



## PROJECT BUSINESS CASE

**Project Number:**

**Project Title: Real Time Information Refresh**

Release	Draft
Version Number	1.0
Date	23.02.2011
Project Manager	Paul Walker
Project Sponsor	Frank Baxter
Portfolio	Transport & Environment
Directorate	Environment
Division	Planning & Sustainability / Highways

The appropriate approval must be obtained before for the Business Case is registered on SharePoint. Please refer to the Gateway Approval process for Gold, Silver & Bronze projects

Project Type	Silver
Approved by	

## 1. OUTLINE PROJECT PROPOSAL

Background

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The ITS function will need to address the key issues facing public transport, and transport in its wider sense over the next 20 years, specifically the need to move 50% more people into and out of the city centre over the next 20 years. Options for road capacity enhancement through traditional methods are limited and not affordable. This will mean transport and land use policies will need to focus on measures that result in modal shift to public transport and other non-car modes.

Ultimately, network management and ITS are a part of the sub-regional “manage” element of the “reduce, manage, invest” philosophy adopted by TfSH, maximising use of the existing highway asset and addressing problems on the highway without necessarily resorting to provision of new infrastructure. Consequently Network Management and ITS approaches can provide a good level of value-for money considering the results they can produce.

### The Need for a Refreshed System

#### Key Points

- To reduce revenue cost;
- Key elements of the existing real-time system may no longer be supported in the medium term;
- New arrangements will promote commitment from bus operators;
- System that can be used on all operators
- System can be hosted or provided at Southampton
- System would need to have capacity to be sub-regional to assist with any future Integrated Transport Authority ;
- System would need to link to smartcard ticket machines;
- System would need to assist in providing bus priority and information available by a variety of media (phone, WAP, Web, PDA etc).

The current system is aged and parts of it are reaching the end of their life which may cause future maintenance issues. Any refreshed system would achieve the key points highlighted above, facilitating the efficient movement of buses through prioritised junctions, improving journey time reliability and promoting modal shift supporting the growth in the city for over the next twenty years

Update to Outline Project Proposal

Since the G1 was agreed Atkins Transport systems have worked with the City Council to develop an outline architecture for the system and outline business case.

*Project Start Date: 1<sup>st</sup> April 2011*

*Project End Date: 31<sup>st</sup> March 2014*

## 2. OPTIONS APPRAISAL

Options Investigated

Option Description	Benefits	Costs	Risks
Switch off	Revenue saving as	Reputational issues and	Relationship with bus

	contracts expire	negative publicity  Bus not seen important contributor to change	operators worsens  System needed to facilitate bus priority and growth agenda - threatening journey time reliability which would need to be provided another way.
Do Nothing	System continues to be maintained but when components become life expired they are not replaced.  High Revenue Cost Remains	Eventually system will have to be turned off due to obsolesce of component parts	Relationship with bus operators worsens  System needed to facilitate bus priority and growth agenda - threatening journey time reliability which would need to be provided another way.
Do minimum	Opportunities for cost saving (e.g. smaller or lower cost displays) taken up.  No expansion unless extra capital and revenue funds secured	Eventually system will have to be turned off due to obsolesce of component parts & savings will be over a longer period of time	System needed to facilitate bus priority and growth agenda - threatening journey time reliability which would need to be provided another way.
Refresh	Changed system architecture identifies migration path and revenue savings - places more emphasis on operators  Should be available for all operators	Refreshed system needs to be implemented before existing system turned off	New architecture will need to be proven  Requires Operators to install smart ticket machines  Roll out may be delayed due to issues outwith the project
Replacement by traditional system	Full replacement of system based on current architecture will have reduced revenue costs  Should be available for all operators	May be more expensive than other options	Roll out may be delayed due to issues outwith the project  Potential of limited operator involvement

Recommended Option

*Refresh*

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There is a need to reduce overall revenue costs to the council. To facilitate the growth agenda the system need to utilise the emerging technical advances that the operators are introducing (i.e. ETM's and fleet management systems etc) and the management of core data (i.e. routes, timetables, duties etc). It also needs to continue to provide the ability to predict at-stop arrival times and bus priority and also facilitate the provision of real-time information to passenger via other media (i.e. on-bus, multi-purpose screens, web, mobiles etc). The system would use the data already generated for and by the operators more efficiently and to allow the council to concentrate on the dissemination of real-time information.

