



Report To: Greater Cambridge City Deal Executive Board

3 March 2016

Lead Officer: Graham Hughes – Cambridgeshire County Council

Smart Cambridge – ‘Smart Technology City Management Platform’ Investment

Purpose

1. In November 2015 the City Deal board gave outline approval to the investment of up to £280,000* to implement a Smart Technology City Management Platform. This report sets out the more detailed investment proposal.

(*The board allocated £20,000 per year in March '15 for the next two years, the investment totals £300,000, including the 15/16 allocation but not the 16/17 allocation)

Recommendations

2. The board is recommended to approve the investment of £300,000 to develop a first stage ‘smart technology city management platform’ for Greater Cambridge.

Joint Assembly recommendations

The Joint Assembly:

- (a) Recommended that the Executive Board approves the investment of £300,000 to develop a first stage ‘smart technology city management platform’ for Greater Cambridge.
- (b) Requested a progress report in six months.

Reasons for Recommendations

3. The purpose of the ‘Smart Technology City Management Platform’ is to create an initial IT infrastructure that can evolve and develop to support Greater Cambridge as a Smart City and to facilitate the development of applications which will support the work of the City Deal. A schematic for the platform is included at Appendix A. In summary the components include:
 - A data network, specifically designed to support “Internet of Things” technology.
 - A data hub, (a software platform which will collate, combine and process a range of data sets to provide additional insights/information/visualisation as well as application development for both the City Deal Partners and 3rd parties)
 - An array of sensors which will enable automated detection and monitoring of a range of measures including air quality, traffic, cycle and pedestrian movements around the city.

Background

4. In Aug 2015 the City Deal Board approved the inclusion of a 'smart city' work-stream into the City Deal programme.
5. The paper proposed an initial one-year developmental phase for the Smart Cambridge programme which will identify and implement smaller scale and pilot solutions which will be primarily but not exclusively focused on transport and smart city technology infrastructure. The 'smart technology city management platform' forms part of this work and will underpin both the current pilots and enable the development of further projects in support of the City Deal objectives.

Investment Outputs and Outcomes

6. Investment in the 'City Management Platform' will deliver the following:
 - The technical architecture to support wayfinding at the station gateway via digital screens. Recent work carried out as part of the Cambridge Stations Travel Plan has demonstrated that the provision of accurate onward travel information in a digital format is a high priority for customers using the station, especially for those arriving at Cambridge for the first time. The screens will make the transition from train to bus/bike/walking easier as well as allowing travellers to get visitor information.
 - The provision of a "Motion Map". This initial application will give the travelling public accurate, accessible and reliable information about the different transport options for their journeys, giving a greater degree of confidence in using the public transport network as well as encouraging walking and cycling as modes, encouraging and facilitating a shift away from a reliance on private cars. Although initially this will focus on Greater Cambridge, in future this could be deployed across a much wider area.
 - The capability to combine existing and new data sets to create a baseline of how the various transport modes operate across the city from which the effects of future interventions can be measured. This will build on the data currently used for the transport monitoring framework to strengthen the "before and after" monitoring of City Deal schemes. This will help option appraisal and to evidence the effectiveness of schemes to Government, Members and the public.
 - Supporting policy making and scheme development by providing granular data about the transport network as well as tools that allow analysis and visualisation. As well as being used for scheme development purposes the visualisations can be used in engagement with local communities to help communicate complex information.

Proposed Investment

7. A number of local and regionally based technology companies have offered in kind resources to assist in the establishment and development of the city management platform. These contributions are in addition to the sums set out below but are subject to their own commercial governance and therefore have not been included in the costings below. City Deal funded components and outline indicative costs are set out in the following table:

Component	Description	Cost £
City Data	Provision of hardware and software to store data and enable development of software tools to allow analysis of data, give developers access and a data search function.	150,000
Data integration activities	Data set identification and analysis to enable a range of data sets to be integrated into the hub from existing and future sources, across a range of transport modes.	26,000
Communication network	Installation of base stations to transmit the communication network and software development work	20,000
Sensors	Sensor purchase and Initial deployments	36,000
Applications	Develop and implement initial version of Motion Map and initial visualisation tools.	68,000
Total		300,000

Considerations

8. Investment in early stage, innovative technology will support Greater Cambridge in becoming a leading 'smart city' but as with any new technology there are inherent delivery and outcome risks as standards and technology continue to rapidly evolve.
9. The technology required to implement the platform is currently still in development and not yet available on a large scale commercial basis. Furthermore it is anticipated that elements of the platform will be co-funded by one or more commercial partners as a means to "test-bed" their products. Further investigation is needed to finalise an appropriate sourcing/procurement method which is swift, efficient and enables private funding to be utilised effectively whilst remaining compliant with public funding procurement regulations.
10. As outlined above, there is some proposed private sector investment into the 'city management platform' which would enhance the outcome but which has not yet been finalised. However it is anticipated that a scaled down version of the platform could be delivered even if additional private sector funding is not forthcoming.
11. It is anticipated that if successful the technology and applications developed as part of the 'City Deal' could be scaled across a wider area in future. In particular the project will explore how the City Management Platform and other 'Smart Technology' can support the establishment and ongoing success of the many new communities being planned in Cambridgeshire, including the significant development at Northstowe.

Financial and other resources

12. In March this year the City Deal Executive Board agreed an allocation of £20,000 per year for two years - the proposal is to utilise the 15/16 allocation to invest in the platform. The 16/17 allocation will be retained for other projects.
13. Staff time to support the development of the platform will be drawn from existing resources, including the Connecting Cambridgeshire Programme.

Risk Management

14. The investment in early stage, innovative technology will support Greater Cambridge in becoming a leading 'smart city' but as with any new technology there are inherent delivery and outcome risks as standards and technology continue to rapidly evolve.

Equality and Diversity

15. Smart technology offers opportunities to engage with citizens via different mechanisms which can support greater citizen engagement from population groups usually less likely to engage with Councils.

Climate Change and Environmental

16. The platform will support projects which encourage modal shift away from cars and will have a positive impact on air quality.

Background Papers

No background papers were relied upon in the writing of this report.

Report Author: Noelle Godfrey – Connecting Cambridgeshire Programme Director
Phone: 01223 5041

Greater Cambridge Smart City Management Platform

