal processing methods. RoadAI is the ideal tool for intelligent infrastructure management providing up-to-date visual data for documenting, automated inventories of street furniture and road condition analysis. RoadAI requires no additional hardware or equipment other than a smartphone. At the core of RoadAI runs a state-of-art computer vision system, enabling the automatic recognition of traffic infrastructure from collected video. In addition to computer vision video processing, sensor data from the smartphone is analysed to measure the overall condition of the road. The three main benefits of the automated inventory are cost-efficiency, quality precision and that it can be integrated with existing processes. The process integration allows annual road surveys to be replaced with continuous data flow significantly reducing asset management expenditure.’*

2.8 Unlike other similar products, which require human input to assess data with the potential for variable results, this system uses only recognition algorithms and has no human manual manipulation, allowing for consistency of data which is fully auditable. The data can also be collected and updated continually.

### **3.0 Proposed project**

3.1 We are looking to bid for a project to develop the above technology with Vaisala/Vionice.

3.2 Our current road traffic sign inventory was carried out in 2009, and so there would be an immediate benefit from deploying the Computer Vision solution.

3.3 The proposed project would be to ‘capture’ all the road traffic signs on our Category 2, 3a & 3b highway network, a total network length of 2150 km.

3.4 The RoadAI system can currently identify assets such as road signs and plot them on a plan. Initially we need to develop how this information can be imported into Symology Insight and used to order a programme of work.

3.5 This project is the preliminary stage in the potential future development of the system. Future development to be investigated includes defect identification leading to programmes of reactive and routine maintenance.

### **4.0 Bid Development**

4.1 DfT requires completed bids to be submitted by 16 February 2018. Officers are therefore working closely with colleagues from Vaisala/Vionice to further develop the project along with the compilation of the required information and evidence for the submission to DfT.

4.2 Given the extremely challenging timescales for preparation and submission of the bids this process is still on going and is unlikely to be completed until very close to the submission deadline of 16 February. It is therefore recommended that BES Executive Members agree in principle the submission of this bid but authorise the Corporate Director Business and Environmental Services in consultation with the Corporate Director Strategic Resources to finalise the details of the final bid to be submitted.

## 5.0 Risks

5.1 As stated above, given the tight timeframes for the identification and development of these bids work on refining the details of the project and importantly the amount of the Local Contribution is ongoing and is likely to continue until the deadline for submission of the bid.

5.2 A preliminary assessment of the risks to the County Council associated with the submission of this bid has been undertaken. This will continue to be considered until the submission of the bid on 16 February. The most significant risks together with some potential mitigation measures are set out in the table below.

Risk	Likelihood	Impact	Overall Risk	Mitigation
Ensuring delivery of all elements of the project by 31 March 2019	Medium	Medium	Medium	<ul style="list-style-type: none"> <li>• Early commencement of project preparation</li> <li>• Engagement with project delivery officers</li> </ul>
Lack of sufficient local contribution	Medium	Medium	Medium	<ul style="list-style-type: none"> <li>• Ensure NYCC has firm commitment from the S151 Officer</li> </ul>

5.3 At this time the decision required is whether to submit a bid to DfT. Should this bid be successful members will need to agree to accept the grant offer. Following submission of the bid officers will therefore continue with further development of the project including undertaking a more detailed assessment of the risks and ultimately the County Council could if necessary refuse the offer of a grant.

5.4 Whilst this is not ideal, unfortunately given the extremely tight timescales required by DfT for the preparation of the bid it has not been possible to undertake a full assessment of the project before submission of the bid.

## 6.0 Financial Implications

6.1 There are no significant financial implications associated with the decision to submit bids to the DfT.

6.2 Notwithstanding the above there could be significant financial implications associated with any future acceptance of a grant offer from DfT. There is a need to make a local contribution of the order of 5% of the total bid.

6.3 The cost of the project is estimated to be £50,000 and therefore our anticipated local contribution would be £2,500.

6.4 The bid requires a detailed methodology of how the proposal could be delivered, an indication could be made that the preferred provider would be Vaisala/Vionice,

however with a footnote stating that this is subject to confirmation and due process from the Council's Constitution. In consideration of the timeline further discussion would be held about the necessary procurement process.