The refresh option reduces the potential exposure of the council by using information already being created by the operators and reduced duplication of equipment. It will also use the information supplied by the operators to provide predictions, priority and information whilst the primary data is created by the operators. It also has the potential to bring all operators on board.

### 3. PROJECT OBJECTIVES AND MEASURES

Quantity – how much will we do?

The proposed conceptual architecture is based on the functional modules illustrated in the list below:

- Real time Information Sign Infrastructure
- Bus Priority for Junctions
- GPRS Infrastructure
- Fixed Communications Infrastructure
- Operator Sub-system
- Local Authority Sub-system
- Bus Sub-system

It is the aspiration of SCC and the stakeholders that each bus operator is fully engaged with the management of their fleet and overall operational management information, with the benefits of the real time data, whilst the travelling public enjoy accurate travel information.

Smaller operators or operators with small fleets may not be able to justify an operator sub-system of their own. In these cases there will be one operator sub-system centrally operated (we anticipate at the ROMANSE offices) to deal with the services of those smaller operators.

It should be noted that a bus operator may operate from more than one depot. Depending on the design of the Contractor's hosted system this may require additional equipment at depots that is not explicit in this specification but is required to fulfil the functionality. Contractors must therefore take this into account and allow for any depot equipment that may be required.

If, in circumstances where the depot has very few buses, the Contractor considers the installation not to be cost effective, the Contractor may put forward alternative means of fulfilling the functions that would otherwise be performed by the depot equipment.

There will be one local authority hosted sub-system which will collate the real time information from each operator's sub-system into an integrated form suitable for delivery to the shared real time information signs.

The system shall have the capacity for expansion to the numerical scale as defined in the column headed below.

Equipment or Sub-system	Current	Future
Buses to be equipped	109	391
Real Time Information Signs	210	290
Junctions with Bus Priority	0	100
Bus Operator	2	20
Third Party Real Time Information Feeds - Incoming	0	30
Third Party Real Time Information Feeds - Outgoing	0	30

## Service / Business Benefits

Bus User – More operators and services will be covered  
 SCC – Revenue Cost reduction, more functionality of system  
 Bus Operators – Improved, more intelligent priority  
 Business – easier flow of people throughout city making it better connected

## Estimated Cashable benefits

**Maintenance Costs**

Based on a value of 10%, it is estimated that the annual maintenance costs for the renewed RTPI system will be in the region of £40,000.

SCC currently pays £159,500 per annum towards maintaining their current RTPI system.

These figures exclude the 1FTE equivalent the system will no longer need to operate it – this has been identified in savings elsewhere as part of the future of ROMANSE work.

**Invest to Save Period**

Based on the estimated cost information outlined above for the current system (and assuming the first year annual maintain to be free for a new RTPI system), it will take SCC between 4 and 5 years to recover the capital outlay for the new RTPI system, with an estimated saving of £119,500 per annum thereafter.

It should be noted that the ongoing maintenance cost of £159,500 is derived from 4 different contracts, all with different periods remaining, and therefore this figure will reduce as the contracts expire.

## Quality – how well did we do it?

The project should build on the current system in terms of supplying reliable information on street as well being fed to multi-media applications enabling better information.

