

Panic on the streets of London

The terrorist attacks of 7 July 2005 resulted in a very large redeployment of police officers to central London boroughs. New research by **Mirko Draca**, **Stephen Machin** and **Robert Witt** looks at the impact of this increased security presence on criminal activity in the weeks and months after the bomb blasts.

Increasing police resources is often perceived as a primary tool for reducing crime – but there is little hard evidence showing that more police do in fact reduce crime. The main reason for this is that it has been difficult to disentangle the causal relationship between the two: higher crime usually means more police and *vice versa*.

As a result, it is difficult for governments and observers of public policy to evaluate the effectiveness of increasing police resources in comparison with other possible causes of falling crime rates, such as increased incarceration rates and improved economic conditions.

This problem has led researchers to consider the impact of unexpected changes in police deployment on crime rates. These types of changes are often characterised as ‘natural experiments’ – a research design based on events, which

tries to reproduce the conditions of a scientific experiment without the pre-design that is available in controlled laboratory conditions.

For example, our research looks at police activity in central London in the wake of the 7 July 2005 terrorist attacks. Police deployment increased by over 30% in the six weeks immediately following the bombings, and the massive scale of this response provides a good opportunity to examine the causal relationship between the number of police deployed and the crime rate.

Specifically, our research investigates what the heightened security presence did to criminal activity in the five London boroughs that were hit. The central finding is that crime fell significantly in these places relative to outer London in the six weeks immediately after the attacks. Furthermore, crime appears to be highly responsive to higher police

deployment – we calculate that a 10% increase in police deployment reduces the crime rate by approximately 3%.

7/7 as a natural experiment

As will be familiar to most readers, London’s public transport system was subject to two waves of attacks in July 2005. The first wave occurred on 7 July and involved the detonation of four bombs. Three bombs were detonated on London Underground trains near the stations of Russell Square (in the borough of Camden), Liverpool Street (Tower Hamlets) and Edgware Road (Kensington and Chelsea). A fourth bomb was detonated on a bus in Tavistock Square, Bloomsbury (Camden).

The second wave of attacks occurred two weeks later on 21 July and involved four unsuccessful attempts at detonating bombs on trains near the stations of Shepherds Bush (Kensington and

Table 1:

Police deployment and crime rates before and after the 7/7 attacks, borough level

	Police deployment (Hours worked per 1,000 population)			Crime rate (Crimes per 1,000 population)		
	Pre-period: 8 July 2004 to 31 December 2004	Post-period: 7 July 2005 to 31 December 2005	Difference	Pre-period: 8 July 2004 to 31 December 2004	Post-period: 7 July 2005 to 31 December 2005	Difference
Central London ‘treatment’ boroughs	171.41	190.34	+18.93	4.26	3.88	-0.38
Outer London ‘control’ boroughs	84.19	85.40	+1.21	2.20	2.16	-0.04

Note: The central London ‘treatment’ boroughs are Camden, Islington, Kensington and Chelsea, Tower Hamlets and Westminster. Police deployment is defined as total weekly hours worked by police staff at borough-level.

Chelsea), the Oval (Lambeth) and Warren Street (Westminster), and on a bus in Bethnal Green (Tower Hamlets). This second wave of attacks caused much turmoil in London.

The bomb attacks took place in five boroughs in central London and we have used these parts of the capital as the 'treatment' areas that were most affected in terms of a heightened security presence. We also need a set of control areas against which we can benchmark the observed changes in the treatment boroughs. We therefore use other boroughs located in outer London as the comparison group. Figure 1 shows the 32 London boroughs, picking out the five in the treatment group.

Basic street-level policing of London is carried out by 33 borough operational command units, which operate within the same boundaries as the 32 London borough councils plus one dedicated to Heathrow Airport. Our data are constituted of daily police reports of crime from the London Metropolitan Police Service before and after the attacks. They cover the period 1 January 2004 to 31 December 2005, aggregated up from

ward to borough level and from days to weeks over the two-year period.

The impact of increased police deployment

Table 1 reports police deployment and crime rates before and after the attacks. Note that in this part of the analysis, we define the post-attack period as the whole period from the 7/7 attacks until the very end of 2005. So what do the data reveal?

