Assessing the impact of CCTV

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Research Development and Statistics Directorate exists to improve policy making, decision taking and practice in support of the Home Office purpose and aims, to provide the public and Parliament with information necessary for informed debate and to publish information for future use.
This study represents a major advance in our knowledge about CCTV. No previous research has examined in such detail the issues faced in ensuring effective operation of CCTV systems. The authors have undertaken a painstaking analysis of the effectiveness of systems, both with respect to the impact on crime as recorded by the police and wider measures based on victimisation rates, fear of crime and other information collected via local surveys. The authors have demonstrated that while CCTV can be a powerful tool in combating crime, it has to be recognised that the contexts in which CCTV systems operate are very variable, as are the systems themselves. CCTV can appear to be a simple measure to implement, but this is far from being the case in reality. This report, together with its associated reports, provides invaluable information to assist in developing the full potential of CCTV systems.

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Assessing the impact of CCTV

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Executive summary

Aims and Methods

This report evaluates 13 Closed Circuit Television Camera (CCTV) projects (comprising 14 separate systems) implemented in a range of contexts, including town centres, city centres, car parks, hospitals and residential areas. The projects were funded under Phase 2 of the Home Office CCTV Initiative. The research covered a number of different aspects:

- Police recorded crime statistics were used to measure changes in levels of crime in the intervention areas and in comparable control areas before and after the CCTV systems were installed. Where appropriate, changes in crime patterns in the surrounding areas were also assessed, in order to measure any displacement or diffusion of benefit effects.

- Public attitude surveys were conducted in 12 areas to assess changes in public perceptions of CCTV in the intervention areas and comparable control areas before and after the installation of CCTV. These included residential in-home surveys and town/city centre in-street surveys.

- Researchers identified other crime reduction initiatives operating within the intervention and control areas, so that it could be assessed to what extent these offered alternative explanations for changes in crime levels.

- Information was gathered on the process by which the project designers chose CCTV, and account was taken of the extent to which CCTV was evaluated as a means of addressing local problems.

- The technical specification and design as well as the process of implementing and installing the CCTV systems were examined.

- Control room operations, including working relationships with external agencies such as the police, and control room management were assessed.

- The economic impact of each CCTV system was assessed.
The main objective of the crime data analysis was to measure the impact of the CCTV projects on crime and fear of crime. For the analysis a quasi-experimental model was adopted and the aim was as far as possible to achieve Level 3 of the Maryland Scientific Methods Scale (Sherman et al. 2002). This requires a measurement of change in the incidence of crime before and after the installation of CCTV in both an intervention area (referred to henceforward as the ‘target area’), and a control area. Furthermore, the analysis aimed to measure change for a significant length of time following implementation. The crime data analysis suffered, however, from implementation delays and failures, the lack of a suitable control, and limited access to data, which in some cases rendered it less robust than planned.

Impact on crime

- All the systems had the broad objective of reducing crime. Out of the 13 systems' evaluated six showed a relatively substantial reduction in crime in the target area compared with the control area, but only two showed a statistically significant reduction relative to the control, and in one of these cases the change could be explained by the presence of confounding variables. Crime increased in seven areas but this could not be attributed to CCTV. The findings in these seven areas were inconclusive as a range of variables could account for the changes in crime levels, including fluctuations in crime rates caused by seasonal, divisional and national trends and additional initiatives.

- A number of quantifiable aspects of systems, which could have explained the impact measured were investigated and it was found that certain types of system were more effective than others:

  - Systems installed in a mixed category of areas (e.g. car parks, a hospital and various other areas covered by one system) displayed the most encouraging results in terms of reduction in crime, particularly in car parks.

  - Town centre and residential systems showed varied results, with crime going down in some areas and up in others.

  - Residential redeployable schemes appeared to show no long-term reduction in crime levels. However, the cameras were dealing with short-term problems, which require sensitive measures to detect the impact of the cameras.

1 No police recorded crime statistics were available for Westcap Estate, hence crime levels were analysed for 13 of the 14 systems.
• Certain types of offence were affected more than others:
  - Impulsive crimes (e.g. alcohol-related crimes) were less likely to be reduced than premeditated crime (e.g. theft of motor vehicles).
  - Violence against the person rose and theft of motor vehicles fell in the target areas in accordance with national trends in recorded crime.

