

FUTURE CITY • GLASGOW

INTEGRATED SOCIAL TRANSPORT



END STAGE REPORT

Future City Glasgow

Build Phase

Integrated Social Transport
Demonstrator

Date: July 2015



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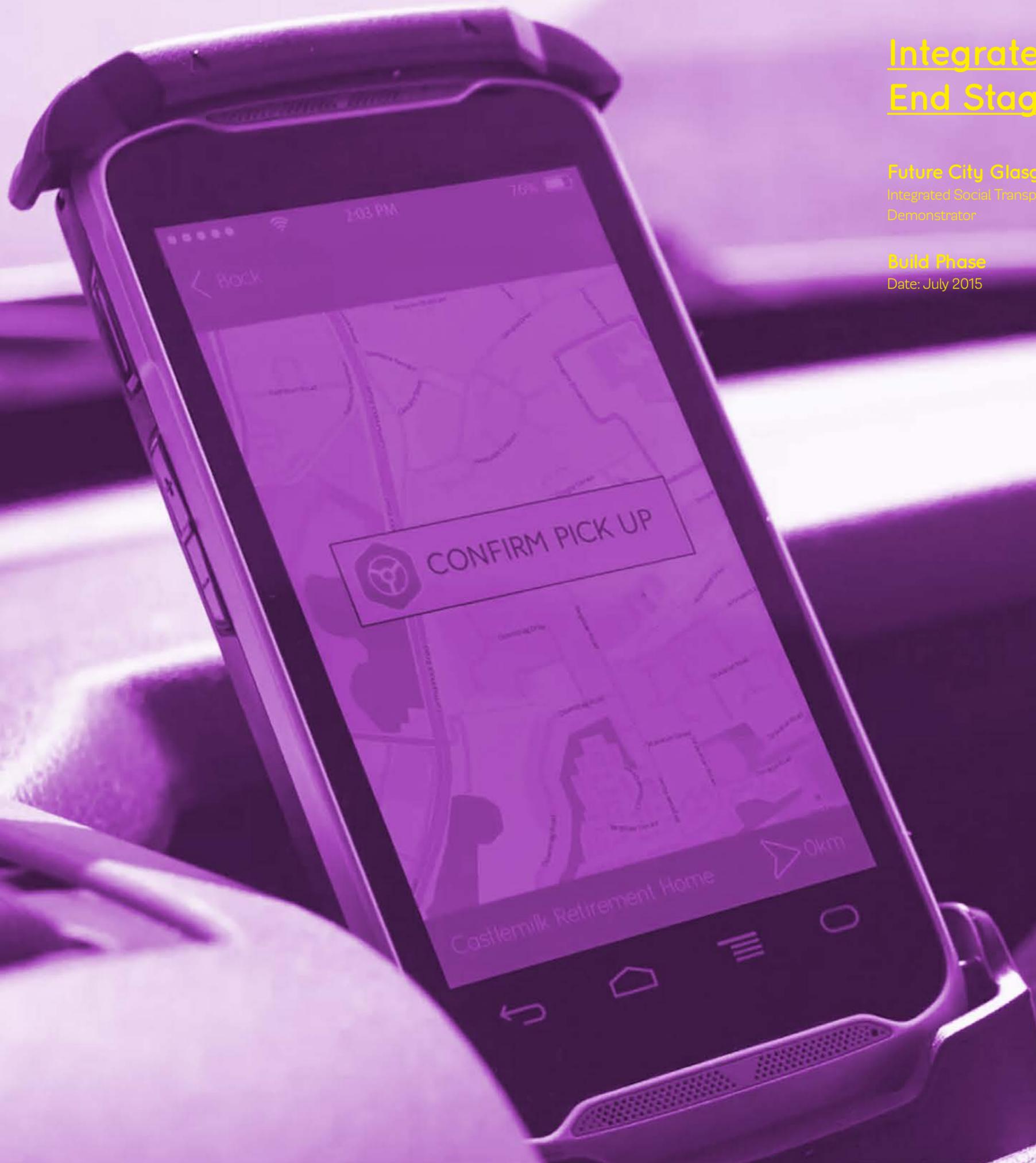


