

## CASE STUDY: Reading Borough Council Bus System

### Referee

Tony Pettitt  
Transept

Ph: 01189305522  
tony@transept.co.uk  
The Malthouse  
8 Brewery Court  
Reading  
RG7 5AJ

### Background

Located in the south east of England, Reading is a busy commercial centre and university town that has recently seen tremendous growth, especially in the IT industry. Increased demand for public transport has prompted investments in leading-edge technology for Reading Borough's public bus system.

As part of their Smart Cities project, the Reading Borough Council decided that they needed a bus system in keeping with the digital age. In 2003, the Council put out a tender for a bus Real Time Information (RTI) system. After a competitive tendering exercise, ConnexionzUK was contracted to provide an RTI system that included 150 on-bus units and passenger information at 150 bus stops.

That project was completed and handed to maintenance in December 2005. In September 2006, the Council decided to extend the system to include a new, more advanced on-bus unit. Again ConnexionzUK offered a flexible, cost-effective solution, and secured the contract – which will be completed by March 2008.

### The RTI Solution

Reading Borough Council required an RTI system that enhanced the reliability of the services, and gave passengers easy access to bus arrival information. With multiple depots and operators, the solution also had to allow for trouble-free fleet administration and secure communication between the operators.

#### Meaningful passenger Information

Passengers now have a number of options for finding out how long it will be before their bus arrives. 150 bus stops now have either a pole-mounted LED display, or an LED display inside the shelter, and there is also a large 3 screen display located at the Reading Railway station. Passengers can also access bus arrival and timetable information by way of an SMS enquiry from their cell phone, or via the Interactive Voice Recognition phone system.

#### Bus priority

Another important function of Reading's RTI system is that it gives buses priority over other traffic. Bus priority ensures that the buses operate to schedule and running times are more consistent. This not only benefits passengers, it also saves money on operating costs.

To provide the RTI system with the necessary data for deciding which bus to give priority, local radio priority requests operate on four road junctions. In addition, the Centurion on-bus unit has a link to SCOOT, Reading's UTMC demonstrator, a legacy UTC system, and to the Comet database.



## User friendly management

ConnexionzUK supplied each depot with a control dashboard that displays the current status of all buses on the road. This means that operators can now see exactly where each bus, and respond to schedule delays and incidents as-and-when they happen.



A Wireless Local Area Network deployed at each depot downloads historic log files from the bus to the server. A web-based report suite makes it straightforward for operators to use the historic data to plan effective bus schedules, while the archived real-time information can be used to investigate accidents or complaints. The WLAN also uploads on-bus media and timetables from the server to the buses. GPRS, 3G, PMR/WiMax and WiFi are also used data transferral, as required.

Reading's bus inspectors were also supplied with a PDA-based application to find out the real-time location of buses. This makes them more efficient in their work, as they can effectively target where and when to get on and off each bus. It also means that the inspectors can give passengers accurate information about when a bus will arrive.

For the 2006 upgrade, ConnexionzUK supplied its new on-vehicle server, Centurion. Centurion provides the all of the necessary features and for a complex RTI system such as Reading's. It can automatically swap between various communications media; this provides cost-effective and efficient communication, and the flexibility to upgrade should communications requirements change. In addition, Centurion supports full broadcast media on-bus, such as video, dynamic news flashes and a variety of graphics and text formats.

For passengers, Centurion outputs data to SMS enquiries and web-based journey planning, and can also provide on-bus WiFi access. Centurion can also be expanded to include CCTV, and can interoperate with other companies RTI systems.

## Dependable project delivery

Prior to starting the project, ConnexionzUK got together with Reading Council to create a viable project plan, and develop a payment schedule linked to delivery milestones. A Project Director was appointed by ConnexionzUK to oversee the job, and a dedicated Project Manager and Technical Account Manager were also assigned to manage the delivery of the system. The overall project was controlled by a consultant appointed by the Reading Borough Council.

With several operators, consultants, clients and subcontractors to coordinate, the main challenges in delivering the RTI system were not technical, but organisational. To manage this, monthly meetings were held between Reading Council and ConnexionzUK, supplemented where necessary with technical or other meetings.

All proposed changes were discussed at these meetings before they were carried out.

## Key decision factors

Several factors influenced Reading's decision to select ConnexionzUK to fulfill both the initial contract, and the 2006 upgrade.

### Improved customer service

The supply of accurate real-time info has improved passenger perception of Reading's bus system, and the Council has noticed an increase in user satisfaction and trust in local public transport.

### Low cost of deployment and ownership

Reading needed a solution that not only managed cost constraints but was also robust enough to support future growth and advances in technology. ConnexionzUK's RTI solution offered superb features at a competitive price point.

### Reliability

Accurate data is critical for any RTI system, especially those that supply information to passengers, so it was vital that Reading choose a supplier with a proven track record. ConnexionzUK's successful bids were due in part to their nine plus years experience in this field – they know how to deliver and install an RTI system that works.

### Scalability

By using the most the advanced technology available, ConnexionzUK's RTI solution not only accommodates Reading's bus system today, but can easily scale to meet future needs.

UK: phone +44 1293 887308 • fax +44 1293 886235 • [info@cnz-uk.com](mailto:info@cnz-uk.com) • [www.connexionz-uk.com](http://www.connexionz-uk.com)

US: phone +1 781 993 9008 • fax +1 781 993 9006 • [info@cnz-us.com](mailto:info@cnz-us.com) • [www.connexionz-us.com](http://www.connexionz-us.com)

NZ: phone +64 3 339 4536 • fax +64 3 339 4537 • [info@connexionz.co.nz](mailto:info@connexionz.co.nz) • [www.connexionz.co.nz](http://www.connexionz.co.nz)