

## Summary of the Systematic Review

# Effects of Closed Circuit Television Surveillance (CCTV) in Reducing Crime

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### Authors and report:

B.C. Welsh, D.P. Farrington (2008): Effects of Closed Circuit Television Surveillance on Crime, Campbell Systematic Reviews, 2008:17  
<http://www.campbellcollaboration.org/>

**This summary is completely based on the referred report, although the text is slightly edited.**

### Background

Closed-circuit television (CCTV) is the use of video cameras to transmit a signal to a specific place, on a limited set of monitors often used for surveillance of areas that may need monitoring such as banks, casinos, airports, military installations, and convenience stores. The prevention of personal and property crime is among the primary objectives in public space, which is the main focus of this review. CCTV is viewed as a technique of “formal surveillance” and in this regard it is seen to enhance or take the place of security personnel. It is argued that CCTV may prevent crime because potential offenders are deterred by their increased subjective probability of detection. Also, CCTV may increase the true probability of detection, may increase pedestrian usage of places, may encourage potential victims to take security precautions, may direct police and security personnel to intervene to prevent crime, signal improvements in the area and hence increase community pride, community cohesion, and informal social control. CCTV could also cause crime to increase.

In recent years, its increasing use has triggered a debate also about security versus privacy. During this time there has been much debate about the effectiveness of CCTV to prevent crime and, hence, on the wisdom of spending large sums of money on it. There is concern that this funding has been based partly on a handful of apparently successful schemes that were usually evaluated with less than rigorous designs, done with varying degrees of competence, and done with varying degrees of professional independence from government.

### Research Methods

Recent reviews that have examined the effectiveness of CCTV against crime have also noted the need for high quality, independent evaluation research. The main objective of this review is to assess the available research evidence on the effects of CCTV surveillance cameras on crime in public space (public housing, car parks, public transport, other settings). Studies that investigated

the effects of CCTV on crime were included. For studies involving one or more other interventions, only those studies in which CCTV was the main intervention were included. Studies were included if they had, at a minimum, an evaluation design that involved before-and-after measures of crime in experimental and control areas. There needed to be at least one experimental area and one reasonably comparable control area.

Narrative findings are reported for the 44 studies included in this review; 48 evaluations did not meet the inclusion criteria (mainly because they had no control condition) and were excluded. A meta-analysis of 41 of these 44 studies was carried out; the requisite crime data was missing for the other 3 studies. The “relative effect size” or RES (which can be interpreted as an incident rate ratio) was used to measure effect size. Results are reported for total crime and, where possible, property and violent crime categories using (mostly) official data. In the case of studies that measure the impact of CCTV programs on crime at multiple points in time, similar time periods before and after are compared (as far as possible).

### **Results**

The studies included in this systematic review indicate that CCTV has a modest but significant desirable effect on crime, is most effective in reducing crime in car parks, is most effective when targeted at vehicle crimes (largely a function of the successful car park schemes), and is more effective in reducing crime in the U.K. than in other countries. Crime decreased by about 50 percent in car parks with CCTV compared with control car parks. The reviewers conclude that CCTV surveillance should continue to be used to prevent crime in public space, but it should be more narrowly targeted than its present use would indicate.

### **Conclusions**

Future CCTV schemes should employ high-quality evaluation designs with long follow-up periods and should pay attention to the methodological rigor of the evaluation designs. The use of a reasonably comparable control group by all of the 44 included evaluations went some way towards ruling out some of the major threats to internal validity, such as selection, maturation, history, and instrumentation.

Exactly what the optimal circumstances are for effective use of CCTV schemes is not entirely clear at present, and this needs to be established by future evaluation research. But it is important to note that the success of the CCTV schemes in car parks was mostly limited to a reduction in vehicle crimes (the only crime type measured in 5 of the 6 schemes) and camera coverage was high for those evaluations that reported on it. In the national British evaluation of the effectiveness of CCTV, it was found that effectiveness was significantly correlated with the degree of coverage of the CCTV cameras, which was greatest in car parks. Furthermore, all 6 car park schemes included other interventions, such as improved lighting and security guards. It is plausible to

suggest that CCTV schemes with high coverage and other interventions and targeted on vehicle crimes are effective. Conversely, the evaluations of CCTV schemes in city and town centers and public housing measured a much larger range of crime types and only a small number of studies included other interventions. These CCTV schemes, as well as those focused on public transport, did not have a significant effect on crime. Ideally, time series designs are needed with a long series of crime rates in experimental and control conditions before and after the introduction of CCTV. Future experiments are needed that attempt to disentangle elements of effective programs. Also, future experiments need to measure the intensity of the CCTV dose and the dose-response relationship, and need to include alternative methods of measuring crime (surveys as well as police records), for example using emergency department records.

In order to investigate displacement of crime and diffusion of crime prevention benefits, the minimum design should involve one experimental area, one adjacent area, and one nonadjacent comparable control area. If crime decreased in the experimental area, increased in the adjacent area, and stayed constant in the control area, this might be evidence of displacement. If crime decreased in the experimental and adjacent areas and stayed constant or increased in the control area, this might be evidence of diffusion of benefits. Unfortunately, few CCTV studies used this minimum design. Instead, most had an adjacent control area and the remainder of the city as another (noncomparable) control area. Because of this, any conclusions about displacement or diffusion effects of CCTV seem premature at this point in time.