

Simon Imbert explores how Crimestoppers and others, including the West Midlands Violence Reduction Unit and a number of police forces, are using digital mapping tools not just to interpret data, but to turn information into knowledge, understanding and actionable insight.



Simon Imbert is Public Safety Manager at Esri UK.

Intelligent evidence

There was good news from the Home Office in December 2021, when it announced that policing will receive a funding boost of more than £1.1 billion this year to help drive down crime.

Along with the recruitment of additional officers these are certainly positive steps for the policing authorities. But law enforcement agencies are facing an increasingly burdensome challenge relating to the amount of information and data they are responsible for managing, making sense of, and using productively.

Progress in technology and computing power has led to an explosion of data. Police forces have always had far too much data to manage – complex data from different repositories, from 101 call data to complaints against officers. It is only by visualising this data and introducing context from fusing data with other intelligence sources, such as the Office for National Statistics (ONS) Neighbourhood Statistics, that you can reveal patterns, trends and relationships that singular reports cannot show. Integrating data from multiple sources produces more consistent, more accurate and more useful information.

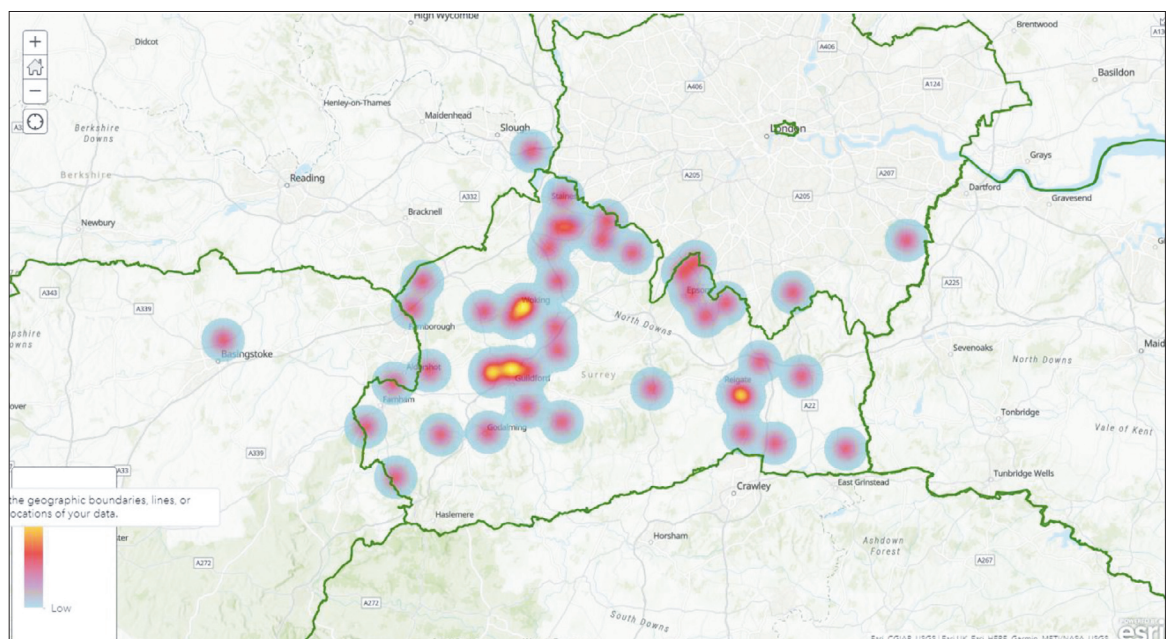
This is the power of digital mapping technology – or for the more technically minded, working with GIS (Geographical Information System) – showing what is happening where, when and to whom. This gives multiple stakeholders the opportunity to interact and engage with the analysis and evidence.

