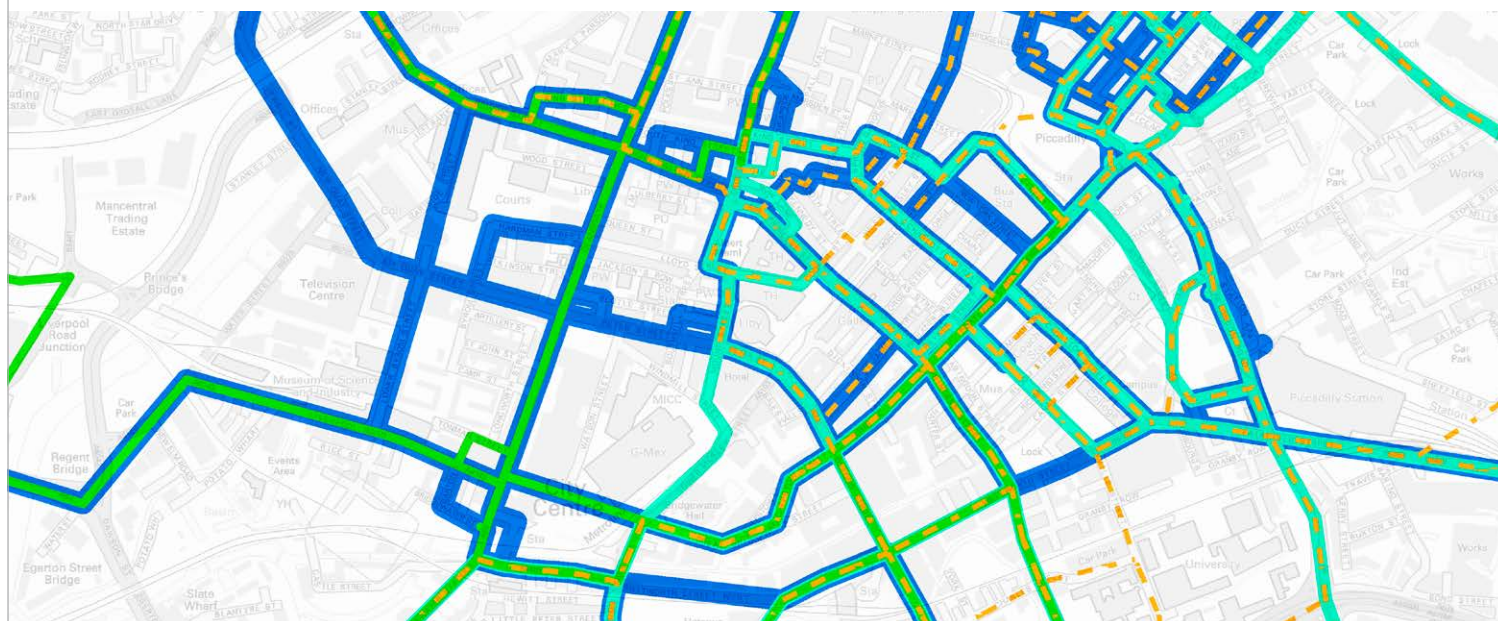


Energy and infrastructure

Case study

OS OpenData

Unlocking the potential of open data in transport planning



Employee-owned CH2M HILL is one of the world's leading consulting, design, design-build, operations, and programme management companies serving government, civil, industrial and energy clients – employing over 30,000 people worldwide. Its work is concentrated in the areas of water, transportation, environmental, energy, facilities and resources.

Having operated in the UK for over 20 years, CH2M HILL acquired Halcrow in 2011 and continued to base its European headquarters in London, now employing over 3,300 people in the UK. CH2M HILL is working on some of the most iconic infrastructure programmes including High Speed 2, Thames Tideway Tunnels, the decommissioning of Dounreay and was one of the leading partners in CLM, Delivery Partner to the ODA for the London 2012 Olympic and Paralympic Games.

The challenge

Due to the recent economic climate, companies are now expected to deliver more for less with a constant focus on value for money.