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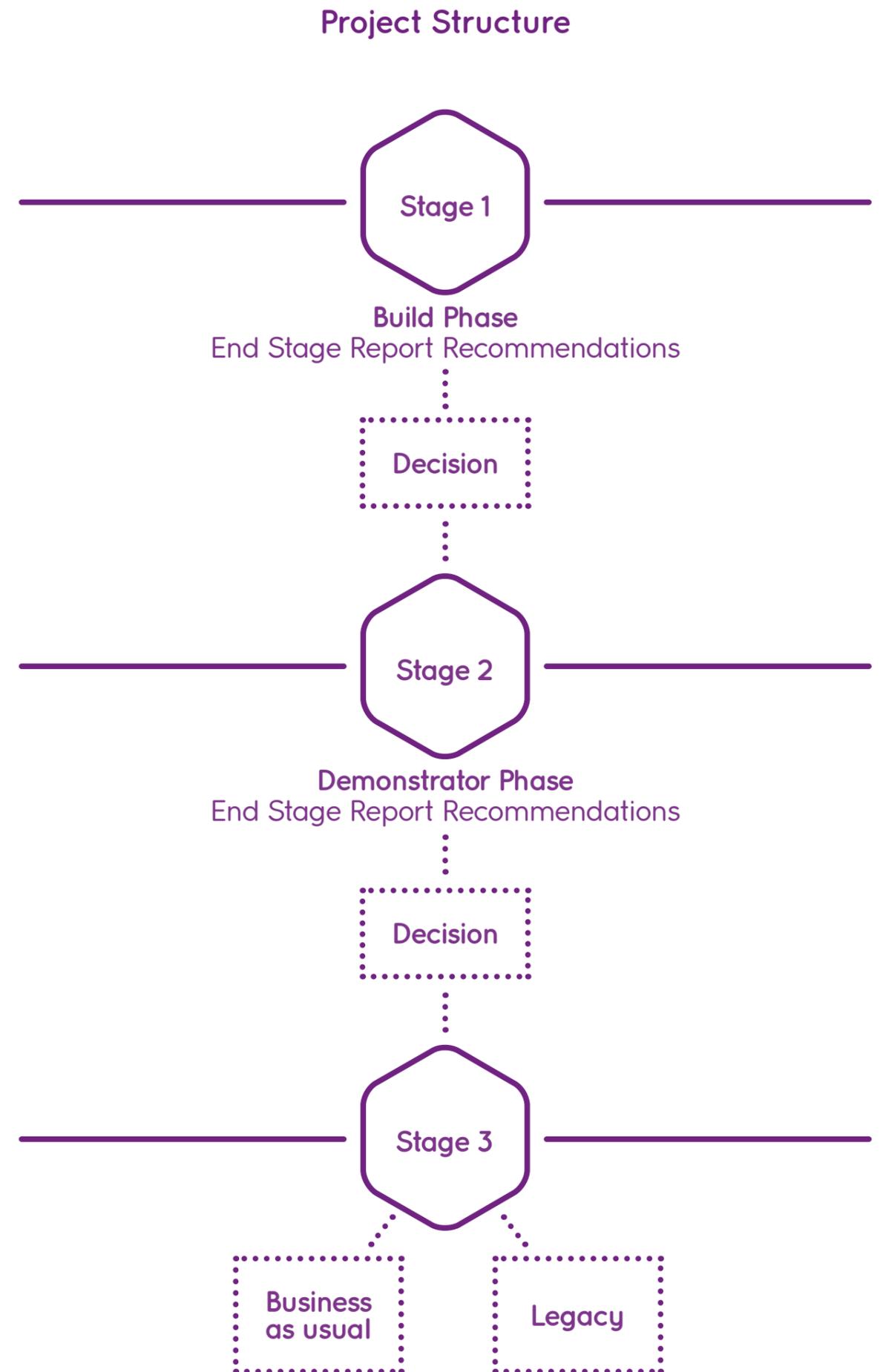
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1/ Introduction

This document provides an overview of the project reporting within the Future City Glasgow programme, summarising progress to date on the build phase of the Integrated Social Transport (IST) project.

The recommendations contained within this document will provide the basis for formal approval of the Integrated Social Transport project proceeding to stage 2 Demonstrator phase.



2/ Overview of Stage 1: Build Phase

36 Develop a scheduling and route optimisation solution to improve fleet utilisation and client/end user services in Glasgow

Overview of Stage 1: Build Phase



2.1 Objectives

The objectives of the Integrated Social transport project are to:

- Improve transport schedules – show how technology can improve the scheduling of workflow for the Social Transport Fleet.
- Improve route planning - show how technology can improve route planning by utilising route optimisation software.
- Improve availability of information – identification of assets to augment Social Transport service delivery and client services.
- Improve data collection - generate data to be utilised for future development, and also as a basis for option appraisal in terms of future investment within the Social Transport Fleet.
- Improve resource use - have data driven investment in order that resources within the Social Transport Fleet can be utilised to the benefit of Glasgow City Council (GCC) and the clients.