• Some system attributes had more effect than others:
  - Camera coverage was positively correlated ($r = 0.51$) to effect size. However, this was not statistically significant ($p < .05$).
  - Increased camera density (numbers of cameras installed per unit area) was related to effect size only where the number of cameras installed in an area had not reached saturation point.
  - There are indications that CCTV is more effective in sites with limited and controlled access points, such as entrances and exits to the area.

• Spatial displacement was not common but did occur:
  - One system showed evidence of displacement of overall crime into the surrounding area.
  - Another showed displacement of burglary into the surrounding area.
  - Another showed displacement of vehicle crime into the gaps in coverage between cameras.
  - None of the factors outlined above determine exactly how well a system will work, but they can work together to reduce crime.

2 Unless stated otherwise, the statistical significance level used throughout the report is $p < .05$. 
Public attitudes to CCTV following implementation

- Public attitude surveys were carried out before and after the installation of CCTV in 12 different areas: nine residential estates and three city/town centres. The surveys covered five main issues:

Awareness of cameras
- Individuals were usually aware of cameras in their area; levels of awareness ranged from 61 to 97 per cent and were highest in small residential areas. Public awareness of CCTV increased as the number of cameras per unit area increased; \( r = 0.32 \) (not statistically significant).

Worry about being a victim of crime
- Members of the public worried less about becoming victims of crime in the intervention area following the installation of CCTV, but this was statistically significant in only three areas. Worry about being affected by crime declined significantly more than in the control area in just two areas.

- Changes in worry about crime did not appear to be affected by type of area.

- Respondents who were aware of the cameras actually worried more often about becoming a victim of crime than those who were unaware of them. Knowing that cameras were installed in an area did not necessarily lead to a reinforced feeling of security among respondents.

Feelings of safety
- Feelings of safety increased in all but one of the areas surveyed following CCTV installation. In three areas the increase in feelings of safety was greater than in the control area. However, none of the results was statistically significant.

Reported victimisation
- Eight schemes led to a reduction in the percentage of respondents who reported having been victims of crime after, compared with before, the installation of CCTV. Four of these eight recorded a larger reduction in victimisation than the control. However, none of the data were statistically significant.
In six residential areas the number of reported incidents increased or decreased in line with changes in recorded crime levels generally, so tending to confirm the reliability of the recorded crime data.

- Victimisation did not appear to be affected by the type of area the CCTV system was installed in.

- Worry about being a victim of crime declined in seven areas in step with a reduction in reported victimisation. This suggests that worry about being a victim of crime was directly related to crime levels, rather than the mere presence of the cameras.

**Changes in behaviour**

- Respondents rarely changed their behaviour following the installation of CCTV: across the areas surveyed only from two to seven per cent visited places they had previously avoided. This is substantially fewer than the 15 per cent of pre-implementation respondents who thought that CCTV would encourage them to visit places they avoided.

- The presence of CCTV did not discourage people from visiting places. Only one per cent of respondents said they avoided places once CCTV had been installed.

**Support for CCTV**

- The proportion of respondents happy or very happy about having cameras in their area declined in nine areas following their installation; in five of these the reduction was statistically significant. However, the level of support of CCTV remained high at over 70 per cent of the sample in all but one area.

- Concerns regarding the implication for civil liberties decreased slightly following the implementation of CCTV. Whereas 17 per cent of respondents expressed such concern prior to its installation, this declined from two to seven percentage points post CCTV installation.

**Perceived effectiveness of CCTV**

- In residential areas, the proportion of those who perceived the impact of CCTV to be positive decreased following its installation in all the areas surveyed:
Respondents were less likely to think that people reported more incidents to the police once CCTV was installed, although in all cases over a third of respondents thought that this was the case.

They were less likely to think that the police responded more quickly to incidents following CCTV installation, although the proportion of respondents who thought that this occurred varied from 12 per cent to 60 per cent.

They were less likely to think that crime had got lower following installation of CCTV, although 27 to 70 per cent thought that it had.

**What factors influence CCTV’s operation?**

- The characteristics that determine whether a CCTV system meets its objectives fall under five headings: scheme objectives, management, density, camera coverage and positioning, technical characteristics and operation of the control room. It was not possible to identify a link between the outcomes and the characteristics identified because the key characteristics had a bearing in various degrees on all the areas surveyed, and the presence of any one characteristic was not linked to an outcome. The key characteristics are discussed below:

**Project objectives**

- Many projects did not have clear objectives. Partly this reflected an uncritical view that CCTV was ‘a good thing’ and that specific objectives were unnecessary. It also typified a lack of understanding of what effects CCTV could achieve and the types of problems it was best suited to alleviate.