With this in mind, CH2M HILL's Transport Planning team provide solutions for local authority clients to understand the impacts of bus network provision and changes to it; especially so for subsidised bus networks and with

regard to connectivity, to understand where the network performs well and areas they do not.

Prior to the launch of Ordnance Survey's OS OpenData™ and the opening of the National Public Transport Data Repository (NPTDR), the process of plotting bus networks in a geographical information system (GIS) was a complicated and convoluted process; looking up timetable data from one Internet source, routing from

another (at times resorting to using paper maps) and then manually drawing using GIS to provide analysis and outputs. This was a costly and time driven process to source the data, and the data licensing had to be taken into account with the different datasets.

The advent of open data offered CH2M HILL the opportunity to meet the challenges faced by local authorities to understand bus network performance and the importance of providing connectivity between people and place – sourcing innovative tools to provide a solution in an economical manner.

The solution

Following the launch of OS OpenData, CH2M HILL allocated research money to initiate Project Solaris. The primary purpose of the project was to provide a cost-effective automated tool, free of data licensing, which could quickly draw a multi modal-network from any part of Great Britain being consistent with the road network and allowing analysis of that network.

Ordnance Survey data was combined with NPTDR timetable data and other open data sources for demographic profiling, such as the Open Data Census 2001. Firstly, the NPTDR data was manipulated into stop and stop movements. The tool drew then drew the quickest routes between these stops using Meridian 2.

These routes were then applied to timetable data. Project Solaris also has an accessibility planning function. This provided a facility that looked to split journey times, by elements, of walking to the bus stop; waiting for the bus; in-vehicle travelling time; any interchange/interchange and egress. Temporal accessibility maps showing access over an entire day can also be built and applied for timing hospital appointments, for example, according to when the best time would be to travel for a patient.

Data products used:

- Meridian™ 2
- Code-Point® Open
- OS Street View®
- 1:250 000 Scale Colour Raster

The benefits

Using Solaris, the project team were able to reduce time taken to analyse an entire bus network for the County of Worcestershire by 90%. Solaris has been used to assess future passenger transport improvements and also test levels of sustainability of new residential developments. Splitting journey times into specific elements allows users to specify perception weightings to bring accessibility planning and transport planning closer. CH2M HILL used this approach for projects in West Yorkshire and the County of Worcestershire.

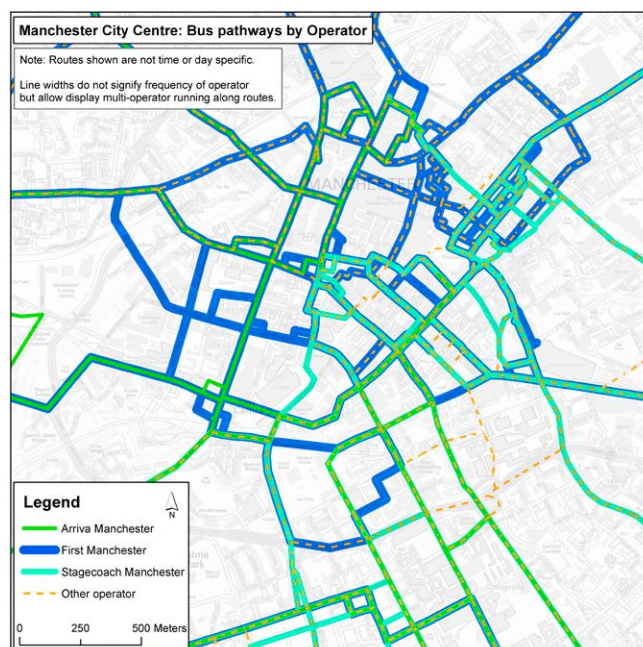
Solaris was not only used with bus networks, it was used across other public transport modes such as heavy rail, taking the fixed rail lines from Meridian 2.

Solaris has also been developed to reach out further, utilising open data from around the world using Google Transit Feed Specification data (GTFS).

Return on investment

'For us and others, OS OpenData has given the chance to explore and innovate. The expanded range of freely available datasets is being used by developers to provide intelligence to areas of society that were previously operating without the added value that such insight and efficiency improvements bring'.

Keith Drew, CH2M HILL



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