Transport and Environment Committee

10.00am, Thursday, 1 March, 2018

Bustracker and Bus Station Information System-Future Strategy

Item number	7.3
Report number	
Executive/Routine	Executive
Wards	All
Council Commitments	7, 18 and 19

Executive Summary

Edinburgh's Real Time Passenger Information (RTPI) system, Bustracker, is provided by French based company Cofely Ineo and Edinburgh's Bus Station Information Management System and hardware were procured from and installed by TanData, now Vix Technology.

Both systems were installed in excess of 13 years ago. In a sector where technology has advanced significantly, both systems are outdated and new products exist that can provide more efficient services at lower maintenance cost.

The purpose of this report is to recommend that Committee approves the procurement of a new Bus Station Information System and procure a Content Management System (CMS). We recommend that Committee also approve the advancement of the on-street RTPI signage aspect of the project under the same contract via an output based specification to challenge the current market. This will allow the Public Transport Team to undertake an informed on-street signage review and implement the best future strategy. It is also recommended Committee approve the continued use of Atkins consultancy to assist the Public Transport team in the delivery of the new systems.

Transport and Environment Committee

Bustracker and Bus Station Information System- Future Strategy

1. Recommendations

1.1 It is recommended that the Committee:

1.1.1 authorises the procurement of new Bus Station Information hardware and software management system and procure a new Content Management System (CMS);

1.1.2 approves the advancement of the on-street RTPI signage aspect of the project under the same contract, via an output based specification, to challenge the current market;

1.1.3 notes that a future report will detail the outcome of the procurement exercise. This will include the preferred supplier, bus station information system solution and pricing schedule for on-street sign options. This will inform what sign replacements can be undertaken with available budget; and

1.1.4 approves the continued use of Atkins Global in assisting the Public Transport team in delivering all systems.

2. Background

Bustracker

2.1 The existing contract with Cofely Ineo to supply Edinburgh's RTPI has expired but continues to operate effectively and reliably under the terms of the original contract.

2.2 The Bustracker system's success is largely due to close partnership working with Lothian Buses and their commitment to jointly invest in the system, both financially and with dedicated staff to ensure accuracy of data.

2.3 The system has operated accurately and reliably since 2004. Numerous expansions and developments have resulted in today's system tracking all of Lothian Buses' fleet of 700 vehicles and providing RTPI via 400 on-street signs and various web based applications. Requests for information from the web server exceed 600,000 daily, representing bus users' trust and confidence in the RTPI and journey time data delivered.

2.4 Many aspects of the system architecture are shared between the City of Edinburgh Council (CEC) and Lothian Buses and cannot be easily separated. Original hardware is also coming to the end of its effective lifespan and cannot continue to be maintained effectively. A summary of the system elements and percentage distribution of maintenance responsibility is provided in appendix 1.

2.5 CEC need to procure a new contract, with updated system capability. Similarly, Lothian Buses need a new contract and replace their existing fleet tracking equipment. Instead of a new joint procurement exercise, it is believed that a new CEC system, which includes a CMS that can take RTPI data feeds from Lothian Buses and other providers and then display that information on signs or via web applications, is the most straightforward, efficient and cost-effective solution for CEC.

Bus Station Information System

2.6 The existing Bus Station Information System contract with Vix Technology has expired but has continued to operate, at minimal cost, under the terms of the original contract.

2.7 Edinburgh's Bus Station Information System and hardware were procured from and installed by TanData, now Vix Technology, in 2002. Scheduled departure and arrival times of all bus operators using the station are shown but the system has no ability to display RTPI. Staff use a manual 'traffic light' system to control bus movements and use scheduled data to charge bus operators for each departure, and manually record 'stay over' times.

2.8 The current bus station system has now reached the end of its life span and cannot be effectively maintained. All servers have recently failed and an interim solution has been put in place but continued system operation cannot be guaranteed.

3. Main report

3.1 Atkins Global were assigned to assist with a full RTPI system audit and production of a future solution options appraisal.

3.2 Following the system audit, Atkins Global produced an options table containing five potential solutions.

3.3 The Public Transport Team recommend the option of splitting the current Bustracker system into two:

1 Voice radio system with Bus Automatic Vehicle Location (AVL) and RTPI generation; and

2 Display and CMS system.

Lothian Buses would operate and maintain 1. CEC would operate and maintain 2. This is simpler and less onerous than the current Bustracker system and has the potential to significantly reduce ongoing CEC Bustracker maintenance costs.

3.4 A soft market testing exercise showed that industry suppliers can provide a Bus Station Information system, a CMS and an on street RTPI system under one contract.