- Installation of CCTV created demands by neighbouring town centres to ‘catch-up’ with systems of their own. The claimed successes of existing projects reinforced these demands and relieved planners of the need to consider other alternatives.

- The existence of funding for CCTV created pressure to bid for it, often in the absence of reliable intelligence indicating where CCTV would be likely to have most effect. Where statistics were gathered, they were sometimes inexpertly produced or were even distorted, having being compiled to support a bid.
**Management**

- A scheme must be properly managed and this requires access to technical expertise, full engagement of end-users and the appointment of a suitable project manager.

- Many schemes relied too heavily on technical consultants whose work was not scrutinised, largely because no one had the qualification to question what was being done. Since a consultant was dispensed with in many cases, planners were unable to challenge the technical sales pitches of equipment suppliers.

- Some systems failed to engage properly with end-users, most notably the police. This might be as a result of a loss of interest in the system and reluctance to use the evidence supplied by the cameras. The police could also be reluctant to supply intelligence, which would be helpful in the monitoring process.

- A willing project manager was sometimes difficult to find – only five out of the 13 schemes appointed a manager with previous CCTV experience. Lack of interest and lack of knowledge on the part of project managers compromised the ability of schemes to meet their objectives.

**Density, camera coverage and positioning**

- As a result of the lack of guidance on how many cameras to bid for, the number and density of cameras varied widely between schemes. However, systems with a high density of cameras did not necessarily produce a greater reduction in crime.

- Similarly, the level of camera coverage varied. Too little coverage tends to prevent efforts to track offenders for detective and evidential purposes. Camera coverage is linked to camera positioning and needs to take account of the nature of the area to be monitored and the objectives of the CCTV system.

- Only seven of the 13 projects had a structured procedure for deciding the positioning of cameras. Police intelligence was invaluable when positioning decisions were taken, as (for extensions to existing schemes) was the input of the operators who were to monitor them. Operators sometimes found that the cameras were not positioned in the best way to enable them to perform the tasks that were set for them. Many errors in the positioning of cameras arose from over-reliance on the technical manager to the exclusion of other parties.
Technical characteristics

- The type of camera used and the way that it was mounted influenced whether a system was useful for live monitoring, for providing good quality retrospective evidence, for deterring would-be offenders, for reassuring the public, or for a combination of these. The systems used two types of camera, static or pan, tilt and zoom (PTZ), and these were either box or dome mounted.

- Designers preferred PTZ cameras, which were more likely to be monitored as operators could control their field of vision and therefore found them more interesting to operate. To ensure adequate coverage of an area required many PTZ cameras with overlapping fields of vision, which is an expensive option.

- A further advantage of PTZ cameras is that they can be seen to move, so they are better at reassuring the public. Whether they deter and detect crime is open to question; some cameras were programmed to ‘auto-tour’ an area and there was a consensus among operators and managers that offenders were unlikely to be deterred for long by such a set-up. Cameras on auto-tour also caused frustration when those reviewing recorded images found that the cameras had only recorded part of an incident before being trained somewhere else by the pre-programming.

- Some cameras were unable to cope with artificial lighting in the hours of darkness. Residential areas in particular often had inappropriate levels and types of lighting, which led to the cameras being regarded primarily as a deterrent and a reassurance to residents.

- The evaluation took place during a period when many system designers were switching from analogue to digital recording methods. Control rooms using digital technology often lacked confidence that they would obtain the full advantages that should accrue from faster searching and recording capabilities.

Operation of the control room

- Control room operation was an important determinant of a CCTV system’s ability to detect crime. The monitoring schedule is certainly an issue here: six of the 13 control rooms were staffed for less than 24 hours a day.

- The control rooms relied on intelligence and communication from the public about incidents in progress in order to direct surveillance. In practice, levels of incoming and outgoing communication were low.
The presence of a one-way or two-way police radio in the control room was found to be beneficial, enabling operators to locate incidents at least as quickly as did police officers, and to observe police intervention.

Another form of communication was the retail/pub radio schemes, which accounted for the reporting and observation of significant numbers of incidents.

Outward communication from the control room was assisted in some cases by the ability to patch images through to monitors in police CAD rooms and other locations within the police station.

Overall

The use of CCTV needs to be supported by a strategy outlining the objectives of the system and how these will be fulfilled. This needs to take account of local crime problems and prevention measures already in place.
The CCTV initiative was set up under the Home Office Crime Reduction Programme announced in 1998, and £170 million was made available for funding of a total of 684 CCTV projects. These have been installed in a wide range of locations, including car parks, town and city centres, and residential areas. This report sets out the main conclusions of a process and impact evaluation of 13 out of the 352 CCTV projects set up under Round Two of the initiative, and aims to show whether CCTV was effective in those cases.

