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## **An assessment of closed circuit television surveillance with reference to the Benoni project**

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### **EXECUTIVE SUMMARY**

The findings of a preliminary assessment of closed circuit television (CCTV) as a means of crime control are discussed in this report. The exploratory investigation consisted of a limited review of the literature and an examination of the Benoni CCTV pilot project as an example of the application of this type of crime management system in South Africa. The methods used for the investigation consisted of the following: A review of a selection of the literature on CCTV, with attention being focused on the debates around the invasion of privacy issue; an examination of the Benoni CCTV project to determine whether a reduction in crime and a displacement of crime to surroundings areas had taken place; an assessment of the cost-effectiveness of the initiative; and a limited investigation of the public's perceptions of CCTV.

The review of the literature indicated that surveillance systems initiated by local police are generally employed to reduce criminal activity, improve quality of life (by reducing threats to person and property), re-establish confidence in the economic viability of an area and promote the general economic rehabilitation of city centres. Current thinking is that CCTV should provide an integrated city centre management system whereby a whole range of services and provisions (such as public safety, traffic control, fire and other emergency management and service maintenance) are managed through one system.

A CCTV project requires certain minimum equipment (such as cameras, links between cameras and monitors, video equipment and a control room) and certain systems (for example, a control room monitoring system, a response or reaction system, a video tape storage and record system

and an evidence control system). This makes surveillance systems very costly to install and maintain and the literature indicated that there is some evidence to suggest that crime prevented in one area is simply displaced to others. Furthermore, there is the criticism that surveillance is an invasion of the right to privacy and the admissibility in court of video-recorded evidence has not been unequivocally determined.

The success of CCTV projects is generally determined by examining crime patterns and trends to establish whether crime has decreased; by determining the public's perceptions of crime and feelings of safety before and after the implementation of a project; and by examining the rate and success of prosecutions arising from CCTV. Three evaluations of CCTV systems in Britain, which were conducted by the London Home Office, were examined. The first, a CCTV system in Newcastle upon Tyne, initially had a strong deterrent effect on the incidence of crime, but the effect seemed to wear off over time. However, the system appeared to have a more lasting effect on the two crimes of burglary and malicious damage to property. The second, a surveillance system in Birmingham, England's second largest city, was evaluated by looking at official statistics as well as self-report (victimisation) information. The self-report data indicated that crime declined in the areas where there was good camera coverage but actually increased in areas where there was poor or no coverage. According to the official data, CCTV had the greatest effect on robbery and theft from the person. In addition, the system helped police deal with public disorder problems in Birmingham, and led to an improvement in the public's feeling of safety. The third system, in the relatively small town of King's Lynn, is actually one of the largest CCTV systems in England. This market town has a total of 60 cameras which were installed in the industrial section in an attempt to deal with very high levels of burglary and malicious damage to property. After installation, the crime rate fell dramatically. The system was particularly successful in reducing burglary, assault and vehicle crime and the police reported that the system helped them in their day-to-day management of public safety.

The review of the literature revealed that the invasion of privacy issue is the main focus point of the debate around the desirability of television surveillance. It is argued on the one hand that CCTV is an invasion of the right to privacy and the right to personal dignity and on the other, that where traditional forms of policing appear to be ineffective, television surveillance is justified in order to preserve fundamental rights. A fine balance needs to be maintained between the public's right to safety and an individual's right to privacy. SAPS legal experts consider CCTV to be the surveillance of public areas for the general prevention or detection of crime and not for the monitoring of specific individuals or suspects. In recognition of the sensitivity of the ethical issues around television surveillance and the need for the systems to be operated in a highly professional manner, the SAPS's National Standards and Management Services drafted a code of conduct for users of closed circuit television systems. The document sets guidelines for practice and procedure that should be followed in terms of, *inter alia*, camera positions, sound facilities, video tapes (including storage), video tapes as evidence, stills, release of footage, CCTV control rooms, accountability and evaluation.

