

Real Time Passenger Information Progress

Executive Summary

This report:

- Reports on the progress of work to improve the performance of the Real Time Passenger Information (RTPI) system.
- Provides more information about the background of RTPI as requested in the Select Committee meeting of 6 July 2010.
- Explains the success of installation of GPRS on a key bus route – Salisbury to Warminster - and clarifies queries raised at the last meeting about the reported performance data that compared the performance of GPRS to the existing radio communication method (PMR). It shows that GPRS performs significantly better (detailed GPRS performance information is in **Appendix A**).
- Lists the other options available and compares the costs of the different options (cost information listed in **Appendix B**).
- Concludes that migrating to GPRS is the preferred option on both performance and financial grounds.

Proposal

That the Committee:

Notes the performance and financial reasons for converting the RTPI system from its existing communications platform of Private Mobile Radio to GPRS technology.

Reason for Proposal

The monitoring of the RTPI trial route (Salisbury to Warminster) where GPRS has been installed has shown conclusively that this solution is far more effective than the old radio system (see **Appendix A**). It is capable of providing reliable real time information to the public and does not suffer from the localised radio problems that cause predictive problems at some signs. It offers a cost saving of £124,300 over a five year period and £273,700 over the remaining nine year life of the contract (see **Appendix B** for cost information).

MARK BODEN
Corporate Director

Real Time Passenger Information Progress

Purpose of Report

1. To update the Committee on the progress made in improving the performance of the Real Time Passenger Information System and to provide further information for consideration as requested at the Committee meeting held on 6 July 2010.

RTPI Background

2. RTPI is a partnership between Wiltshire Council, the Wilts & Dorset Bus Company, First Somerset and Avon and Bodmans Coaches. It forms an integral part of the Intelligent Transport System in the Salisbury area that was designed to meet the following objectives:

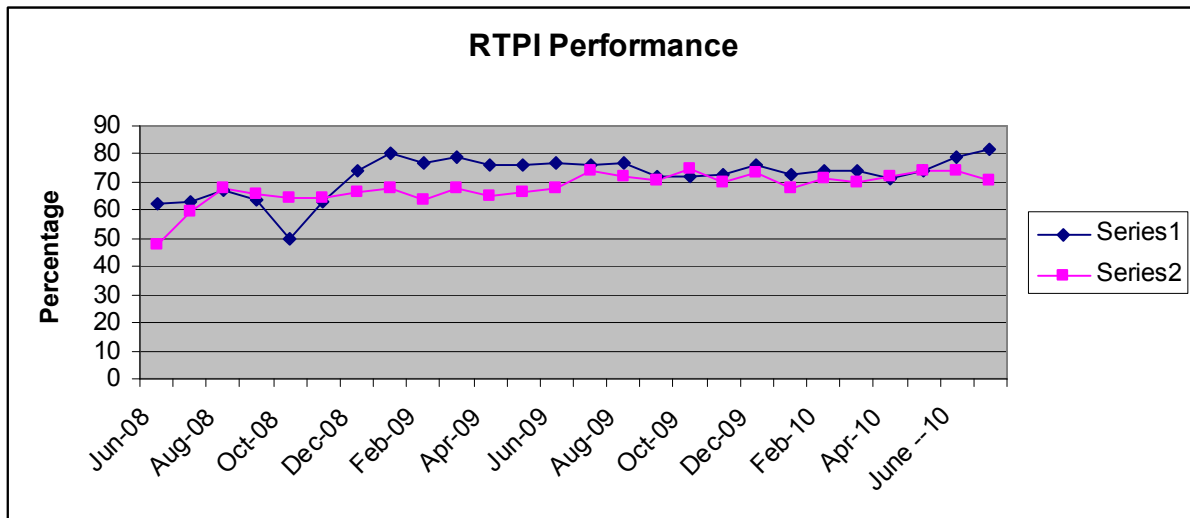
Priority 1:	Improving access to city centre facilities by public transport.
Priority 2:	Reduce safety hazard to pedestrian and cyclists.
Priority 3:	Improve access to and circulation in city centre car parks, particularly for short stay users.
Priority 4:	Manage and reduce traffic movement within the city centre without impeding access to essential services.
Priority 5:	Ease traffic congestion on important radial routes.
Priority 6:	Improve access to travel information to all road users.

3. The RTPI system was originally conceived as a joint project between the former district and county councils covering the Salisbury area. By the time it came into use in 2005, it had been extended to cover key routes in other parts of Wiltshire, using a Government grant that was made available at the time for the purpose of expanding intelligent transport schemes. The capital cost of the system was approximately £2million. At the time of its installation, Real Time systems for buses were new and the Wiltshire system was ambitious, the largest of its kind in a rural environment.
4. The system was supplied and is maintained by Trapeze Group (UK) Ltd and the RTPI contract runs until 2020. There are also contracts with the Wilts & Dorset and First bus companies and a summary of the contract obligations is set out in **Appendix C**.
5. After installation it became clear that the system was under-performing. The Overview and Scrutiny Management Committee reported on 29 March 2007 and noted the following points about RTPI:

- That some developmental problems have been experienced, meaning that the system is not delivering the full range of information that could be available to the general public.
- That the system is complex and sophisticated and relies on interdependencies between buses, signs, the command and control system and data about planned workings. Because of this, the underlying cause of faults can be difficult to ascertain and remedy.
- That there was a need for council and operator staffing resources to (a) upload timetable changes and (b) carry out regular supervision of the system.
- That formalised arrangements for monitoring the system's operation should be put in place and that two new performance indicators should be adopted, dealing with the functioning of signs and the recognition of buses respectively. These represent the two main areas affecting the delivery of information by the system to the public.
- That information about the system has not been widely publicised because of the developmental problems.
- The Committee concluded that the system offers an opportunity to increase public confidence in bus services, but that the existing problems need to be resolved to achieve this objective.

RTPI Improvement Project

6. An RTPI System Manager was appointed and a project was started in 2008 to identify the cause of the system problems and deliver improvements. Following detailed investigative work the main weakness was found to be the radio communication element of RTPI: it was not performing at a level that enabled real time to be providing reliable information to the public, particularly in the areas outside Salisbury.
7. Major radio remedial work (at the supplier's expense) was undertaken and performance of the system improved to some extent but areas of non-existent or patchy radio coverage were too extensive to enable reliable real time information to be displayed. These radio blackspots result in vehicles being poorly tracked and lead to incorrect predictions of delays at the bus stop displays and lack of real time information in general.
8. Performance of RTPI has been measured against two performance indicators (PIs) that between them represent the main areas affecting the delivery of information by the system to the public. The performance increased significantly in 2008, due to the commencement of the improvement project, but improvement has been only modest since then. No further major improvement is expected with the current radio technology.
9. In the chart below, Series 1 shows the improvement in ESD063 -% sign clears acknowledged and Series 2 shows the improvement in ESD064 -% active buses. Note that there are a number of technical and operational reasons why the figures for both targets would not normally be 100%, but targets of 85-90% could be achievable.



- Information from other Real Time System users around the country suggested that PMR systems were generally under-performing. GPRS technology was emerging as a far more effective solution and the running costs of this technology were falling (GPRS was far more expensive than the existing radio system at the time of this contract award). In order to assess GPRS performance, a trial was set up on the route between Salisbury and Warminster that involved the Bodmans buses and a number of the display signs that had previously been out of radio signal range. The performance data is detailed in **Appendix A**.

Main Considerations for the Committee

- GPRS works well and is a great deal more effective at tracking buses in real time than PMR radio, meaning that reliable information can be displayed at signs. Unless the system is converted to GPRS, performance is unlikely to improve without considerable financial investment in additional radio masts. GPRS has been shown to work in other parts of the country and the bus operating companies who are partners in this project are keen to go ahead with the conversion and benefit from the improvements. The conversion project could be completed within 4-5 months and performance improvement would be expected as this project progresses.
- The Wiltshire system has already been set up to allow passengers to receive real time via mobile text messages. This has proved to be a popular service in other areas, for example in Poole where 25,000 real time information text messages were sent last year at a cost to the bus user of 25p each. The system can also allow buses priority at junctions, enabling services such as Park & Ride to travel in and out of Salisbury more quickly. These functions could be activated as soon as the system has been converted and the expected performance improvements have been realised.

Options Considered

- Business as usual – Maintaining the system in its current configuration was rejected because performance will not improve significantly and costs are likely to be high due to (a) expected increases in the costs of radio at mast sites and (b) the need to convert the system to a different radio frequency, as required by Ofcom.

14. Continuing with the existing technology and improving the radio coverage by using additional mast sites. This option was rejected because it is prohibitively expensive.
15. Only converting the parts of the system that are in the poorest areas of radio coverage and creating a hybrid GPRS/PMR system. This was also rejected as being too costly – the costs of the existing system apply, plus GPRS costs.
16. Abandoning the system. Also rejected on grounds of cost and the loss of a potentially valuable resource to the travelling public. It would result in very substantial financial costs to the Council as a result of its contractual obligations to the bus companies who are partners in the system.
17. Seeking an alternative supplier. This would result in contractual legal issues and is not favoured by the bus operating companies. Trapeze have indicated that they would consider taking legal action against the Council if this option was taken up.
18. Complete conversion to GPRS. This is the preferred option on performance grounds and also because it is the most cost effective solution. (See **Appendix B**).

Environmental Impact of the Proposal

19. Maintaining public confidence in the system is important in order to encourage people to make journeys by bus instead of car as envisaged in the Salisbury Transport Plan. Extended uses of the system, such as bus priority at junctions and real time delivered to mobile phones and the web, would be possible after performance improvements and these could lead to increases in bus usage.

Conclusion

20. The RTPi system should be migrated to GPRS because this technology has been shown to work more effectively than the current radio technology and now represents the best value for money.

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The following unpublished documents have been relied on in the preparation of this Report:

Trapeze Group Report "Cost saving options for Salisbury"
Quotation for GPRS upgrade
Quotation for migration of Wiltshire Radio System as per Ofcom licence
Quotation for remote hosting