This chapter defines CCTV and reviews previous research work on the subject. It moves on to discuss the effectiveness of CCTV judged by some key criteria, which points to the conclusion that as far as CCTV is concerned the jury is still out. The review identifies some gaps in research and this leads on to a discussion of the methodology employed for the present study.

What is CCTV?

Closed Circuit Television Cameras (CCTV) have become an important crime prevention and security measure. Cameras collect images, which are transferred to a monitor-recording device of some sort, where they are available to be watched, reviewed and/or stored. CCTV is a situational measure that enables a locale to be kept under surveillance remotely. This makes it possible for the police, and other law and regulatory agencies such as private security, to respond to incidents when alerted, and to have information about what to look for when they arrive. The storing of images means that post-incident analysis helpful to an investigation can be facilitated. However, there are many different types of CCTV systems and they have different capacities to meet a variety of objectives.

Despite the tendency within the criminological literature to discuss CCTV as if it were a single measure, CCTV systems can differ quite markedly. Cameras can be static (focusing on a single view), or can pan, tilt and zoom (moved by operators, or placed on 'lours' to survey a succession of scenes); they can be fixed (permanently installed in one location);
redeployable (moved around power points within an area), or mobile (placed in vehicles and transported to where they are needed); they can transmit analogue or digital images, via cable or wireless links. The images can be recorded in different ways with different implications for quality. The many methods of storing and manipulating images have different implications as regards the type and speed of monitoring that can be carried out. The availability of specialised uses, such as number plate and facial recognition, has generated yet more potential applications of this flexible technology.

CCTV systems may embody several of these technical features. There are a number of points that need to be highlighted here. First, the technical specification of a system may well impact on its effectiveness; this is a topic that has received little attention from criminological evaluators. Second, this is emerging technology, and assessments at any particular point in time need to take account of this. Third, technical considerations are an important element in the evaluation of systems. This does not mean that those evaluating CCTV need to be technical experts, but technical expertise does need to be consulted. In particular, it is crucial to clarify that the technical specification is consistent with the objectives set.

However, the technology is only one part of a CCTV system. No system can work without a control room, and there is wide variation in the way that these operate. They can be monitored full-time or for a limited number of hours a week, and by a dedicated operator or by one who has other duties besides CCTV monitoring. Staffing levels vary greatly, and so do the types of areas surveyed, including town centres, residential areas and car parks. There are also a range of control room cultures, management styles, and methods of communicating with the police. All of these factors, and others
text1, influence the way the control room operates.

Many systems also incorporate the installation, or improvement, of street lighting in their design and often such improvements are made at the same time as the cameras are installed. These are then treated as part of the scheme design rather than as confounding factors.

**What do we know about the impact of CCTV?**

There is a growing amount of literature on CCTV, which includes several CCTV magazines for professionals, and academic studies examining different aspects of CCTV (e.g. Gill, 2003; McCahill, 2002; Norris and Armstrong, 1999; Norris, et al. 1998). These studies add substantially to our understanding of how CCTV works, but none of them sets out to

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tackle the issue of effectiveness. Much of the public interest has been on the threat that CCTV poses to civil liberties, and concerns about 'big brother', and on understanding the role of surveillance more broadly.

However, the question of the effectiveness of CCTV has not been entirely ignored. Researchers have discussed the effects of CCTV in different environments. The problem for policy purposes, as summaries of these have shown (NACRO, 2002; Phillips, 1999; Welsh and Farrington, 2002) is that sometimes the effect is positive, sometimes negative, and sometimes neutral. Cost-effectiveness has been largely ignored. Moreover, we know little about why the impact appears so variable; there are no studies that have incorporated process and impact evaluations, presented findings in a way that enables the causes of success and failure to be articulated, or point out the lessons to be drawn. In the past, those who have funded research have set other priorities.

Nevertheless, the evaluations that have been undertaken have provided important insights (see Newburn and Hayman, 2002). Some of the salient findings are summarised here against some of the key objectives of CCTV.