The insights gained from the review of the literature were used to examine the Benoni CCTV pilot project. The Benoni police station serves approximately 270 000 people (1 million if greater Benoni is considered) in a 170 square kilometre area. Given the resources available (38 vehicles and a staff of 225, excluding civilians), the high rate of unemployment, particular problems such as juvenile crime and street children and the high rate of crime in the CBD, the Benoni police decided that some other means (other than traditional policing) would have to be found to deal with crime. The Benoni CCTV project, known as *COM-SAFE*, was initiated by the Community Relations Division of the Benoni SAPS in June 1995. The stated objective of the project was to revive the CBD and stimulate economic growth by providing a secure and safe environment for all the normal activities of a city centre. The project was considered to be more than just a crime prevention tool - a complete management system was envisioned, encompassing traffic control, the management of fire and emergency situations, and pro-active policing (including the identification of potential suspects, the co-ordination of responses to incidents, the facilitation of

arrests when criminal acts occur and increasing the effectiveness of Business Watch personnel). Ten cameras, sponsored by private companies, were placed in strategic positions in the CBD. The trial phase extended from March to August 1996, during which time different types of cameras and links were tested. The Emergency Control Centre of the Benoni Fire and Emergency Services was chosen as the most convenient, central location for the control room for the project.

An evaluation of the success of the Benoni project was attempted by the researchers. The Benoni police are cautiously optimistic about the impact of CCTV on crime. However, different and conflicting rates of decrease in crime were reflected in the documentation given to the researchers, although conflicting figures may be a function of different time periods used in the calculation of crime trends. Project documentation also referred to the fact that 20 arrests had been made since the inception of the project, although no additional information regarding prosecution and conviction was given. Also, there is no record of how many incidents were actually observed by control room personnel. Clearly, a more rigorous analysis of the crime patterns and trends before and after installation of the system was needed. This was attempted by following two procedures: firstly, the total number of (1) **priority crimes** and (2) **all crimes** for the CBD and the rest of Benoni for January to May 1995 were compared with the number for January to June 1996 and secondly, a separate set of crime figures for the CBD and the rest of Benoni for January to September 1996 were examined. Calculations indicated that although priority crime in the CBD decreased by 8,8% in the five-month period of the project, priority crime in the rest of Benoni increased by 46,0% during the same period, indicating substantial displacement of crime to areas outside the CBD. Further evidence of displacement was found by the fact that although **priority** crime in the Benoni CBD decreased from January to May 1996, **all types** of crime in the CBD **increased** by an average of 9,2% per month. This suggests that some form of displacement of crime from priority to other types may have taken place. Looking at specific types of crime it was noted that significant decreases in the CBD were recorded between January and September 1996: Breaking into residential premises decreased by an average of 20,2% per month; breaking into business premises decreased by an average of 8,2% per month; and the theft of motor vehicles decreased by an average of 24,5% per month. Theft out of motor vehicles, however, increased by an average of 6,8% per month. It should be pointed out that both measures of the impact of CCTV on crime in the CBD are flawed since the period used is too short. Any concrete conclusions would not be convincing from a statistical perspective since the random effect of crime statistics is lost when time periods are short. The literature indicates that two years before and after installation is the minimum period that would be required to conduct a conclusive analysis of the impact of CCTV.

A limited *street* survey was conducted in the Benoni CBD during which 13 females and 11 males were interviewed to determine their awareness of and views on CCTV. The findings indicated that most respondents were aware of the cameras and the vast majority were not particularly concerned about being watched. The presence of the cameras appeared to have some positive effect on feelings of safety in the CBD. Ten respondents reported that a family member or a close friend had recently been the victim of a crime in the CBD area and six indicated that they themselves had been victimised, suggesting that the level of crime in Benoni is very high.

An attempt was made by the researchers to assess the cost-effectiveness of the Benoni CCTV project by examining whether the substantial financial outlay needed for the system is justified by a reduction in crime, or whether the funds would be best invested in efforts to improve conventional policing. The cost-effectiveness assessment was hampered by the fact that no system for assessing the costs and benefits of conventional policing exists and station information on variables such as the number, utilisation and maintenance costs of the vehicle fleet employed for patrol duty in the Benoni CBD were not available. The *COM-SAFE* project team had compiled a projected budget of R2 million capital outlay for a 14-camera surveillance system and R83 000 for monthly running costs. On the other hand, the current unit cost per police officer in the police service as a whole is estimated at R70 000 per year (including all standard

items). The unit cost of a constable would be in the region of R40 000. This calls for a choice between implementing 14 CCTV cameras or investing in an additional 17 police officers for the city centre. It was concluded that to deny some of the positive effects of the Benoni project would be unjustified. However, given the inconclusive findings of this study, to conclude that the Benoni project has been cost-effective when its effectiveness has not been established would be equally unjustified.