2.2 Scope

- The primary purpose of the Integrated Social Transport project is to develop a scheduling and route optimisation solution to improve fleet utilisation and client/end user services in Glasgow. The build phase included:
- Researching existing client requirements and how they could be delivered through technological innovations.
- Identification of a scheduling and route optimisation solution to meet client and GCC requirements.
- Delivery of a technological solution for

scheduling and route optimisation to Land Environmental Services Social Transport fleet (LES Social Transport fleet), servicing Education Services (ES) and Social Work Services (SWS) clients.

- Identifying how sharing technology would allow transport operators to improve identification of downtime in their fleet to maximise cost efficiencies and reduce expenditure.
- Provide support to an 'Alternative Pathway for non-emergency Frail and Elderly Fallers in North East Glasgow'.
- Facilitate partner collaboration between the National Health Service (NHS), SWS, Scottish Ambulance Service and Cordia, who provide facilities management and care services to Local Authorities, to develop and pilot the alternative pathway.

2.3 Resource

Project Manager 1 FTE
Business Analyst 1 FTE
System Architect 1 FTE

2.4 Deliverables

The Integrated Social Transport project has achieved the following deliverables;

- Investment in leading edge in-cab Mobile Data Terminal (MDT) devices and route scheduling software to enhance journey and workforce scheduling effectiveness and maximise route optimisation.
- Improved workforce efficiency by reducing fleet operational costs and create further capacity.
- Maximised efficiency of the Land and Environmental Services Social Transport fleet whilst maintaining a high quality responsive service by improving utilisation of the fleet.

Detailed deliverables

Mobile Data Terminals (MDTs) Solution Motorola TC55 Touch Computer

The Motorola TC55 provides a single in-cab device to handle a range of mobile tasks. The device supports the following core tasks for this project:

- Real time job allocation and updates
- Real time phone/voice connection to dispatch
- Messaging to/from driver

Scheduling/Route Optimisation Software Solution Trapeze

The Trapeze route scheduling and optimisation tool will provide the functionality for:

- Efficiency driven workload and resource scheduling
- Route selection optimisation, allocation and tracking
- Real-time scenario planning e.g. replacement vehicle following breakdown
- Remote access to online transport booking system

The Trapeze software linked with the Motorola TC55 MDT allows real time job allocation to ensure the right transport solution is in the right place at the right time. Trapeze has the capability to work with independent mobile technology therefore the mobile technology solution is not tied into the continued use of Trapeze, and vice versa.

2.5 Constraints

Stakeholder perception

A series of workshops were held with Education/Social Work Services clients and LES Transport staff and drivers to address concerns over the introduction of technology and highlight the potential to both improve service and secure a modern and efficient in-house transport service for the vulnerable passenger group.

Learning Disability Reform, Social Work Services

Due to a change in legislation there was an unplanned reduction in demand for transport.

Maximise cost efficiencies and reduce external taxi expenditure

Current Position

3.1 Benefits achieved to date

The build phase of the project has provided an opportunity to develop and implement a smarter scheduling and route optimisation solution. The focus was not only to deliver a smart solution, but also to consider the level of ongoing support required for future delivery.

A citywide rollout of MDTs and a scheduling/route optimisation tool to LES Social Transport fleet, servicing ES and SWS clients has been carried out. It also included two of the four Glasgow Community Transport Operators with managed support being provided by Strathclyde Partnership for Transport (SPT). The software and hardware solution will replace manual planning, improve client service, increase driver/fleet utilisation, provide a suite of management reports and support real time messaging between the MDTs to support 'real-time' planning.

The project has provided an opportunity to show how sharing of technology will allow transport operators to be able to better identify the downtime in their fleet. In addition, it can provide assistance to the partners to enable better integration of their fleet internally and across the partner bodies to maximise cost efficiencies and reduce external taxi expenditure.

The IST project also facilitated partner collaboration between the NHS, SWS, Scottish Ambulance Service and Cordia, who provide facilities management and care services to Local Authorities. This was carried out to develop and pilot the Alternative Pathway for non-emergency Frail and Elderly Fallers in North East Glasgow. As the involvement of Future City Glasgow with this piece of work was limited to August 2014, the 'as is' and 'to be' process maps and the draft business case were handed to the partners on 29 August 2014. Despite repeated efforts it was not possible for the partners to obtain the necessary funding to allow the pilot project to commence.

Web Worker module testing allowing real time job allocation to ensure the right transport solution is in the right place at the right time.

3.2 Residual benefits expected

The IST project will be used to help measure and validate reductions in costs and associated CO2 through utilisation of the scheduling and route optimisation solution. This may enable the production of a business case to expand the solution across the city and demonstrate value to other municipalities.