**Does CCTV reduce crime?**

There is evidence that CCTV is more effective in some contexts than others, and certainly more effective against some types of crime than others. Generally speaking, property crimes seem more susceptible to the impact of CCTV (e.g. Brown, 1995) especially thefts from and of vehicles (e.g. Skinns, 1998; Tilley, 1993), while personal crimes such as assault are less likely to be influenced (Deismann, 2003). Welsh and Farrington’s (2002) review found that CCTV had no effect on crimes of violence, but a significant impact on vehicle crime.

A comprehensive review of the effect of CCTV on crime rates has been undertaken by Welsh and Farrington (2002). They reviewed 22 studies that met the minimum acceptable standards of the Campbell Collaboration (see, Farrington, 1997; Welsh and Farrington, 2002). Specifically, this lays down that studies must meet Level 3 of the Maryland Scientific Methods Scale (Sherman et al. 2002) and this requires a measurement of the incidence of crime before and after the installation of CCTV, in both a target and control area. Welsh and Farrington concluded that 11 showed a desirable effect on crime, five an undesirable effect, that no clear evidence of effect was apparent in another five, and that in one case it

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6 Clearly, an assessment of the attitudes towards the threat posed by CCTV to civil liberties may be informed by a better understanding about its effectiveness, including its cost-effectiveness.
was not possible to tell. The meta-analysis added the detail that of the 18 studies included, half showed a desirable effect and half did not.

The location and focus of the scheme were found to be important. Studies of the city centre and public housing (a somewhat strange merging of contexts) showed that CCTV had a small overall positive effect; approximately two per cent better in experimental areas than in control areas. On public transportation there was again a mixed message; overall there was a reduction in crime in experimental areas, but it was not significant, and of the four studies, one found no effect and another an undesirable effect. In car parks the findings were clearer; CCTV had a statistically significant effect, in that there was a 41 per cent reduction in vehicle crimes, although in all the studies other measures, such as street lighting, were in operation alongside CCTV. However, Welsh and Farrington (2002:45) offer qualifications of the tempting, but simplistic, conclusion that CCTV works better in car parks:

"... the success of the CCTV schemes in car parks was limited to a reduction in vehicle crimes (the only crime type measured) and all five schemes included other interventions, such as improved street lighting and notices about CCTV cameras. Conversely, the evaluations of CCTV schemes in city centres and public housing measured a much larger range of crime types and the schemes did not involve, with one exception, other interventions. These CCTV schemes, and those focused on public transport, had only a small effect on crime. Could it be that a package of interventions focused on a specific crime type is what made the CCTV-led schemes in car parks effective?"

Given what is known about the effectiveness of situational measures (see Ekblom, 1992), the answer to their question is almost certainly 'yes'. And Welsh and Farrington's (2002) work is not without its critics, not least given its focus on a narrow range of studies, which ignores qualitative work. Be that the case, the review of previous work does not offer conclusive evidence that CCTV on its own impacts positively on crime levels.

**Does CCTV reduce the fear of crime?**

This question is foremost in the minds of policy makers, but 'fear of crime' has a range of possible definitions (Farrall et al. 2000). While some studies define it in terms of 'feelings of safety' (see Hale, 1996), others are concerned with 'worry about being a victim of crime'.

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7 The 'public housing' schemes referred to here involve cameras being located inside and on buildings, monitoring the buildings themselves, rather than the area, as is the case with the present report.
(see Hale, 1996; Furstenburg, 1971). However, neither definition is perfect. Whilst feelings of safety can be influenced by a range of different factors, many of which are unaffected by crime, levels of worry are highly subjective and ‘worry’ can mean different things to different individuals.

More recent studies measuring public attitudes towards CCTV have been concerned mainly with public ‘feelings of safety’, but here too the findings are mixed. While some studies have concluded that CCTV does make people feel safer (Sarno et al., 1999), this is not necessarily the whole story. Ditton (2000) found that one of the main impacts was making those who already feel safe, feel even safer. Moreover, relatively low percentages say they would use public areas more as a consequence of feeling safer; 22 per cent after dark and eight per cent during the day in Bennett and Gelsthorpe’s (1996) study, and 15 per cent in both Ditton’s (2000) and Spriggs et al.’s (2005) work. But these results were not tested after the event.

In any event, in order to feel safe, people need to notice the cameras, and it seems that many do not (Ditton, 2002; Dixon et al. (forthcoming); Honess and Charman, 1992). Also, there is some evidence that a belief in the value of cameras in increasing feelings of safety is linked to generally positive views about CCTV (e.g. Spriggs et al., 2005).