The researchers concluded from the preliminary assessment of the Benoni CCTV project that certain issues are critical to the success of television surveillance and will need to be considered in the planning of these systems in South Africa. Clearly, CCTV projects must be undertaken as joint ventures between local police and all other stakeholders and the importance of engaging with communities on an ongoing basis should be stressed. Television surveillance may not necessarily be the answer to a particular cities' crime problem since the systems only impact on certain types of crime - CCTV should therefore be only one part of a total crime prevention package. Furthermore, the admissibility of evidence obtained from CCTV has not been clarified and many challenges around the funding issue still need to be met. Although television surveillance does nothing to address the social causes of crime, it contributes to increased feelings of safety and security in public places. Finally, a high level of professionalism and a sound code of conduct would be essential for CCTV to be credible to the community and other role players.

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## **INTRODUCTION**

Closed circuit television (CCTV) has been used by the private security industry in sectors such as gambling and retail for many years. More recently, in response to the fact that traditional forms of policing have not produced the desired effect, CCTV has been installed in city centres, public parking areas and underground railway stations in many countries in an attempt to curb so-called *street* crime. As part of its "Safer Cities Project", the Home Office in the UK, for example, offers a *Pound-for-Pound* grant to any local authority wishing to install a CCTV system. Television surveillance systems have been installed by local authorities and police in more than 250 cities and towns across Britain. Many other countries, such as France, Canada, the USA and Australia, are now making extensive use of CCTV as part of their comprehensive urban crime prevention strategies.

A number of CCTV projects have been initiated in South Africa, although their scope and purpose tend to differ. The Durban metropolitan authority, for example, installed 40 cameras in the central business district (CBD) in July 1995 with the aim of monitoring and controlling traffic flow. Only more recently were 12 additional cameras installed in the beachfront area for the purpose of crime control. Port Elizabeth has a small CCTV system and a private security company installed two cameras in Boksburg. Kimberley police borrowed a long-distance television set from the National Defence Force and linked it to a camera which was installed in the Kimberley CBD. Benoni embarked on what appears to be a well-researched and planned project to introduce CCTV to Benoni with the stated purpose of increasing safety and security and thus facilitating the rejuvenation of the CBD. Representatives from more than 42 police stations throughout the country have visited the Benoni project, which gives some indication of the general interest in this type of tool. In recognition of the potential of television surveillance as part of a crime prevention package, CCTV was identified by the South African Police Service (SAPS) at the national level as a special project to be dealt with by the division headed by Director Zirk Gous of National Standards and Management Services.

Television surveillance, as a form of situational crime prevention, falls within Pillar 2 - *Reducing crime through environmental design* - of the National Crime Prevention Strategy. Crime prevention through environmental design aims to reduce the opportunities for the commission of crime and to increase the risk of crime being detected. Many other forms of situational crime prevention (such as access control, alarm systems and vehicle immobilisers) are extensively used in South Africa and have been for some time, whereas CCTV, in public areas in particular, is rather new.

CCTV is extremely costly to install and maintain and it has often been said that the systems are used without due consideration to whether they are effective and worth the financial outlay. Television surveillance also raises certain ethical and legal issues, such as whether an individual's right to privacy is invaded by this type of surveillance. For these and other reasons, the Secretariat for Safety and Security considered that it would be useful to examine the use of CCTV and to identify and debate the critical issues around this form of crime control. This report is the outcome thereof. It discusses pertinent issues relating to the surveillance of public areas and focuses in particular on the Benoni CCTV project. The choice of Benoni was in view of the fact that Benoni was launched by National Standards and Management Services as a Community Safety Television pilot project.

