


# Take The Right Route



**Stuart Henshaw** describes the challenges faced and the progress made by the North East Regional Improvement and Efficiency Partnership's use of the remote-hosted "RouteSmart" software; 18 months into its five-year project

**A**t the start of 2010 the North East Regional Improvement and Efficiency Partnership bought in to a pan-region, remote-hosted "RouteSmart" software solution, aimed at identifying and delivering substantial waste and recycling collection efficiency savings. Still early into the five-year project, we ask how the initial objectives have been met and what is in store in the months and years ahead?

In common with other improvement and efficiency programmes across England, the North East was looking for efficiency savings and carbon reduction in public sector services. One target was waste collection, with savings to be achieved by optimising collection routes, reducing mileages and resources without diminishing service levels. Future development would look at other services such as winter maintenance and street cleansing.

Key to the adoption of the strategy was the proven success of route

optimisation in Newcastle-upon-Tyne, where efficiency savings had been identified using specialist software and delivered on the ground by reducing the size of the collection fleet.

A major procurement exercise for route optimisation software (thought to be the largest of its type in Europe) was undertaken and the routing software contract was awarded to Integrated Skills Ltd, UK distributor of "RouteSmart" software and services. The programme was co-ordinated by a project officer seconded from Newcastle City Council.

## Gathering Data

A ROLLING software-training programme was delivered across the region from north to south, beginning in Northumberland in early 2010 and ending in the Tees Valley in late summer of 2010.

The training introduced the routing

software to dedicated users in each authority, including waste service managers and GIS and IT staff.

With the current pressures on IT services, an early request by the Programme was for Integrated Skills to host the software at a secure data centre, ensuring that this met with the latest security standards. Users log in through a web portal to access their own route optimisation projects. This has the added benefits of flexible access from any location with an Internet connection, centralised software updates and centralised data storage.

The type of data gathered was common across the authorities and readily available, such as the location of depots and waste facilities, the Ordnance Survey's integrated transport network and local land and property gazetteer data. Other local data such as lists of hard-to-access streets or assisted collection properties were added throughout the project.



## Vehicle Tracking

LINKED TO the project was the procurement of vehicle tracking across the region, which was critical in benchmarking existing productivities and thus ensuring that routes generated by the software were achievable. The tracking showed that service times per property vary significantly from inner-city terraces to rural detached and remote properties – properly reflecting these differences in the computer model means that the routes could be rolled out with increased confidence.

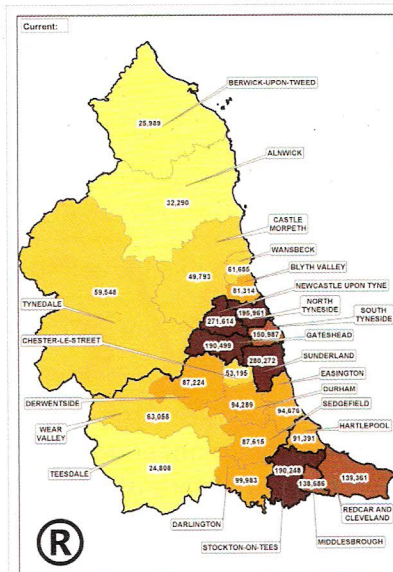
Introducing any new software into an organisation requires both the commitment from the client and support from the supplier. Coaching and mentoring not only supported users and ensured that the software was successfully embedded at each of the North East authorities, but transferred the knowledge that Integrated Skills had gained in route planning and optimisation projects carried out over many years.

In addition to providing the ability for authorities to design new, efficient waste collection routes, the project also supported the development of routes for the new Unitary Councils of Durham and Northumberland, previously seven and six district councils, each with their own depots and method of working. The earliest work of the project team was modelling the new joint approach.

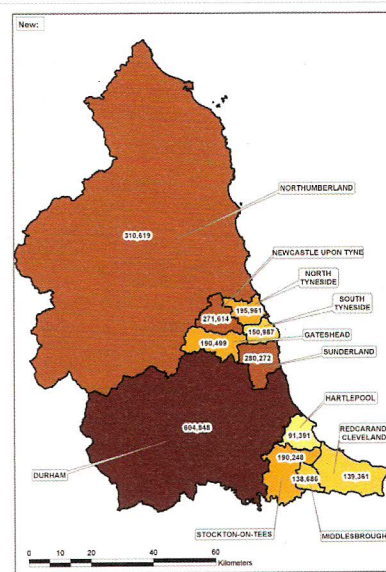
## Realising Efficiencies

THE ROLL-OUT of the RouteSmart software, training and mentoring was completed earlier this year and the project entered a second phase, moving from route design to implementation of the new routes. Phase two would involve pilot testing a novel satellite navigation device developed by Integrated Skills to assist drivers to follow the new routes and help to ensure the predicted savings in fuel, vehicle costs and carbon will be realised.

The in-cab device will speak out directions: "Turn left into Primrose Avenue"; street level warnings such as "school traffic"; and specific service-based instructions such as "assisted collection at number 22". Exception reporting for streets and properties will



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also be available for drivers.

Early work has been carried out with a beta version of the software live in Northumberland, and lessons from this early phase are informing the next stage of development. A new graphic user interface with much clearer mapping and written instructions for drivers are a priority, as is working through the logic when confronted with a furniture van parked across a street, for example. A key conclusion has been the need for detailed driver training and a future project will take a team of drivers out in a minibus with each taking a turn to use and operate the software.

One unforeseen benefit from the pilot test has been the use of the device to rapidly carry out detailed road testing of the RouteSmart generated routes and the accuracy of the underlying OS street network data.

## Lessons Learnt

**START TO gather data as early as possible** and begin to prepare this ready for routing. This process could be longer than expected, not because of any onerous demands of the software but rather because routing projects often prompt other work such as cleaning up datasets, removing or adding properties and so on to bring it up to date.

**Form a balanced project team of frontline staff** who manage waste data day-to-day, members of the waste

strategy team who understood the medium to long-term requirements (such as changes in depot or treatment facility locations) and GIS and IT staff that may get involved in data import and export requirements to other systems. Another key was to have the communications team briefed on progress and timescales.

**Suspicion accompanies new technology.** New routes designed using software or in-cab devices providing turn-by-turn instructions will challenge the status quo. An important element is to gain the trust of the crews expected to drive the new routes. Appropriate use of the software allows the opportunity for drivers and supervisors to look at routes and make changes before going live.

Across the region there are now a number of user groups established to discuss progress on routing projects and consider their requirements for further training and feedback on new features for the software. A further tier of management coordinates the work across the region.

The project is moving forward on three fronts: rolling out the new live routes across the region; developing the in-cab devices; and applying the routing software in other areas of the region's public services, such as street cleansing, winter maintenance and highways services. **CIWM**

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