## **7.0 Equalities Implications**

7.1 Consideration has been given to the potential for any adverse equalities impacts arising from the recommendations of this report. It is the view of officers that the recommendations included in this report do not have an adverse impact on any of the protected characteristics identified in the Equalities Act 2010 and an EIA screening form is attached as Appendix 1

## **8.0 Legal Implications**

8.1 Consideration has been given to the potential for any legal implications arising from the recommendations of this report. It is the view of officers that the recommendations included in this report do not have any significant legal implications.

## **9.0 Recommendation**

- 9.1 It is recommended that the Corporate Director of Business and Environmental Services in consultation with BES Executive Members:
- i) agree in principle to submit a bid to the DfT Funding competition for local authorities; Connected vehicle data.
  - ii) agree that the Corporate Director of BES in consultation with Corporate Director Strategic Resources agree the details of the final bid to be submitted.

BARRIE MASON  
Assistant Director - Highways and Transportation

Author of Report: Allan McVeigh

Background Documents: None

<b>Initial equality impact assessment screening form</b> (As of October 2015 this form replaces 'Record of decision not to carry out an EIA')			
<b>This form records an equality screening process to determine the relevance of equality to a proposal, and a decision whether or not a full EIA would be appropriate or proportionate.</b>			
<b>Directorate</b>	Business and Environmental Services		
<b>Service area</b>	Network Strategy		
<b>Proposal being screened</b>	Funding for innovation: Connected Vehicle Data		
<b>Officer(s) carrying out screening</b>	Fiona Stone		
<b>What are you proposing to do?</b>	To agree a project for submission of a bid for funding to submit DFT.		
<b>Why are you proposing this? What are the desired outcomes?</b>	Secure transport related funding to help deliver better management of North Yorkshire's highway network		
<b>Does the proposal involve a significant commitment or removal of resources? Please give details.</b>	5%of total scheme costs financial local contribution		
<b>Impact on people with any of the following protected characteristics as defined by the Equality Act 2010, or NYCC's additional agreed characteristic</b> As part of this assessment, please consider the following questions:			
<ul style="list-style-type: none"> <li>To what extent is this service used by particular groups of people with protected characteristics?</li> <li>Does the proposal relate to functions that previous consultation has identified as important?</li> <li>Do different groups have different needs or experiences in the area the proposal relates to?</li> </ul>			
<b>If for any characteristic it is considered that there is likely to be a significant adverse impact or you have ticked 'Don't know/no info available', then a full EIA should be carried out where this is proportionate. You are advised to speak to your <a href="#">Equality rep</a> for advice if you are in any doubt.</b>			
<b>Protected characteristic</b>	<b>Yes</b>	<b>No</b>	<b>Don't know/No info available</b>
Age		X	
Disability		X	
Sex (Gender)		X	
Race		X	
Sexual orientation		X	
Gender reassignment		X	
Religion or belief		X	
Pregnancy or maternity		X	
Marriage or civil partnership		X	
<b>NYCC additional characteristic</b>			
People in rural areas		X	
People on a low income		X	
Carer (unpaid family or friend)		X	
<b>Does the proposal relate to an area where there are known</b>	<b>No</b>		

<b>inequalities/probable impacts</b> (e.g. disabled people's access to public transport)? Please give details.				
<b>Will the proposal have a significant effect on how other organisations operate?</b> (e.g. partners, funding criteria, etc.). <b>Do any of these organisations support people with protected characteristics?</b> Please explain why you have reached this conclusion.	None			
<b>Decision (Please tick one option)</b>	EIA not relevant or proportionate:	X	Continue to full EIA:	
<b>Reason for decision</b>	The work being proposed will have wide benefits for residents and visitors and there is no reason for the programme to cause any negative impact on anybody from within the protected characteristic groups. Further consideration of the equalities implications will be undertaken prior to a final decision in February 2018 on the detailed bid.			
<b>Signed (Assistant Director or equivalent)</b>	<i>Barrie Mason</i>			
<b>Date</b>	15/01/2018			