## **OBJECTIVES OF THE ASSESSMENT**

This assessment of CCTV as a means to combat crime and improve feelings of safety had the following objectives:

- To review a limited selection of the literature on electronic surveillance - CCTV in particular - with a view to drawing conclusions about the general effectiveness of the system and the support that it has received in other countries. The literature review also aimed to identify issues around CCTV, such as the debate around the invasion of privacy.
- To examine the Benoni CCTV project as an example of the application of this type of crime management system in South Africa. The examination aimed to (1) determine whether the project had been successful in reducing crime; (2) describe the public's perceptions of CCTV and related crime issues; (3) determine whether displacement of crime to surrounding areas had taken place; and (4) assess the cost-effectiveness of the initiative.
- To draw conclusions regarding *what works* in relation to CCTV and to make provisional recommendations regarding the use of CCTV by the SAPS.

It should be noted that this assessment does not claim to be an evaluation, since a carefully-controlled evaluative investigation was not possible.

## RESEARCH METHOD

The following methods and procedures were followed:

- A brief, limited review of the literature dealing with CCTV was conducted.
- Crime statistics for Benoni for January to June 1995 and January to September 1996 were obtained and analysed in order to examine the effect of the project on levels of crime. Crime statistics for Boksburg and Brakpan were also obtained in an attempt to determine whether displacement of crime had taken place.
- Information-gathering interviews were conducted with the following persons: The project leader of the Benoni CCTV project (Capt. L. van Dyk); the head of specific projects at National Standards and Management Services, SAPS head office, and one of his staff (Dir. A.Z.B. Gous and Mr C. Hasses); representatives from the two private companies that are still involved in the project (Panasonic and Sensormatic SA); and station commissioners at the two adjacent police stations of Boksburg and Brakpan (Supts. Nel and Niemand).
- A *snap* survey was conducted in the streets of central Benoni. The survey instrument was a structured questionnaire containing questions on *inter alia* CCTV, levels of crime in Benoni and victimisation. An opportunistic sampling method was used to interview 24 members of the public.
- SAPS documents relating to CCTV were reviewed.

## CCTV IN PERSPECTIVE: WHAT ARE THE ISSUES?

### Why use CCTV?

The objectives of surveillance systems from a public safety perspective are to reduce criminal activity; improve quality of life (by reducing threats to person and property); re-establish confidence in the economic viability of an area; and promote the general economic rehabilitation of the area covered by the system.

Surveillance systems may have other objectives, such as traffic control and service maintenance, but these systems would not normally be initiated by the police. Current thinking is, however, that CCTV should provide an integrated city centre management system whereby a whole range of services and provisions - such as public safety, traffic control, fire and other emergency management and service maintenance - are managed through one system.

CCTV - at times referred to as *robotic policing* - makes use of modern technology to assist with crime prevention. Indeed, the increased use of technology is a key element of the South African Police Plan. Police management at local level see CCTV as a way to alleviate the demands on police resources. Theoretically, resources that would be used to patrol city centres become available to be deployed elsewhere. Cameras appear to be a particularly attractive alternative when traditional forms of crime control (such as police patrols) do not seem to be effective. Savings on resources are not only in terms of patrols, but also in terms of time spent gathering evidence and attending court.

Specific advantages of CCTV have been touted to be:

- the co-ordination of rapid response from a central control room;
- the facilitation, by means of the video recorded images, of the identification and arrest of suspects;
- assistance in the gathering of evidence;
- the facilitation of the processing and finalisation of cases, since suspects generally plead guilty when confronted with *hard* evidence; and
- serving as a deterrent to offenders.

A major advantage is said to be that it is a proactive form of policing - police who man the control room react to behaviour that looks suspicious and can prevent a crime from taking place. When police are informed in advance about

major sports events, mass gatherings and demonstrations, cameras can be installed and used to monitor crowd behaviour. Because the monitoring at such events is done from a distance, the negative impact (in terms of crowd incitement) of police presence is reduced. CCTV can also contribute to the safety of officers since an assessment of the type of situation to be dealt with is made in the control room before police are sent out to respond.

The advantage that supporters of CCTV systems usually mention first - i.e. that the systems lead to a reduction in crime - is one that is not as *clear-cut* as those already mentioned. The documented results in terms of crime reduction of numerous projects are quite conflicting and will be discussed in later sections of this report.

