

Integrated risk management at the Royal Berkshire Fire and Rescue Service

For more information, visit our website at
www.ordnancesurvey.co.uk
or contact us:

Ordnance Survey
Romsey Road
SOUTHAMPTON
SO16 4GU

Business Customer Enquiries: 023 8030 5030

Fax: 023 8079 2615

Welsh HelpLine: 08456 05 05 04

Textphone: 023 8079 2906

(Deaf and hard of hearing users only please)

Email: customerservices@ordnancesurvey.co.uk

Ordnance Survey, the OS Symbol, OS MasterMap and TOID are registered trademarks of Ordnance Survey, the national mapping agency of Great Britain.
Cadcorp SIS and Spatial Information System are registered trademarks of Computer Aided Development Corporation Ltd.

Photographs courtesy of Royal Berkshire Fire and Rescue service

D03322 02/05



Fire and rescue services are required to produce an Integrated Risk Management Plan (IRMP) as part of the Government's drive to reform services. Part of these modernisation programmes must identify where improvements to community safety can be made without compromising on emergency response times. The Royal Berkshire Fire and Rescue Service (RBFRS) is making wide-scale use of geographical information systems (GIS) to underpin detailed analyses of previous incidents and to assess potential fire risks, for more effective and efficient allocation of resources.

The challenge

Prior to its IRMP, the RBFRS analysed incident trends using two principles: fire cover zones and best value. Fire cover zones involved the identification of those areas immediately around a blaze, while best value sought continuous improvement concerning economy, efficiency and effectiveness. While both sets of guidelines assisted planning and performance management, they did not provide enough evidence to secure extra resources or funding, essential considerations under the IRMP guidelines. The IRMP must review, research and implement improvements to community safety, developing a system that can analyse incidents and identify trends to streamline the allocation of resources.

The solution

The RBFRS uses OS MasterMap® alongside its own data in a GIS for a more detailed and focused analysis of incidents. The Cadcorp SIS® Spatial Information System® digital mapping and GIS software helps to deliver the right resources at the right time, while nurturing a proactive culture of fire prevention.

The GIS uses six years' worth of incident data, combining census information with mapping for analysis in three categories of risk: **actual**, **potential** and **cover**. To estimate how quickly incidents can be reached, **cover** calculates travel times from each station to locations in their output area. This provides a measure of the resources required against the currently available number of appliances (such as ambulances and aerial platforms).

Output areas found to have high **actual** or **potential** risk are then assigned specific resource **cover**. Cadcorp SIS determines which resources can be reallocated to community fire safety with minimal impact on the cover required. The location of output areas is assisted by OS MasterMap's Address Layer, which provides precise coordinates for more than 26 million residential and commercial properties in Great Britain.

The Cadcorp SIS application is split into five areas of operation: unitaries, appliance data, incident data, building and IRMP. It provides the region's six unitary authorities – Wokingham, Windsor and Maidenhead, West Berkshire, Slough, Reading, and Bracknell Forest – with access to data about all fires across the county in list and map form. They can also interrogate incident and emergency call data for every fire station in the region. If a set number of alerts is exceeded, the relevant Community Safety Office is informed. This demonstrates the dynamic response that is made as a direct result of the new systems.

The RBFRS can analyse incident data down to individual buildings or road segments and cross-reference related datasets. Making use of the unique identifier (TOID®) allocated to every feature in each layer of OS MasterMap, the location of alarm activations can be attributed to a specific building.

Furthermore, users can see the distribution of defibrillation units across the county's co-responder stations and access details of call-outs by road and aerial platform units. The location and details of road traffic accidents are also available, and motorway incidents can be more closely monitored by splitting the region's road network into unit-specific sections.

The next phase of the IRMP will make wider use of Cadcorp SIS and OS MasterMap and focus on the highest-risk categories: deliberate blazes, road traffic accidents and dwelling fires.

'Identifying the pattern and nature of emergency incidents is essential to thinking clearly on how to tackle them; Cadcorp SIS, combining Ordnance Survey's and our own data, helps us determine our actions and evaluate how successful they are.'
Iain Cox, Chief Fire Officer, Royal Berkshire Fire & Rescue Service

Benefits

- develops community safety solutions while allocating resources to high-risk areas;
- pinpoints incident scenes to a greater degree of accuracy;
- identifies incident trends and patterns using six years of archive data;
- analyses data according to actual, potential and cover risks;
- enhances decision making for the region's six unitary authorities;
- joins up information sharing across stations prior to the introduction of regional command and control centres;
- analyses the effectiveness of existing fire cover zones and best-value measurements;
- reallocates resources and funding to community fire safety without compromising on fire cover;
- verifies and extends existing building data using Fire Service Emergency Cover (FSEC) risk categories and valuation data;
- helps assess the number of automatic fire alarms retrospectively to produce Best Value Performance Indicators for 2005/06;
- assists the FSEC Project through the provision of motorways data; and
- improves collaboration across larger areas for more efficient and effective use of resources while allocating services locally.