The system should assist the facilitation of bus priority on junctions improving journey time reliability

The system should provide predictions for real time applications from information provided by the operators

## 4. PROJECT KEY DRIVER

Criteria	Weighted score
	If all 3 criteria are of equal importance, allocate 33 points each for Time, Cost & Quality
TIME (see section 1.2 above)	20
COST (see Appendix 5.1 below)	30
QUALITY (see section 3.4 above)	50

## Risk Quantification and Sensitivity Analysis

*Please complete the table below with the known risks to this project or attach a Risk, Assumptions, Issues, Dependencies (RAID) log:*

Risk	Risk Owner	Probability	Impact on project (H/M/L)	Timing	Mitigation
Financial pressures main system is turned off anyway	John Harvey	Medium	High	2012/2013 budget cycle	None – there is no system.
Operators do not install smartcard readers to vehicles	Paul Walker	Medium	High	By 03/13	Service Level Agreement as system is procured as part of QBP
Technology is not proved	Paul Walker	Medium	High	By mid 2012	Develop specification with on proven technology
Operators do not sign Service Level Agreement	Paul Walker	Medium	Medium	By 03/13	Only proceed with those operators signed up and use of peer pressure through SHOBOA & TfSH
System does not save costs identified	Paul Walker	Low	High	By 03/13	Ensure spec if developed as has been worked too and keep grasp of costs and project creep.
Interface with CCTV/ROMANS E relocation	Paul Walker	Med	Med	10/12	Work in partnership with this project

## 5. APPENDICES

Project Costs

*Please complete 'Project Costs' below. This must be attached as an **Appendix to the Business Case.***

Initial Impact Assessment

T:\Transport Policy\LTP3 ITS Projects (Romanse)\Reports\

Southampton City Council RTPI System – Outline Specification of Requirements, March 2011





## APPENDIX 5.1 – PROJECT COSTS

### 5.2.1 Capital costs

*The total one-off capital costs for the project, including Capita costs, external spend and any internal business costs eg: backfill*

£000s	Year 1	Year 2	Year 3	Subsequent years total	Total
<b>Project Capital Costs</b>					
Asset costs	199,000	199,000	0	0	398,000
External fees (eg Capita, other partners or contractors)	45,000	30,000	20,000		95,000
Internal SCC business fees	20,000	20,000	10,000		50,000
<b>Total capital costs</b>	<b>264,000</b>	<b>249,000</b>	<b>30,000</b>		<b>543,000</b>

### 5.1.2 Revenue costs

*The total revenue (ongoing) costs for any assets (eg: hardware and software), maintenance charges, support etc*

£000s	Year 1	Year 2	Year 3	Subsequent years total pa	Total
<b>Project Revenue Costs</b>					
Asset costs	0	15,000	39,000	39,000	93,000
External fees (eg Capita, other partners or contractors)	0	5,000	3,000	0	8,000
Internal SCC business fees	0	0	10,000	10,000	20,000
<b>Total revenue costs</b>	<b>0</b>	<b>20,000</b>	<b>52,000</b>	<b>49,000</b>	<b>121,000</b>

### 5.1.3 Project Resources

*The total number of days required for the project by Council staff, Capita, other partners or contractors. This section is particularly important to complete when no budget is allocated to the project.*

Days	Year 1	Year 2	Year 3	Subsequent years total pa	Total
<b>Resource Days</b>					
SCC staff – see example below:					
▪ <i>Legal</i>	10				10
▪ <i>IT Client</i>	5				5
▪ <i>ROMANSE</i>	60	150	150	50	410
▪ <i>Transport Policy</i>	50	50	20	5	125
▪					
Capita, other partners or contractors					
<b>Total Resources Days</b>	<b>125</b>	<b>200</b>	<b>170</b>	<b>55</b>	<b>550</b>

### 5.1.4 Contingency

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*Consider adding contingency funds. By default, 10% of the total project cost should be added.*

	£	Reason
<b>Project Cost</b>	398,000	
<b>Add contingency</b>	39,800	<i>Insert reason if more than 10%</i>
<b>TOTAL PROJECT COST</b>	437,800	

**Bronze projects:**

*The Business Case should be updated for Bronze projects at Gateway 3 and a Project Plan attached.*

*A detailed Impact Assessment may also be required:*

<http://intranet.southampton.gov.uk/highlights/campaigns/IIA.asp#0>