A very important element of surveillance-type projects is the positive impact that they have on the public. This is considered by many to be the most important advantage of CCTV - it makes the public feel safer, and feeling safer encourages them to frequent areas that were generally considered to be high-risk in terms of threats to person and property. It is the business sector who are most interested in this benefit of surveillance. It has often been said that changes in consumer and shopping behaviour are the reason for the decline in the use of CBDs. However, research has shown that in fact a conscious decision is made to shop at shopping malls since they are perceived to be safe. The perceived lack of security and dangerousness of down-town areas acts as a disincentive to use them (Strauch, 1996).

This discussion would not be complete without asking, Why should one **not** use CCTV? There are distinct problems and disadvantages with surveillance systems. They are very costly to install and to maintain; there are clear indications that crime "prevented" in one area is simply displaced to other areas; there is the criticism that surveillance is an invasion of the right to privacy; and the admissibility in court of video-recorded evidence has not been unequivocally determined. These issues will be addressed in forthcoming sections of the report.

## **How does television surveillance work?**

In this section, the way that a CCTV system works will be briefly discussed and the manner in which television surveillance prevents crime will be debated.

### **The essence of a CCTV system**

A CCTV project requires certain minimum equipment, such as cameras, links between cameras and monitors, video equipment and a control room. Projects furthermore need certain systems to be in place, such as a control room monitoring system, a response or reaction system, a video tape storage and record system and an evidence control system. Naturally, there is an

abundance of cameras, links and monitors in the market and great care needs to be taken to ensure that the correct and best equipment is acquired to meet the requirements of each specific project.

A schematic representation of a comprehensive CCTV system is given below:

### **Figure 1: The layout of a comprehensive CCTV system**

(Taken from Kruegle, 1995:13.)

The cameras pass images via their links to the control room where the images are monitored and interpreted by control room personnel. Monitoring personnel have a number of options, depending on the type of equipment being used, in dealing with the images received: they can control the tilt, pan and zoom function of the camera, they can record what the camera is viewing either in a time-delayed sequence or in real time; they can print actual pictures of any image observed; and they can view multiple cameras simultaneously on one screen. Programmes can even be written to focus the cameras on particular trouble spots, such as pubs and taxi ranks, in a fixed sequence.

Information that requires a response is passed on either to a police control room or directly to officers who are patrolling. Once an incident is observed or noted, the system is used as a means to gather evidence. Usually the whole event, from the start of the commission of an offence to the time that an offender is arrested is recorded, which aids the prosecution process.

In the case of incidents that become known to the police from sources other than the control room, but which took place in the areas covered by the cameras, the video recordings from the time and place of the reported incident can be examined for additional evidence and information, such as possible witnesses to the event.

### **The way in which surveillance prevents crime**

Television surveillance, as a situational crime prevention method, seeks first and foremost to prevent crime from taking place at all. Failing this, it seeks to aid the process of justice once a crime has taken place. The former is achieved by reducing the opportunity to commit an offence and the latter is facilitated by assisting in the detection, arrest and prosecution of offenders.

The first two theoretical perspectives of relevance to this issue are the routine activity theory and the theory of rational choice. The routine activity theory of

Cohen and Felson (in Brown, 1995) proposes that in order for crime to occur, three elements must be in place: the offender must be motivated to commit the crime, the victim must be available and the constraints or checks must be absent. CCTV may actually impact on all three elements: the presence of cameras may reduce the motivation of the offender because of the risk of being caught; the cameras may make victims more security conscious and thus less of an easy target; and the system may allow the police to respond more quickly, making the constraints more effective.

Closely linked to routine activity theory is the rational choice approach of Clarke and Cornish (in Brown, 1995), which suggests that offenders constantly make choices that have a rational basis. Environments and individuals (victims) present opportunities for crime and the desire and motivation to commit an offence is weighed up against the risks involved. CCTV may serve to both reduce the opportunities (of *free* access to persons and property and increase the risks (for example, of being observed and apprehended), with the outcome that a rational decision is taken not to commit an offence.

