

Real Time Passenger Information Progress Report

Executive Summary

This report:

- Explains the background of Real Time Passenger Information (RTPI) and that the main issue affecting performance is poor radio coverage, especially in rural areas.
- Explains the success of installation of General Packet Radio Service (GPRS) on a key bus route – Salisbury to Warminster. It compares the performance of GPRS to the existing radio communication method - Private Mobile Radio (PMR) and shows that GPRS performs significantly better.
- Explains that conversion to GPRS is likely to be the most cost-effective solution and a business case is being developed with the supplier.
- Lists the other options available and the reasons why they were rejected.
- Concludes that migrating to GPRS is the preferred solution on performance and financial grounds, subject to a satisfactory business case.

Proposal

That the Committee:

- (i) Notes the progress made towards improving the performance of RTPI.
- (ii) Requests a further progress report to be brought to the committee in ten months time.

Reason for Proposal

A trial installation of GPRS along a key route (Salisbury to Warminster) has proved that this solution is far more effective than the old radio system. 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 is expected that, if a decision is made to convert to GPRS, this will have been completed and improvements will be demonstrable by the time of the next report.

PARVIS KHANSARI

Service Director – Strategic Services

Real Time Passenger Information Progress Report

Purpose of Report

1. To update the Committee on the progress made in improving the performance of the Real Time Passenger Information System (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 and covers a number of key bus routes, extending into the east and north-west of the county. The system is supplied and maintained by Trapeze Group (UK) Ltd and the RTPI contract runs until 2018.

The Challenge

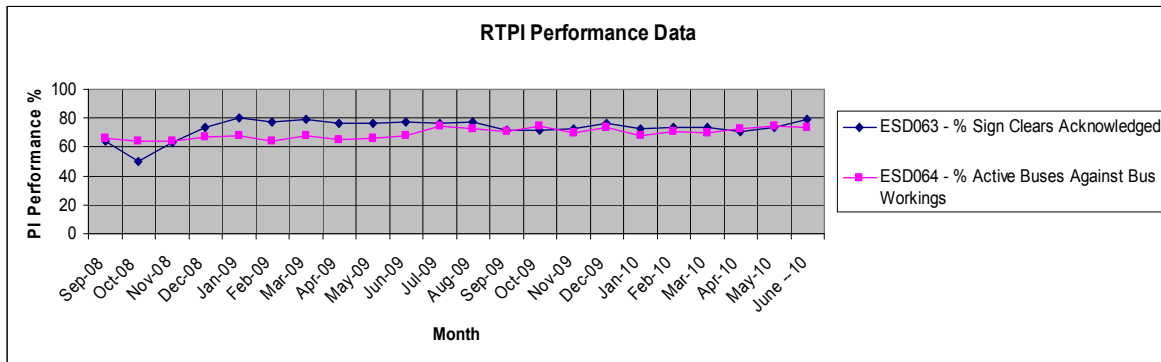
3. The system has not been delivering the full range of information that could be available to the general public and an RTPI manager was appointed by the Council to provide day-to-day management and to improve performance. Detailed investigative work was undertaken to find the main causes of underperformance by this technically complex and sophisticated system and the main weakness of the system was found to be the radio communication element: it was not performing at a level that enabled consistent and reliable real time information to the public.

Remedial Work

4. An Improvement Project was set up and major radio remedial work (at the supplier's expense) was undertaken. Performance of the system improved to some extent but remained below a satisfactory level. Further investigation revealed that areas of non-existent or patchy radio coverage were too extensive to enable reliable real time information to be displayed in all locations, particularly along the rural routes and most significantly on the route between Salisbury and Bath. 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.

Performance Data

5. 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. There was a significant improvement early in the project showing the benefits of a dedicated real time manager and subsequently the performance of the buses indicator (ESD064) has slowly improved. However, the performance of the signs indicator (ESD063) has remained constant despite considerable improvement work carried out by the supplier.



(Note: There are a number of legitimate reasons why the figures for both targets would not normally be 100%, but targets of 85-90% could be achievable.)

Main Considerations for the Committee

GPRS performance compared to the existing technology (PMR)

6. GPRS communication uses mobile phone technology for the transmission of data. A trial of the technology took place during May and June on the Warminster to Salisbury bus route operated by Bodmans Coaches. A limited number of buses and signs were fitted with GPRS communication equipment and the performance monitored. It 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.
7. The information below shows a **comparison of the percentage of time that buses could be tracked in real time** during May and June this year.

PMR Radio Wilts & Dorset Buses (main fleet, most routes)	PMR Radio First Buses (Warminster to Bath route)	GPRS Bodmans Buses (Salisbury to Warminster route)
52.5%	44.5%	83%

8. Unless the system is converted to GPRS, performance is unlikely to improve because of the physical limitations of the PMR radio system. 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.

Cost and Timescales

9. Conversion to GPRS could be completed within 4 - 5 months and performance improvement would be expected as this project progresses. Work is ongoing to clarify the operating costs of GPRS, but it is expected that costs will not exceed those of the existing system and conversion may reduce RTPI costs over a period of five years. An update will be given verbally at the Committee Meeting.

Environmental Impact of the Proposal

10. 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 have been shown to increase bus usage in other parts of the country.

Financial Implications

11. Detailed work on the capital expenditure and operational costs is currently being undertaken, led by the Service Director, Strategic Services, who has been discussing this issue in regular meetings with the Managing Director of Trapeze. The process of cost comparison is complex because of the operating costs of the different communication technologies employed by the system options, but at the stage of writing this report we are reasonably confident that converting the system to GPRS will not result in additional costs to the Council.
12. Costs of the existing radio system are expected to increase in future years because there is an Ofcom requirement to change the radio frequency by 2012 at a cost of £82,000. In addition, rental costs for the four mast sites, currently in police ownership, could increase if taken over by a private company.

Options Considered

13. Business as usual – keeping the system as it is. Rejected because performance will not improve significantly and costs are likely to increase 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, at a cost of £82,000.
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 would remain, and GPRS costs would also be incurred.
16. Abandoning the system. Rejected because 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. It would also lead to the loss of a potentially valuable resource to the travelling public.
17. Seeking an alternative supplier. This would result in contractual legal issues and is not favoured by our partners, the bus operating companies. Trapeze has indicated that it 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 likely to be the most cost-effective solution.

Conclusion

19. Subject to a satisfactory business case, the RTP1 system should be migrated to GPRS because this technology has been shown to work very effectively and is likely to deliver the best value for money.

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

None