3.5 The preferred procurement strategy is, therefore, to tender for a new bus station information system and a CMS that will have the ability to manage both the bus station system and an on-street RTPI system. In addition, the tender will include an output based specification for on-street signs, with a view to challenging the market.

3.6 There will be no commitment to RTPI on-street sign replacement at this stage. The industry suppliers are best placed to detail available options, communication protocols and future development opportunities. Combining this element with the bus station information system and CMS is likely to provide best value.

3.7 Tender return details will be reported back to Transport and Environment Committee to agree an on-street RTPI sign replacement strategy. There may also be a requirement to report to Finance and Resource Committee if additional funding is required.

3.8 This solution would mean the City of Edinburgh Council retain on-street signs and control information displayed via a CMS. Lothian Buses will supply the CMS with RTPI via an agreed protocol. During the transition from the existing Bustracker system to the new CMS system and subsequent approved sign replacement strategy, CEC will continue to operate the existing on-street signs and associated radio communication infrastructure.

3.9 Senior officers and legal representatives from CEC and Lothian Buses have met to discuss the proposed procurement process and have agreed in principle. The precise process and detail of which existing infrastructure elements will novate to Lothian Buses will be concluded with an appropriate legal agreement.

3.10 Lothian Buses has an additional urgency in agreeing this solution, as the Automatic Vehicle Location technology used on their fleet has come to the end of its effective life span and needs to be replaced. This solution will allow Lothian Buses to take on the assets essential to running their service and procure a new contract with a supplier without CEC as a contract partner.

3.11 Bustracker is currently integrated with SEStran Bustracker. Both systems are provided by Cofely Ineo. The SEStran system has covered much of the First and Stagecoach fleet in its area and our integration work allows RTPI predictions for relevant services to be added to on-street signs in Edinburgh. Retaining on-street signage allows CEC to continue to manage the display of RTPI for all available bus operators.

3.12 Bustracker currently operates with radio communication. Any new CMS and on-street signage would operate through a lower cost alternative, for example, a mobile network or Wi-Fi. This will remove the significant costs associated with radio site rental and licence fees.

3.13   A new bus station system will deliver RTPI to passengers via modern displays as depicted in appendix 2. The ability to incorporate advertising, way-finding and real-time information for several modes of transport ie train and tram will be included in the specification.

3.14   The addition of an Automatic Number Plate Recognition (ANPR) system would ensure that operators are correctly charged for the use of the bus station. 'Layover' times are currently recorded manually and are subject to human error. This would increase the revenue for the Council.

4.   Measures of success

4.1   An increased scope of data, including RTPI provision in the bus station.

4.2   Maintained high level of RTPI accuracy and reliability.

5.   Financial impact

5.1   Indicative costs provided as part of a soft market testing exercise showed that a capital investment of approximately £250,000 would be required to upgrade the bus station hardware to the specification set out in the soft market testing exercise. The software could be maintained on a yearly basis for £24,000 per annum. This is a revenue saving of £25,000 over a 10 year period compared with the maintenance cost of the old system.

5.2   A new system will achieve further savings in other areas, for example the use of an Automatic Number Plate Recognition (ANPR) system to replace the current paper based bus charging system would reduce the loss in revenue associated with human error.

5.3   Indicative costs provided as part of a soft market testing exercise showed that a capital investment of £42,000 would be required to supply a CMS. This figure is a mean price between several suppliers.

5.4   Savings will be achieved by novating some costs associated with the current system to Lothian Buses and replacing on-street signs with new more advanced signs that do not use expensive radio communication. Initial savings associated with novating elements of the existing infrastructure will be approximately £100,000 per annum.

5.5   Costs will be presented to Committee regarding on-street RTPI sign replacement strategy, following tender returns.

5.6   In order for Atkins Global to continue to assist the Public Transport Team in delivering successful and value for money systems, a payment of £30,000 will be required.

6. Risk, policy, compliance and governance impact

6.1 The recommendation in this report is consistent with existing policies and aspirations of the Council.

6.2 Objective PubTrans5 of the current Local Transport Strategy applies to the issues addressed in this report.

    6.2.1 PubTrans5: The Council will seek to ensure a good waiting environment at bus stops, including shelter and seating wherever necessary and possible. Relevant and up to date information will be provided.

6.3 Any disruption in service is a significant risk to Council reputation and partnership working with Lothian Buses.

7. Equalities impact

7.1 Continued provision or enhancement of the quality of life of users through the enhancement of access to employment, educational, leisure and shopping opportunities.

7.2 Withdrawing the service would particularly affect vulnerable users who rely on the reassurance provided by accurate RTPI.