Pawson and Tilley (1994:301) provide a very useful breakdown of the potential mechanisms through which CCTV reduces crime:

- The *caught-in-the-act* mechanism: Crime is reduced by offenders being detected and arrested.
- The *you have been framed* mechanism: Crime could be reduced by deterring potential offenders who fear that they may be observed.
- The *nosy parker* mechanism: The presence of cameras may make the public feel safe and more inclined to use previously avoided areas (such as car parks), with the result that natural surveillance is increased.
- The *effective deployment* mechanism: The system can assist with the deployment of police officers to areas where criminal activity or suspicious behaviour is considered to be high. The mere presence of additional police may have a deterrent effect.
- The *publicity* mechanism: Publicity makes offenders and potential offenders aware of the increased risk of being caught. Risks then tend to outweigh the benefits.
- The *memory jogging* mechanism: Signs indicating that CCTV is in operation may encourage and remind members of the public to take more precautions in protecting their property.

Another useful perspective for looking at how CCTV may prevent crime is the *bad neighbourhood* theory. This approach suggests that there is a certain critical

point (the *tipping point*) at which neighbourhoods turn from good to bad in terms of disorder and crime, and at that point, a little change can have an enormous effect. This is illustrated by the *broken window* phenomenon, which gets its name from an experiment conducted in New York in 1969 by Zimbardo (Gladwell, 1996:38). Two identical cars were parked in similar neighbourhoods; the one remained untouched for a week and the other, which had been left with its licence plate removed and the hood propped up was stripped within a day. Zimbardo then returned to the undisturbed car and smashed a window with a sledgehammer. Within hours that too had been stripped. The broken window was said to be the *tipping point*.

By the same token, it is thought that in the case of crime prevention, relatively modest changes in bad neighbourhoods can bring about substantial reductions in crime. A little extra policing in a particularly bad area may have a considerable effect on criminal activity, whereas more policing in an average area may have no effect. Similarly, CCTV could have a greater positive impact in a problem area than in an area with an average level of crime.

Most theories of this nature remain largely speculative since systematic research to test their suppositions has not been undertaken. The above perspectives do however remain useful for providing some understanding of how surveillance may actually operate as a mechanism to prevent crime.

### **Practical issues**

Practical matters will not be discussed in detail but will simply be mentioned in order to sensitise the reader to the fact that there are many critical decisions that need to be taken and issues to be dealt with by initiators of these types of systems. Some of the issues are as follows:

- **Is CCTV the best option?** The decision to install a CCTV surveillance system should not be taken lightly; they are extremely costly to install and operate and may in fact not be the best form of crime control in every case. There is a great danger that a particular police station, local authority or business sector get caught up in the rush to follow a popular trend or have unrealistic expectations about the system and push for something that is in fact neither warranted nor the best solution to a particular crime problem.

- **Funding the project:** In most countries, funding for CCTV projects has come from the business sector, often in partnership with the local authority. The local police force generally provides the manpower. National Standards and Management Systems at SAPS head office has pointed out that when local police in South Africa embark on a joint venture with business and local authorities to launch a CCTV project and are not able to also put *money on the table*, it seriously compromises the credibility of their participation in the project. This is an issue that requires attention.

- **Choosing the right equipment:** An enormous variety of CCTV equipment is available. It was found in Britain, for example, that in many cases, unscrupulous companies sold quite inadequate and unsuitable equipment to local authorities which impacted negatively on the credibility of CCTV in the eyes of the local business sector in particular. Great care needs to be taken that, taking local conditions into account, the best equipment for the funds available is selected. Factors such as whether the system needs to function in poor light will influence choice of equipment and technology (for example, infrared) is available to meet most challenges. Offenders adapt very quickly to aspects of equipment, such as cameras that visibly pan and tilt, making the systems less effective. The correct choice of equipment (for example, cameras mounted within domes) can deal with most problems.

- **Where should the cameras be placed?** The placement of the cameras requires careful consideration and sufficient consultation. Crime patterns and trends need to be studied and all role players (such as the police, emergency services, the business sector and the local community-police structure) should make an input in this decision.

- **The professionalism of control room personnel:** The success of a CCTV project hinges to a great extent on the personnel operating it. Control room staff, for example, need to be carefully selected and adequately trained and their work needs to be subjected to a code of conduct. At stake are issues such as the correct handling and storage of evidence to be used in court and the handling of potentially sensitive and private information (video recordings) relating to members of the public.

- **Evaluating a project's success:** This is an area that is often neglected, probably because evaluations are difficult to undertake and success needs to be measured in more than one way (refer the discussion below). It is precisely because CCTV projects are seldom evaluated that they have come in for serious criticism - particularly from the business sector - to the effect that considerable sums of money are spent on systems and their effectiveness is not at all clear.

