Smart queries support a safer city for London Fire Brigade

Client:
London Fire Brigade

Industry:
Emergency Services

Key Benefits:

- 95% faster processing of route queries

- 12,000 route queries run in two hours, not 40

- Getting the right resources to an emergency more efficiently

- Better data sharing between agencies

London Fire Brigade (LFB) is one of the largest firefighting and rescue organisations in the world. With 6,000 staff (of whom 85% are operational staff) and 102 fire stations, LFB serves an area of nearly 1,600 square kilometres. Its role is, simply, "to make London a safer city".

A critical part of LFB's role is to get the right fire appliance to the right location as quickly as possible. Obviously, this requires effective routing for fire crews, but it also requires that each station is correctly staffed with a full cohort of firefighters.

John Cook is LFB's Corporate Gazetteer and ETL Process Manager. He is responsible for maintaining spatial and non-spatial data to ensure that the brigade is as effective as possible. As he explains,

> " Mapping has always been central to the fire brigade. Originally, that meant maps hanging on walls or in books in each appliance. Today, we use GIS systems and mobile data terminals. "

Technology enables LFB to locate incidents more quickly and respond more efficiently. Spatial data is important in incident recording, understanding the location of facilities such as fire hydrants and in emergency planning.

> " GIS gives us a visual representation of a very complex set of data," explains John. "It's not just road layouts. We need to understand road speeds, the location of hazards and the height of buildings so that we despatch the right type of appliance to any situation. "

Having the right people in the right place

Delivering an effective response to emergencies requires having the right people in the right place. This often requires staff to move between fire stations, temporarily. LFB determined that the most efficient way of doing this was to use up-to-date information from the AA Route Planner website (theaa. com/route-planner/). This would allow LFB and its staff to determine likely travel times between each of its 102 stations.

However, establishing travel times between any two of 102 locations required approximately 12,000 individual searches. Originally intended as a one-off exercise, the searches were carried out manually by LFB staff entering details of each pair on the Route Planner website and recording the results. The exercise required 40 working hours of overtime to complete. It also, inevitably, carried a high risk of error and required detailed checking. Clearly, although important, this wasn't sustainable as a regular exercise. John and his team needed to create a repeatable process that could be easily updated to reflect changing traffic and road conditions.

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Eliminating manual queries saves time and money

Over 14 years, LFB had deployed a number of different geographical information systems (GIS), many using different data-sets in different formats. John and his team were in the process of streamlining their data management and creating a single, authoritative set of geospatial data so that all of the LFB shared the same comprehensive and up-to-date view. In time, this would support a move to a single, web-based GIS system for every station, appliance and staff member.

The team used Safe Software's FME application to support its ETL (Extract, Transform, Load) processes as they created their single, central data-set. 1Spatial, 1Spatial, a leading, global Platinum Partner and Authorised Partner for Safe Software provides FME support and training to LFB.

During a training course, 1Spatial suggested using FME to automate the process of updating inter-station travel times.

❝ It was relatively simple to write an automated query in FME that could be run on demand," says John. "Having written it, we can now update the information whenever we like, without incurring a lot of time and cost. We have reduced the time required from 40 working hours every time to just a couple. ❞

The potential for manual error has also been eliminated.

As a result, travel times can be updated monthly to reflect the impact of roadworks, changed road layouts, etc. This ensures that staff transfers can be managed as efficiently as possible.

"We've been gradually realising the power of FME," explains John. "We're beginning to use it for everything data-related, not just for spatial data but for Excel data, SQL Server queries, and everything in between."

Leveraging data

"1Spatial are great to work with," says John. "They are always responsive and very supportive." As a result, the team is increasing its use of FME, automating repetitive tasks and simplifying data-management tasks. By lowering the level of technical skill required for some tasks, data experts have more time to devote to other projects that support LFB's goal of making the city safer.

"Just when we think we've mastered it, we find new functionality in FME. I'm constantly surprised by its capabilities," says John.

Sharing data

FME is an ideal tool for managing the translation of data into different formats. John's team uses it to share data with other stakeholders such as the Metropolitan Police, other emergency services and regional fire brigades.

Easier data sharing means that LFB can more easily support local initiatives like Southwark Council's Arson Task Force.

Similarly, FME simplifies the task of responding to Freedom of Information (FOI) requests.

❝ We have lots of projects on the horizon," John explains. I'd like to increase the use of FME across the organisation. ❞
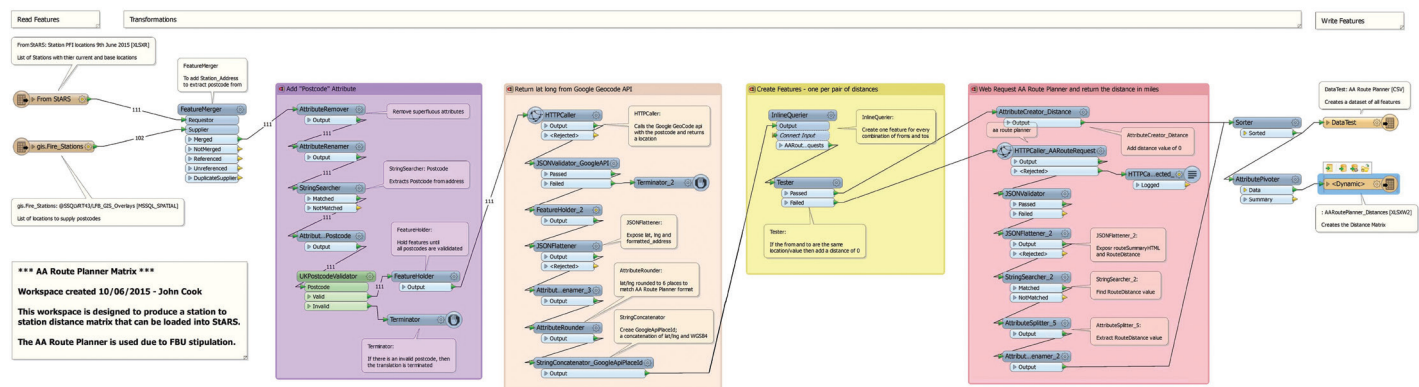

Image 1: AA Route Planner Matrix Workspace within FME

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