

OVERVIEW AND SCRUTINY MANAGEMENT COMMITTEE
29th MARCH 2007

REAL TIME BUS INFORMATION

Purpose of report

1. To set out the objectives and progress of the Real Time Passenger Information (RTPI) System in Wiltshire as requested by Members at the meeting on 18th January 2007.

Background

2. RTPI in Wiltshire originated through the Salisbury Transport Study carried out by consultants Atkins on behalf of the Government Office South West. Reporting in 2000, RTPI was included in the proposed Action Plan along with many other measures including park and ride, cycling facilities, traffic management, link roads and travel plans.
3. Following a review of those elements of the Action Plan involving information technology, Salisbury Joint Transportation Team (SJTT), in partnership with the Highways Agency, developed a strategic framework for the implementation of Intelligent Transport Systems in Salisbury including the provision of RTPI funded from the Salisbury Transport Plan budget. Consultants (Atkins Ltd) were employed to produce a specification for RTPI, Urban Traffic Control (UTC), Closed Circuit TV and a Car Park Guidance System. The tender for RTPI was awarded to Action Information Management Ltd (AIM) in July 2002.
4. On 28th February 2002 a bid was submitted to Government for additional capital funding in response to a challenge fund that the Government had made available specifically to enhance existing RTPI systems. The bid was for £829,500 to extend the RTPI system to cover four radiating routes:
 - Salisbury to Bath
 - Salisbury to Pewsey
 - Salisbury to Downton
 - Salisbury to Whaddon.

The bid was successful and it was decided that the work would be carried out as an enhancement of the Salisbury RTPI project by the same project team. The overall cost of the RTPI project was estimated to be £1.9 million.

5. Delivery and commissioning of virtually all the system has been completed satisfactorily with only external interfaces to UTC and other systems remaining to be completed. The Site Acceptance Test (SAT) for the core elements of the system (involving the Wilts & Dorset Bus Co.) was signed-off on 12th April 2005 and the SAT for both First and Wilts & Dorset elements was signed-off on 20th December 2005. All the bus shelter and flag displays were commissioned in December 2005.

How it works

6. 116 buses belonging to Wilts & Dorset Bus Co. and 12 from First Somerset & Avon are fitted with Global Positioning Satellite (GPS) equipment and regularly report their position to the base station in Salisbury via a private radio network using four masts around Wiltshire. The information is relayed to electronic signs at around 200 bus stops which compare the position of the bus with the scheduled timetable and display an estimated arrival at the stop. The two bus companies can also see the locations of their buses from their control stations in Salisbury and Bath which, together with the private radio network, gives them a command and control mechanism to deal with operational problems as they happen.
7. When working in full real time mode the sign will indicate the timetabled time for the bus until it is 20 minutes away from the stop, at which point it will start to “count down” the number of minutes until it arrives and will update this estimate every few minutes. In the event that the real time system is unable to track the bus, e.g. its on-board equipment fails, the sign will show the timetabled time of the bus right up until the bus is scheduled to appear at the stop. After that the information will disappear from the sign whether or not the bus has actually arrived. This is a back-up mode of operation and is intended to prevent confusion to passengers who would know a bus was due and would therefore expect information to be displayed.
8. Therefore, when the sign indicates a number of minutes, e.g. 15 minutes, it means the real time system is tracking the bus and estimates that it will reach the stop in that number of minutes time. When the sign shows a time against the bus, e.g. 1415, it is indicating the time from the timetable. In the latter case it is acting like a “static” timetable and gives no indication of whether the bus is on time.
9. For passengers with visual impairments, the electronic signs can speak the information out loud. This function is activated by pressing a button on special key fobs which can be collected from the Joint Transportation Team offices at 37 Endless Street, Salisbury.

Main Considerations for the Council

10. The system is one of the largest in Europe with over 200 stops carrying RTPI signs. As a consequence of this large scale and the number of parties involved there have been some development problems, although these are now being resolved.
11. At the time of writing this report there is continuing concern that the signs on the X4 and X5 route in West Wiltshire seldom display a real time count down and instead show the timetabled time. This is because most of the buses being used by First on the route do not have GPS equipment and cannot be detected by the system. The signs are therefore working in back-up timetable time mode. This is because since the equipment was supplied First have put newer buses on the route. They are now working to get them fitted with the GPS units but this is taking longer than expected.
12. Maintenance of the technical elements of the system is carried out by suppliers AIM. However, there is a need for a continuing commitment of staff resources by the Council and the bus operators as follows.
13. In order to identify buses and display information the system holds a complete working timetable of all the journeys operated by each individual bus. Each time the working timetable changes the new details must be uploaded and this happens more often than public timetable changes, e.g. there is a different working timetable during school holidays so new timetables must be uploaded at the beginning and end of each such holiday. Working timetables are supplied in electronic format by the bus operator and processed before being uploaded by Council staff in the Passenger Transport Unit and SJTT.

14. There is also a need for daily supervision of the system, e.g. daily checking the console, ensuring that all buses are reporting and passing self-diagnosed faults from the roadside signs to AIM for rectification. The basic requirements are carried out by staff from the SJTT.
15. Publicity and information about the system has been kept deliberately low key until all those issues affecting the delivery of information through the system have been fully resolved.
16. Further developments utilising the real time information are anticipated. The information will be incorporated in a service delivering departure times as a text message to customers' mobile phones. This is currently being piloted by Traveline and will soon be rolled out across the South West. The information is also to be linked to UTC in Salisbury to give priority to late running buses at signalised junctions. In addition, a Bus Punctuality Partnership has been set up with each operator to extract and analyse data about bus movements to show where punctuality problems arise and look at ways to improve them.

Environmental Impact of the Proposal

17. The RTPI system is one element of an overall strategy to restrain car use and encourage other modes of travel. The additional information available to intending passengers increases confidence in bus usage, particularly in Salisbury which is subject to delays due to traffic congestion. The information about the location of buses and whether they are on time offers a command and control function to the bus operator and can also be used to modify traffic light cycles to improve the reliability of public transport.

Risk Assessment

18. The operation of the system in both the real time mode and the back-up timetabled time mode depends on the provision of up-to-date working timetable information in electronic format by the bus operator and on the availability of Council staff able to process this information and upload it.
19. The operation of the system in real time mode depends upon the bus operators ensuring every day that the buses used on real time services are the ones fitted with on-board GPS equipment.
20. There are Service Level Agreements in place between the Wilts & Dorset Bus Co., the First bus company and the Council in recognition of these dependencies. Regular monthly meetings take place between the Council, AIM and the bus companies to monitor progress.

Financial Implications

21. Most ongoing costs for maintenance were capitalised at the outset of the project. Communications costs for the system covering Salisbury, e.g. telephone line rentals, are met by Salisbury District Council from car parking charges. The additional ongoing costs relating to the extensions outside Salisbury (principally for rental of additional radio masts and data links) amounting to £23,600 per annum are met from the County Council's passenger transport funds.

Conclusion

22. The RTPI system is a key element of the Salisbury Transport Plan and was extended to benefit other areas, such as West Wiltshire, using ring-fenced funding awarded by the Government. The technical elements of the system have been delivered and are working satisfactorily.
23. However, the effective delivery of information through the system is highly dependent on the continuing input of staff from the bus operators and the Council. The signs in West Wiltshire are not currently delivering all the information required because of issues with the First bus fleet which First are working to resolve.
24. The system offers considerable opportunity to increase public confidence in bus services and has generally been well received. It is envisaged that further use will be made of the real time information in the near future.

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

None