## **How successful is CCTV in controlling crime?**

The success of CCTV projects is generally determined in three ways: (1) crime patterns and trends are examined to establish whether crime has decreased; (2) the public's perceptions of crime and feelings of safety are determined, ideally, before and after the implementation of a project; and (3) the rate and success of prosecutions arising from CCTV are examined. Although some evaluative work has been undertaken by looking at the impact of CCTV on crime, less has been done on examining the success of prosecutions and even less on monitoring the public's feelings of safety. Success could also be determined by the savings on manpower and the more effective use of manpower; however, this would be extremely difficult to measure.

Even in countries like Britain, with extensive camera networks, very few CCTV projects have been rigorously evaluated. However, some of the evaluations that have been conducted are the following:

- Losses in stores and supermarkets: Reductions in the theft of goods, in monies being taken from tills and in violent incidents following the installation of CCTV have been noted.
- Vandalism: A reduction in vandalism on buses, particularly on the upper deck of double-decker buses, following the use of cameras has been recorded.
- Car park crime: A reduction of crime in car parks has also been achieved with CCTV.

One must, however, realise that CCTV was never intended to deal with all types of crime. This means that when examining crime trends from the inception of a system, a reduction in only specific types of crime (*street* crime) can be anticipated. However, it is useful to examine the trends in all types of crime in order to determine whether a decline in street crime has not perhaps led to an increase in other types of crime.

The impact of surveillance cameras on crime is often dependent on the nature of the environments that they cover. For example, an evaluation of the CCTV system in the London Underground found that the cameras were less successful in controlling crime in very large underground stations compared to smaller ones. This is because cameras are not particularly successful in picking up surreptitious behaviour such as pickpocketing and bagsnatching in large, crowded environments. However, CCTV is very successful in dealing with breaking into cars and theft of cars in car parks, probably because this is more conspicuous behaviour. In essence, cameras are less successful in large areas with a complex layout than in small ones with clear lines of sight.

The conclusion of one evaluative study was that the success of CCTV does not depend on the system being monitored constantly and that very few actual arrests are made *on the spot*. The success appears to be related rather to the fact that offenders and potential offenders are aware of the possibility of being monitored (Brown, 1995). However, in some of the evaluations that have been undertaken it was found that the cameras become less effective as time passes, which is often a problem with crime prevention efforts. The effectiveness of the system must be continually reinforced by regular publicity regarding arrests and prosecutions. Webb and Laycock (in Brown, 1995) undertook a careful evaluation of CCTV in certain parts of the London Underground system and found that initially it was very effective in reducing crime, but the effect wore off after about 12 months as offenders began to realise that their chances of being caught had not increased dramatically. The media must be actively used to

promote the launch of such systems and to keep the public informed about the progress with successful crime control.

Three evaluations conducted by the Police Research Group of the London Home Office are worth examining:

- The CCTV system in Newcastle upon Tyne - a large, provincial city in north-east England - initially had a strong deterrent effect on the incidence of crime, but the effect seemed to wear off over time. However, the system appeared to have a more lasting effect on the two crimes of burglary and malicious damage to property.

The system assisted greatly in managing certain crimes, such as public disorder, that did not decrease after the system was installed, by facilitating co-ordinated, quick responses and gathering and providing evidence in these cases. The way that the systems usually assist in the prosecution of these cases is that offenders invariably admit guilt once shown the evidence. This leads to speedy outcomes and settlements of cases.

- The surveillance system in Birmingham, England's second largest city, was evaluated by looking at official statistics as well as self-report (victimisation) information. Birmingham is a centre for a large number of sporting and entertainment activities and also has a considerable number of entertainment areas, licensed premises and shopping centres.

The self-report data indicated that crime declined in the areas where there was good camera coverage, but actually increased in areas where there was poor or no coverage. According to the official data, CCTV had the greatest effect on robbery and theft from the person. In addition, the system helped police deal with public disorder problems in Birmingham, and led to an improvement in the public's feeling of safety.