8. Sustainability impact

8.1 The proposals in this report will reduce carbon emissions by reducing dependence on transport by private car and encourage public transport use.

8.2 The proposals in this report will lessen the threat of climate change by making the customer journey more enjoyable on more sustainable public transport.

8.3 The proposals in this report will help achieve a sustainable Edinburgh because the system is open to all and promotes the use of sustainable transport.

8.4 The proposals in this report will help achieve a sustainable Edinburgh because of enhancing the quality of life of users through the enhancement of access to employment, educational, leisure and shopping opportunities.

8.5 Environmental good stewardship is not considered to impact on the proposals in this report because no natural resources will be used as part of the proposals.

9. Consultation and engagement

9.1 Further consultation with other partners and users will be undertaken where appropriate.

10. Background reading/external references

10.1 None.

Paul Lawrence

Executive Director of Place

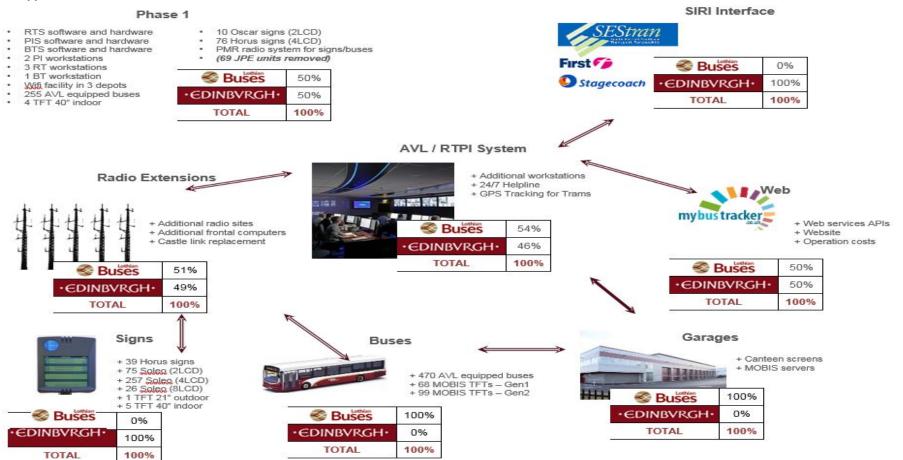Contact: Ewan Kennedy, Service Manager – Transport Networks

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11. Appendices

Appendix 1 - Edinburgh City Council – Bus Station Displays and CMS

Appendix 2 - Bus Station System Requirements

Appendix 1. Current Bustracker maintenance distribution

Phase 1

- RTS software and hardware
- PIS software and hardware
- BTS software and hardware
- 2 PI workstations
- 3 RT workstations
- 1 BT workstation
- Wifi facility in 3 depots
- 255 AVL equipped buses
- 4 TFT 40" indoor

- 10 Oscar signs (2LCD)
- 76 Horus signs (4LCD)
- PMR radio system for signs/buses
- *(69 JPE units removed)*

Buses	50%
EDINBVRGH	50%
TOTAL	100%

SIRI Interface

Buses	0%
EDINBVRGH	100%
TOTAL	100%

AVL / RTPI System

+ Additional workstations
+ 24/7 Helpline
+ GPS Tracking for Trams

Buses	54%
EDINBVRGH	46%
TOTAL	100%

Radio Extensions

+ Additional radio sites
+ Additional frontal computers
+ Castle link replacement

Buses	51%
EDINBVRGH	49%
TOTAL	100%

Web

mybustracker.co.uk

+ Web services APIs
+ Website
+ Operation costs

Buses	50%
EDINBVRGH	50%
TOTAL	100%

Signs

+ 39 Horus signs
+ 75 Soleo (2LCD)
+ 257 Soleo (4LCD)
+ 26 Soleo (8LCD)
+ 1 TFT 21" outdoor
+ 5 TFT 40" indoor

Buses	0%
EDINBVRGH	100%
TOTAL	100%

Buses

+ 470 AVL equipped buses
+ 68 MOBIS TFTs – Gen1
+ 99 MOBIS TFTs – Gen2

Buses	100%
EDINBVRGH	0%
TOTAL	100%

Garages

+ Canteen screens
+ MOBIS servers

Buses	100%
EDINBVRGH	0%
TOTAL	100%

1

Appendix 2. Bus Station System requirements

From Multiple vendors simultaneously

INEO
Siri

Scheduled

TransX

Marketing campaigns / Ads

Rail / Tram

Darwin

FIDs

CMS

Mobile devices

Bus Station

Bustracker