The use of demand responsive technology

supporting a high quality efficient internal transport service will provide the support to manage resources effectively to ensure delivery of the service meets the requirements of the client. In turn, this will contribute to the efficiencies required by the Corporate Transport Review. The demand responsive technology solution will support the transformational change to a new Passenger Transport Service. In addition a Corporate Integrated Transport Unit will be created to co-ordinate and schedule internal and external transport provision.

Future requirements were further considered during the purchase of the MDTs. The selected device has the ability to support various features and could be expanded to facilitate:

- Vehicle inspections
- Real-time traffic and weather reports
- Real-time turn-by-turn navigation
- Automate time card and driver logs
- Ability to take photographs e.g. involved in an accident
- Ability to report issues e.g. potholes
- Access to council systems and linkages to other systems

3.3 Issues

Stakeholder Engagement

During early discussions, the Service clients and LES Transport workforce lacked 'buy in' to the project. Many consultations ensued to ensure both clients and employees were fully informed of the benefits available. Seventy LES Transport drivers currently deliver meal runs to schools on behalf of Cordia. This reduces the driver and vehicle resource available to take on diverted external private taxi and bus business during the school term.

Uptake of Service

SWS have excluded clients to be diverted from taxis onto LES mini buses due to their complex support needs. SWS 'personalisation' also had an impact on transport demand. Regular meetings with SWS have been arranged to inform the reduction in drivers and mini buses.

Information

The privacy of the vulnerable client base had an impact on the information available when planning routes and allocating jobs in line with demand response processes. Availability of information would improve initial response for converted vehicles etc. Privacy Impact Assessments required details of issues, risks and associated control measures.

Technology Issues

Trapeze software tracking, messaging and log in experienced delays. Weekly conference calls with Trapeze/SPT took

place to monitor the software issues with an action plan created to resolve issues. The performance issues delayed the implementation of the additional modules of Trapeze and the external private bus and taxi diversion off peak daytime pilots.

Legal

SPT MofU Trapeze Resolution Priorities & Targets were not backed up with service credits. To protect GCC interest Monthly Governance meetings were scheduled to consider any hardware or software issues. The LES Transport 'to be' warranty process has been agreed and tested.

3.4 Lessons Learned

- Early and regular engagement with partners and stakeholders is recommended.
- Resources available within the team must take account of specific support skills and experience e.g. business analyst and systems architect (process mapping, business case development and ICT expertise).
- Procurement time lines can be longer than expected.
- Presentation skills and operational experience necessary for stakeholder communication and engagement. Presentations given to teachers, SWS managers, transport staff and drivers. Trade Union meetings focussed on driver operational concerns and implications.
- ICT planning and milestones terminologies are less relevant to an operational service demo utilising an existing software solution & technology.
- Signing off process for the Privacy Impact Assessments (PIA) by GCC Governance can take longer than expected.
- Reporting requirements are frequent and duplicated as often similar information in different formats is to be provided at various times to the Steering Group, Dashboard, Capital Programme Board Highlight Report, Service Reform, Corporate Transport Review, LES Strategic Projects etc. A standard reporting template could reduce duplication.
- Through engagement and experience gained during the demo phase additional areas of interest can be identified for e.g. independent travel pilots, additional business opportunities and routing and scheduling of private taxis.
- Improved 'buy in' was achieved by workshops, the use of driver champions, driver training and pilot work.

Recommendations

The recommendation is that the project proceeds to Stage 2 Demonstrator Phase.

Recommendations

This is based on experience gained in the emerging efficiency savings, modern and improved client service and the requirement to demonstrate the potential benefits in demand responsiveness and improved fleet utilisation.

The Demonstrator phase will be used to help evaluate and quantify the benefits in regards to energy savings and data collection so they can be incorporated within a further business case. This will assess the benefits of sustaining the solution moving forward, expanding the concept across the city, and demonstrating the value to other municipalities. In particular, the Future City Glasgow programme has specific workstreams that are investigating:-

Legacy

The development of business cases for sustaining and expanding the

Demonstrators across the city to maximise the legacy benefits for Glasgow, and the investigation of innovative new business models. The legacy demonstration phase for IST will support the continuation of the use of in-cab technology with routing/scheduling software for integrated social transport within a transformed Passenger Transport Service.

Innovation

The opportunity for further innovation building upon the Demonstrators developed during the programme.

Internationalisation

Identifying opportunities to take the learnings from Glasgow to help other cities around the world embrace the Future Cities market, and (where applicable) provide new opportunities for UK business.



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