**Does CCTV deter crime?**

Phillips (1999) underlined the need to demonstrate the deterrent effect of CCTV by publicising the risk it poses to offenders. But what do offenders think? Short and Ditton (1998) found some scope for optimism, in that some offenders said they were deterred and others resorted to less serious offences. Evidence from Gill and Loveday (2003) suggests that, in general, offenders take a blase attitude to appearing in court and do not perceive CCTV to be a serious problem. The one optimistic sign is that those who had been caught on camera were significantly more likely to view CCTV as a threat. Perhaps as more are caught on CCTV, and as offenders become aware of this, the threat it is seen to pose will increase. Understanding whether this will stop them offending or influence their behaviour in some other way must await further research.

**Does CCTV help in catching and prosecuting offenders?**

Early concerns that CCTV might become a substitute for police officers (Honess and Charman, 1992) do not appear to have been realised; indeed the public appear to favour
more police on the beat rather than CCTV when given a choice (Bennett and Gelsthorpe, 1996). Also, when police officers are asked about their views of CCTV they are very positive (Gerrard, 1999; Gill and Hemming, 2004; Levesley and Martin, 2005). Yet there is some evidence that this enthusiasm is not always matched by the officers' actions. Norris and McCahill (2003) noted that operators were not always native speakers and this limited the extent to which they could communicate with the police. And there have been practical difficulties in using images in court: both police and the parties involved in the prosecution of offenders are suffering from information overload. With over four million cameras (Norris and McCahill, 2003) processing information, this represents a real challenge for the future.

Does CCTV displace crime?

Displacement has long been the Achilles heel of situational measures, and CCTV is no exception (see Armstrong and Giulianotti, 1998). It is, however, unclear whether or not CCTV displaces crime (Brown, 1995; Ditton and Short, 1999; Wilson and Sutton, 2003). There is evidence that CCTV does displace offences, but this does not always mean that its effects overall have been negative (Burrows, 1979; Skinns, 1998). Commonly, there will be displacement of some crimes and not others. For example, Chainey (1999) found no displacement for street robberies, but there was displacement of motor vehicle crime. Recently, Flight et al. (2003) found minimal displacement.

Putting effectiveness in perspective

The one easy conclusion to derive from this review is that studies of CCTV have not been definitive about whether CCTV works and this is the case even though different criteria may be used to assess effectiveness. But there is a further problem in that the research points to possible successes and failures without explaining why these may have occurred.

This topic has not been ignored; research on mechanisms has adopted a scientific realism approach, rather than a quasi-experimental one. The focus is on explaining how ‘mechanisms,’ such as CCTV, work in ‘contexts’ suffering particular problems such as high crime levels to produce ‘outcomes’, such as greater feelings of safety or fewer offences (see Pawson and Tilley, 1997). Knowing how CCTV works is vital for developing ‘transferable lessons’ that enable good practice in one area to be repeated in another.

8 Full details of the methodology are given in Appendix A, and in the Technical Annex to this report (Gill et al., 2005c).
The mechanism, that is the process by which CCTV could and does bring about change, has been discussed in several studies. Listed below are a number of mechanisms, devised by Tilley (1993), which seek to explain how CCTV may work:

- **Caught in the act** – CCTV could reduce crime by increasing the likelihood that present offenders will be caught, stopped, removed, punished and therefore deterred.

- **You've been framed** – CCTV could reduce crime by deterring potential offenders who will not want to be observed by CCTV operators or have evidence against them captured on camera.

- **Nosy parker** – a reduction could take place because more natural surveillance is encouraged as more people use the area covered by CCTV. This may deter offenders who fear an increased risk of apprehension.

- **Effective deployment** – CCTV may facilitate the effective deployment of security staff and police officers to locations where suspicious behaviour is occurring. Their presence may deter offenders, or may mean they are caught in the act.

- **Publicity (general)** – this may assist in deterring offenders.

- **Publicity (specific)** – CCTV cameras and signs show people are taking crime seriously, and thus offenders may be deterred.

- **Time for crime** – CCTV may have less of an impact on crimes that can be done quickly as opposed to those that take a longer time, as offenders assume that they will have enough time to avoid the cameras, or to escape from police officers and security staff.

- **Memory jogging** – publicity about CCTV encourages potential victims to be more security conscious and to take precautionary measures.

- **Appeal to the cautious** – those who are more security-minded use the areas with CCTV, driving out the more careless who may be vulnerable to crime elsewhere.

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9 An extension to this mechanism; police, door staff and shop assistants were observed indicating the presence of CCTV to potential troublemakers, thus deterring them from committing an offence.