Technologies – step two

Choosing technologies for hot spots policing.

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Summary

- New technologies have made it more possible to use hot spots policing strategies.
- Ensure technology is in place before beginning a hot spots policing programme.
- Technology for geo-fencing (virtual drawing of a boundary around a hot spot) is necessary for tracking police officers using other devices.
- Forces prefer to track officers using applications on force-issued mobile devices. Other technologies present issues with accuracy, infrastructure, availability and resource intensity. These include technologies for vehicle and radio tracking, handheld global positioning systems (GPS) and body-worn cameras.

How technology can support hot spots policing

New technologies have significantly increased the feasibility of implementing hot spots policing strategies.

Technology is useful for identifying hot spots and planning tasks. For example:

- targeting the 'hottest' hot spots in force areas
- mapping hot spots to provide optimal journey times between 15-minute patrols
- scheduling officers for patrol tasks on dates and times
- generating daily taskings of patrol locations
- producing a report on individual hot spots, with time-of-day distributions of crime and/or harm
- linking crime trends in hot spots to patrol presence for discussion and planning
- providing 3D maps of crime and/or harm across the force area and down to local levels

Technology can also support with ensuring implementation is going to plan. For example:

- obtaining relevant data on the impact of hot spot policing

- tracking whether officers attended the hot spot
- tracking specific officers' time in each hot spot
- generating exception reports, showing when taskings were not performed

Timing is an important consideration when introducing technology to hot spots policing programmes.

Some forces have trialled launching hot spots policing first and managing technology later. Some have had success with this approach, but they are in the minority. Often, technological failure is the direct cause of the failure of hot spots policing. This is not only a technical issue. It can also lead to user frustration, negative perceptions of hot spots policing and rejection of the benefits that hot spots policing can bring.

Three areas where technology can support hot spots policing are:

1. **targeting hot spots**
2. **tracking places – geo-fencing hot spot boundaries**
3. **tracking officers**

Targeting hot spots

Firstly, find software that allows you to map crime data.

Mapping crime data helps to identify:

- crime hot spots
- times when crime takes place

Digital tools for analysis have developed over time. Now, borders are adjustable to create urban areas of different sizes.

Tracking places – geo-fencing hot spot boundaries

Officers must visit and stay in the planned hot spots for a programme to be successful.

- **Find out more about planning an approach**

Some forces use tracking to understand if this is happening.

All tracking solutions for identifying officer locations rely on geo-fencing technology. Geo-fencing is the virtual drawing of a boundary around a hot spot. Using the geo-fenced area, a further tracking solution shows how long officers have spent in the hot spot.

- **See more about tracking officers**

Early technologies for drawing geo-fenced boundaries around hot spots were challenging and time-consuming. Newer systems make it easier to set and change geo-fencing boundaries. Technology continues to improve. Forces should consider scanning the market for the most reliable and flexible geo-fencing tools.

Tracking officers

A wide range of technology is available to track officers.

A review showed that forces in England and Wales track officers carrying out hot spots policing through the use of:

- airwave radios
- in-vehicle and standalone GPS devices
- body-worn camera recordings
- force-issued mobile applications

Some forces also use technology to assess activities performed at hot spots. However, use of this technology is currently uncommon.

App-based tracking

App-based tracking on force-issued work phones had the most support from forces. Applications can export data files that identify patrolling officers by their collar number. These can map an officer's patrol when imported into other software.

Officers activate the application when patrolling a hot spot. The hot spots team can then access patrolling officers':

- date and time
- location
- speed
- direction

This solution has been fully developed by several forces. Some forces had initial deployment issues, both technical and user related. For example, some found that phones in low power mode were set to disable applications. This included app-based tracking.

Officers' locations also continue to record while the application is running. This means the system relies on officers remembering to switch the application off after their patrol.

App-based tracking was preferred by forces because it:

- has relatively simple functionality
- is intuitive to use
- is installed on a multi-functional work-issued device and is less likely to be left behind in police vehicles
- provides more accurate data

Vehicle tracking

Vehicle tracking is less useful for monitoring hot spots policing. This is because hot spots policing is usually done on foot patrol.

However, it can be helpful where foot patrol is not possible. For example, in rural areas.

Radio tracking

Airwave radio provides a similar option to vehicle GPS tracking.

Airwave radios are set to a default that broadcasts their location either:

- every two to five minutes (referred to as the ping rate)
- when officers move by a specified amount

Radio tracking can be more useful than vehicle tracking because it can track the route of foot patrols more closely. This data can be overlaid onto a map.

Practical issues with radio tracking include the following.

- Many forces experience dead spots where signal strength is unreliable.
- Devices search for the nearest masts, so officers can appear in misleading locations.
- Officers can disappear from tracking altogether.
- Increasing the ping rate is sometimes necessary in densely populated areas. This can impact the battery life of radio systems.

Handheld GPS

Handheld GPS devices provide another tracking option. These are more accurate than other GPS-enabled devices, such as police radios. This is because they are designed to track the holder.

Several forces have experimented with handheld GPS devices, but logistical challenges made them an unattractive option. Problems include:

- the decision to individually issue or organise pool devices
- the need for devices to be recharged
- devices accidentally being taken home or forgotten about and left in a locker or vehicle

Body-worn cameras

Several forces have experimented with body-worn cameras to track officers' locations. Footage is reviewed to visually identify where officers were patrolling.

The resource required to do this is a significant barrier, so body-worn cameras were not commonly used by forces for hot spots policing.

Forces found some incidental benefits when using body-worn cameras. For example, supervisors could review the quality of any engagement their officers had with a member of the public.

Tags

Hot spots policing Crime reduction