



Realising efficiency gains in Cardiff

Cardiff Council's Schools and Lifelong Learning Service is exploiting Ordnance Survey MasterMap and GIS to streamline its workload. The Return on Investment has also been substantial, reports Andy Wilson

Among its many and varied tasks, the Schools and Lifelong Learning Service (www.cardiff.gov.uk/schools) is responsible for planning the free school bus service, administering the schools admission process and facilitating the weekly collection of internal mail by 140 schools from the Council offices in central Cardiff.

The challenge

When eligibility for free transport to school is based on the walking distance from a pupil's home and entrance to an oversubscribed school is dependent on catchment area, the Council needs to be precise in its measurements. Likewise, it needs to be efficient and cost-effective when organising bus routes and courier services. All rely on access to accurate geographic information.

The solution

The Council makes extensive use of MapInfo® for mapping and geographic analysis, with over 100 users across the organisation. It has linked its Capita ONE management information system, RouteFinder network analysis system and MapInfo Geographical Information System (GIS), and is currently using a number of datasets in the Schools and

Lifelong Learning Service. These include OS MasterMap® Integrated Transport Network™ (ITN) Layer, which provides a single, unambiguous and comprehensive network of roads and their classes.

For example, when determining available walking routes to schools, staff look at contextual maps and aerial photography to see where footpaths or road-crossing points are located. The Council is also able to incorporate additional local footpath information into OS MasterMap ITN Layer.

The Council is also expanding the use of intelligent geographic information to support the school admissions policy through catchment-area analysis, because admission to oversubscribed schools is based, to some extent, on the travel-to-school distance.

Again, the Schools and Lifelong Learning Service assessed options for reducing the cost of school mail collections. By conducting a simple analysis using OS MasterMap ITN Layer, it calculated the current cost per mile and the travel time. It then looked at the location of all schools, the travelling distance from each one, and evaluated the possibilities of a single vehicle delivering mail either to every school or to delivering to secondary schools for collection by primary schools.

Andy Wilson is Government Strategy Manager at Ordnance Survey (www.ordnancesurvey.co.uk)

Return on investment

'Using Ordnance Survey data has allowed us to identify the children eligible for the free school bus service quickly and accurately. This has allowed us to organise transport provision in a far more proactive way. We've been able to optimise the number of buses we need, accurately tailor bus routes to suit where the city's children live and assign them to their closest and best route.

We were able to fund the increase in contract prices for using high-capacity coaches fitted with seat belts, high-backed

seats and CCTV, which replaced the old double-decker buses on the school transport contracts and we were able to absorb those costs from the savings and efficiencies we had generated. Taken with the potential savings in the courier service of around £10 000 per year, we are seeing efficiency gains in the region of £200 000, far in excess of the costs of the solution.'

Phil Peddle, Research and Information Team, Schools and Lifelong Learning Services



The benefits

- The process to determine free transport entitlement is much quicker and easier than measuring routes with a trundle wheel or from a paper map.
- Walking routes are accurate to the school gates; parents can see the exact route that has been calculated.
- Buses are routed more logically and pupils are quickly assigned to a particular bus because links to the pupil database show residential locations on a map.
- Routes and pick-up positions easily adjusted to meet annual changes in demand.
- Front-line staff able to deal with the admissions process more effectively.
- More effective methods of delivering mailbags to the schools.



OS data products in use

- OS MasterMap® Topography Layer
- OS MasterMap ITN Layer
- OS VectorMap® Local
- OS VectorMap District (both vector and raster)
- 1:10 000 Scale Raster
- 1:25 000 Scale Colour Raster
- 1:50 000 Scale Colour Raster
- 1:250 000 Scale Colour Raster
- Code-Point®
- ADDRESS-POINT

Improving the service

'The use of OS MasterMap ITN Layer and other Ordnance Survey data, alongside GIS tools such as MapInfo and RouteFinder, has allowed us to effectively target and ensure best use of available resources whilst at the same time improving accuracy and providing the best possible service to the people of Cardiff.' *Chris Jones, Chief Officer*



OS MasterMap Topography Layer with OS MasterMap ITN Layer