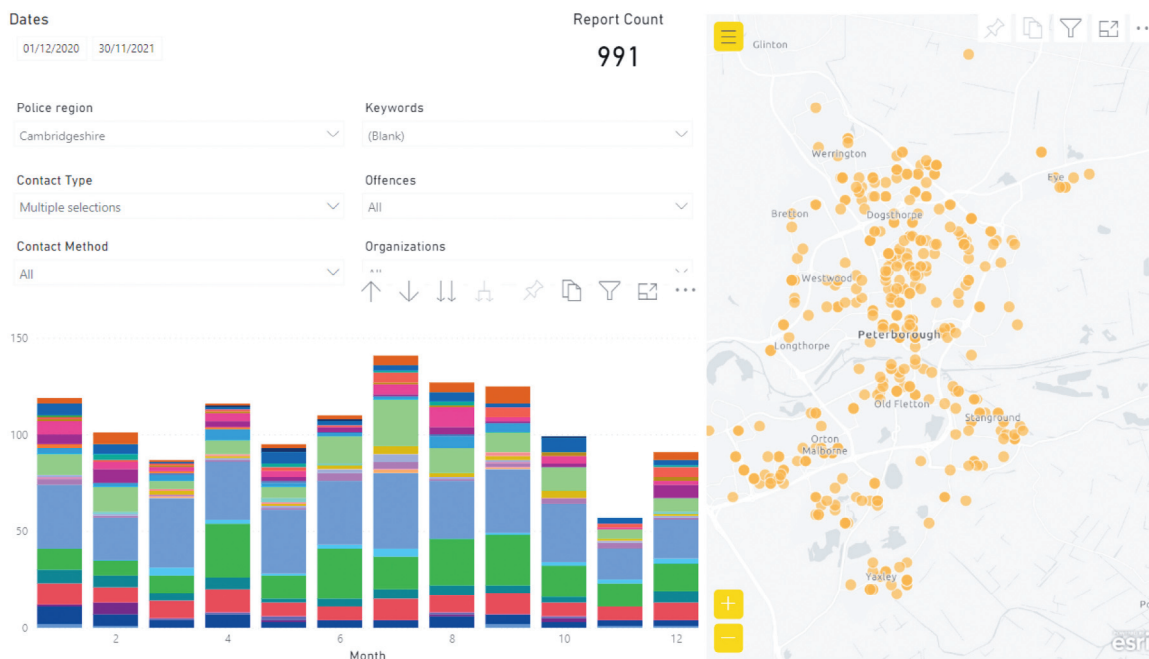
Crimestoppers' approach

An important source of crime data comes from Crimestoppers. The charity provides an anonymous and convenient way for members of the public to pass on information about criminal activity to law enforcement organisations, enabling them to investigate crimes and bring people to justice. Since 2013 it has been working with Esri UK, using its GIS technology to capture the precise locations of incidents and present information on digital maps.

The location of the crime is one of the most vital details that Crimestoppers needs to capture when it receives a call from a member of the public. Accurate information about where an incident or crime took place, or where a criminal was sighted, makes a report of much greater value.

Cloud-based GIS is integrated into Crimestoppers' contact centre operations so, when





Digital mapping – left, a Crimestoppers ‘dashboard map’ and, opposite page, the charity’s ‘hotspots map’.

people provide location information, the charity’s trained call handlers can click on an online map to pinpoint the crime scene. This accurate location reference is automatically attached to the incident record, for later reference and analysis.

It is the granular level of detail that is so powerful. If there has been an incident or report in an underpass, for example, the location reference will be shown on a specific side of the underpass, or flyover.

Esri’s GIS software has also been used by Crimestoppers for marketing purposes, to boost general crime awareness campaigns. The Cannabis Cultivation Story Map was created for the cannabis cultivation awareness campaign and displayed historical National Police Chiefs’ Council data of cannabis cultivation in the UK and, more recently, there was a Story Map of the UK’s most wanted fugitives believed to be hiding in Spain, to support Operation Captura. This was even published online by *The Telegraph*, receiving thousands of views.

Sharing information and data

It is not just Crimestoppers that is using GIS tools such as Story Maps to share information and data. The West Midlands Violence Reduction Unit is working hard to reduce and prevent violence across West Midlands communities by taking a public health approach, putting evidence at the heart of policy decisions.

It uses Esri’s ArcGIS to provide interactive maps, Story Maps, apps and dashboards to bring data to life, and give police, local authorities and health

professionals more opportunities to interact and engage with the analysis and evidence.

In other parts of the country, police forces are starting to collaborate on joint systems to share data assets. Under the auspices of the Police Digital Service, one force has created its own ‘Data Lake’, a centralised data repository storing all structured and unstructured data. A multitude of analytics can be performed from data visualisations to big data processing with secure, different levels of access, granted to authorised teams or individuals.

Developing technologies such as artificial intelligence (AI) and machine learning are rapidly progressing fields, and the intersection of AI and GIS is already creating new opportunities for data exploitation that were not possible before now. For the law enforcement community, this means being able to understand crime patterns in greater depth and solve and predict crimes, vital with the emergence of County Lines, for example. Being able to mitigate against the impact of gangs using young people to transport drugs, for sexual exploitation or money laundering, helps build resilience in communities and protect children and young people.

In conclusion, you could say that digital mapping technology directly supports the Peelian principles – the principles of policing developed in the 19th century.

Sir Robert Peel developed this philosophy to define an ethical police force: “Whether the police are effective is not measured on the number of arrests, but on the lack of crime.”