

Improving data quality at East Sussex County Council: merging networks to give better information

1Spatial's expert Consultants have helped East Sussex County Council's Highways Department to improve the quality of its network data and therefore, to make full use of its new Infrastructure Management System. The department's data is now almost completely "fit-for-purpose" which means that users can be confident in their analysis and in their resulting business decisions.

The Challenge

In order to exploit the full functionality of its recently purchased Exor Atlas Highway Management System, East Sussex County Council Highways department needed to improve the quality of its network data.

Without high quality and accurate data, users would be unable to perform effective and accurate GIS analysis. Moreover, it is important for the department to be confident in the accuracy and visual quality of its data; at a time when the government is encouraging the sharing of information, maps from the Highways department would be viewed both internally by other departments and externally by utility organisations and citizens. Seemingly poor quality data resulting from inaccurate representation of their National Street Gazetteer (NSG) Level 3 would mean a loss in confidence in the Highways department, undermining their hard work in creating and maintaining their data.

The project focussed on two networks: the NSG Level 3 network, which has good graphical representation, but does not hold the required attributes for analysis; and the department's own WDM maintenance network, which has extremely poor spatial representation, but has the required attributes. The data problems shown below were daunting; due to the acute differences between the networks, the data was represented inaccurately in the new graphically based Exor Highway Management System. The situation was so difficult that the council was unsure whether it would even be possible to resolve the problem.

The challenge was to create a single network with excellent spatial representation as well as useful attributes.

The council had neither the manpower nor the expertise to be able to achieve this objective in-house, so was keen to outsource a solution, which resolved the issue automatically and with a minimum of disruption to its day-to-day work. An automated rather than manual solution was favoured both for the rapid turnaround time on the data and ensuring that there were no human errors.

The Solution

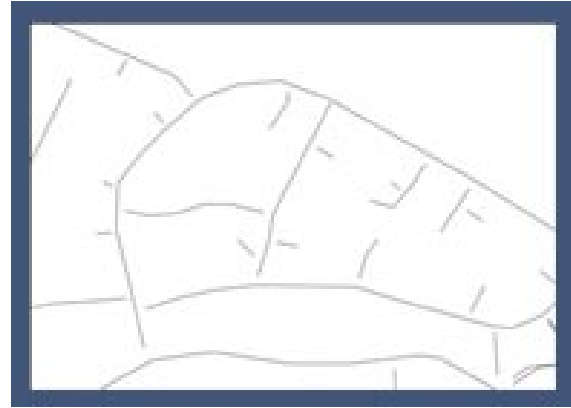
East Sussex County Council decided to merge its NSG Level 3 network with its Maintenance network and chose 1Spatial to carry out the project.

1Spatial first carried out a pilot project using their Radius Studio™ product to assess the level of conformance between the two networks, or in other words whether the geometries of the NSG Level 3 matched those of the Maintenance network. Using rules defined by East Sussex, the pilot project showed that around 90% of the data could be automatically fixed. As a result, the successful flowline developed for the pilot project was rolled out to the entire dataset, allowing the two networks to be merged automatically.

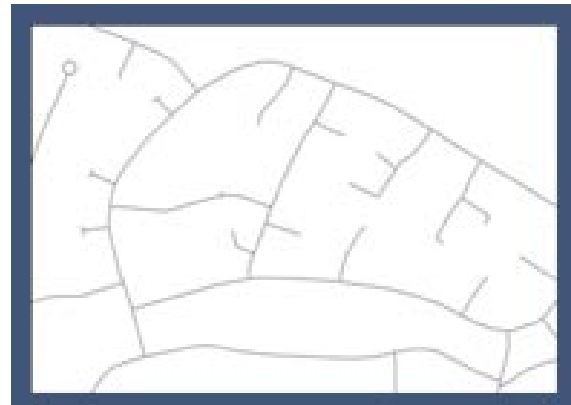


The Results

East Sussex County Council sent 1Spatial their data, who then merged the NSG network with the Maintenance network in just 3 weeks. The data was then returned to the council, meaning that the Highways department was not inconvenienced during the merge. The remaining 10% of the data was outside the rigid tolerances set by the council and needed to be examined manually. The council now has a single new dataset which gives accurate network data as well as attribute information. The increased accuracy of the data means that the council can now roll out its Exor Atlas Highway Management System and take advantage of its functionality. Users can also be more confident in the reliability of their automated analysis such as finding highways work by set priorities and location, and searching for defects raised by customer care calls. The council can now benefit from increased reliability in their business tasks, for example providing highways contractors with the accurate and precise locations for work to be carried out, without the need for manual inspection or checking.



Before



After

“1Spatial have done an excellent job and taken our poor quality maintenance network data and combined this with good quality street data to give us a spatial network with around a 90% match. This has saved us months of resource intensive work and has helped maintain our programme to implement our Exor Atlas highway management system for which a spatial network is essential”.

Dale Poore
Programme Manager, Highways Department
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