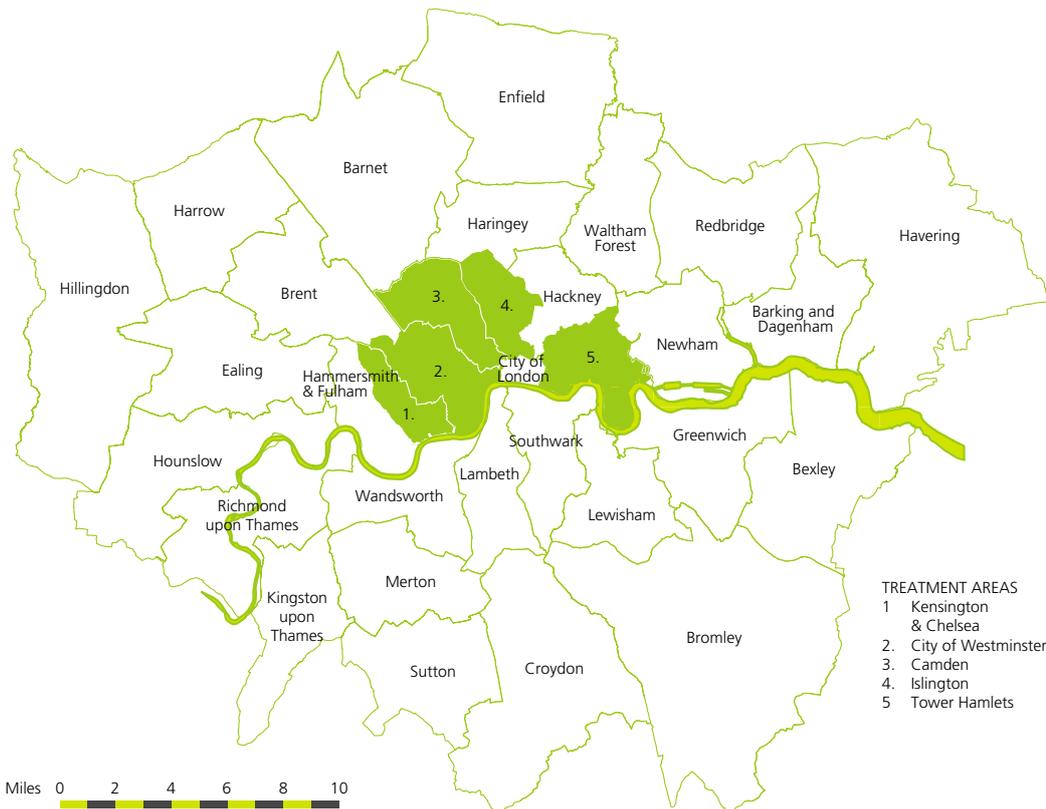
Before the attacks, the hours worked by the police per head of population were higher in the central London treatment boroughs: 171.41 hours per 1,000 people compared with about half that in the control boroughs. After the attacks, deployment levels remained much the same in the control areas (85 hours per 1,000 people compared with 84 the year before) but rose very rapidly in central London: by 19 hours per 1,000 people, an increase of 11% over the level in the previous year.

The patterns of change in the total crime rate are similar. As with deployment, the crime rate was higher in central London before the attacks at 4.3

Crime fell significantly in central London relative to outer London in the six weeks after 7 July



Figure 1:
A map of London boroughs





This article summarises 'Panic on the Streets of London: Police, Crime and the July 2005 Terror Attacks' by Mirko Draca, Stephen Machin and Robert Witt, a forthcoming CEP Discussion Paper.

Mirko Draca is a research economist in CEP's productivity and innovation programme. **Stephen Machin** is CEP's research director. **Robert Witt** is at the University of Surrey.

crimes per 1,000 people compared with 2.2 per 1,000 in the control boroughs. After the attacks, the crime rate changed very little in outer London, but in central London, crime fell very sharply to 3.9 crimes per 1,000 people, a 7% fall in the crime rate.

Our basic analysis strongly suggests that increased police presence after the London bomb attacks was linked to reduced crime levels. But there are several reasons why reaching this conclusion may be premature. There may be missing factors that determine crime, for example, the number of potential crime victims might have fallen after the attacks occurred (with fewer people travelling into central London) and this, rather than increased police presence, could have been the key driving factor.

Our more detailed analysis deals with some of these possibilities. For example, throughout the rest of 2005 after the attacks, police deployment in central London was about 8.5% higher than before. But levels of deployment were actually much higher in the six weeks after 7/7 at 34% higher. Between the end of August and December 2005, police deployment levels fell back to their pre-attack levels.

Crime fell significantly after 7/7 at an average of 6.3% over the remaining weeks of 2005. But again, as with police deployment, there was significant variation across the first six weeks and the rest of the year. The data show a 12%

lower crime rate in the six weeks following 7/7 – the period when the heightened security presence occurred – and a smaller 4.5% lower level in the remaining weeks of the year.

The respective timings of the increase in police deployment and the fall in crime very much suggest that the increased security presence lowered crime. When the estimates for police deployment and crime are considered together, they suggest that a 10% increase in police activity reduces crime by around 3%.

The results so far show a significant causal impact of police on crime. But it seems reasonable to think that particular types of crime are more likely to have fallen. We can thus look at different crime types to provide a reality check on our results. The results (reported in our forthcoming CEP working paper) are reassuring. For public thefts and violent crime (two types of crime where we would expect increased police presence in central London to have an impact), there were significant reductions in crime after the attacks.

What's more, the effect was bigger in the six weeks in which the increase in police deployment was concentrated, providing further verification of our main hypothesis. Analysis of borough-specific effects also shows that crime fell significantly in all of the affected boroughs, with stronger effects evident in Westminster and Tower Hamlets.

These findings suggest that a 10% increase in police activity reduces crime by around 3%