- For a relatively small town, King's Lynn has one of the largest CCTV systems in England. This market town has a total of 60 cameras which were installed in the industrial section in an attempt to deal with very high levels of burglary and malicious damage to property. After installation, the crime rate fell dramatically.

CCTV was particularly successful in reducing burglary, assault and vehicle crime in King's Lynn. The police reported that the system helped them in their day-to-day management of public safety. More than 2 000 incidents were noted or observed in a 32-month period and in the majority of these, the police were able to make a judgement not to respond. Normally, the police are forced to respond to all complaints that are telephoned in, since they do not have sufficient information to make a decision not to respond. The cameras enabled the police to make 200 arrests in the 32-month period. The researcher concluded that "... the cameras are at their most effective in dealing with crime when they are

integrated into a command and control strategy, and are used to discover incidents and co-ordinate an appropriate police response" (Brown, 1995:61).

From the above three studies it was found that generally about one third of all calls to the police are false alarms but with camera systems, the police can monitor and decide whether and how to respond, resulting in better use of resources. Overall, CCTV appeared to have a reducing effect on property crime (mainly burglary of business premises and vehicle-related crime), but only in the areas covered by the cameras. The risk of arrest increased with the surveillance projects, suggesting a deterrent effect. The impact of the cameras on crimes against the person (such as assault, robbery and other theft from the person) was less clear. For example, in large metropolitan areas, there was little observed effect on assault and public disorder crimes, but in the small market town, a fair effect was noted. Brown (1965) concluded that the benefit of CCTV on assault-type crimes and public disorder was in the way it helps the police deal with these crimes - i.e. responses are planned and co-ordinated.

In sum, the systems in all three case studies appeared to have a positive impact on crime, although the outcome was generally different from project to project. Brown (1965) found that the following factors determine the impact of CCTV, although it should be said that many of these factors affect crime in general:

- Location of the project: whether it is situated in a metropolitan area, large city or rural town.

- Characteristics of the population: degree of transience/permanence, homogeneity/

heterogeneity or density/sparseness.

- Geography (terrain) of the area: i.e. the physical characteristics, layout of streets and entrances/exits.

- Location of the cameras: the fields of sight and availability of structures and places to install cameras.

- Competence of operating staff.

- Control room environment: degree of order and the facilities available.

- Extent of the publicity around the project.

- Number of crime prevention projects being run in conjunction with CCTV.

Experts contend that in order for any substantive conclusions to be drawn about the effectiveness of CCTV, one needs to examine crime statistics on a month-to-

month basis for a full two years before and after installation. Clearly, projects are not doing so when reporting on success. In fact ideally, according to Pawson and Tilley (1994), one should plot the range of coverage of all cameras on a large-scale map, and then examine case information relating to all incidents within view of the cameras to determine whether the incident could have been spotted, and whether it had in fact been spotted. Also, media coverage of the system should be carefully monitored and compared to crime statistics to see whether that had an impact. Naturally, this type of extremely detailed analysis is not done.

What is evident is that many systems are installed that do not live up to their expectations, for any number of reasons. Although an evaluation of the CCTV systems in place in South Africa has not been undertaken, during the period October 1995 to July 1996, the project on the beachfront in Durban, for example, led to 134 crimes being detected and 70 arrests (Sunday Tribune, 25 August 1996). However, a formal system for evaluating the Durban project has not as yet been developed or put in place. A register of all incidents that are noted is kept but, according to the SAPS's Crime Information Management Centre (CIMC), there appears to be little control over the keeping of the register. CIMC also reports that control over the video tape storage system is questionable and the chain of evidence could very well be challenged in court. CIMC concluded that although the Durban system is said to be effective, there is, in fact, little evidence to show that this is the case.

### **What of the issue of displacement?**

One of the severest criticisms of CCTV projects is that the system simply displaces crime to surrounding areas, in another words, any reduction in crime achieved in one area as a result of the cameras is negated by the increase in crime experienced in another. On the other hand, there is some evidence to suggest that cameras may have diffusion benefits, which means that surveillance in one area may actually help to reduce crime in other, unprotected areas.

It is extremely difficult to quantify displacement. Even if crime does increase in an area adjacent to a CCTV project, how would one know for sure that it is due to CCTV and not some other phenomenon? The evaluation of the three cities and towns in Britain referred to in the previous section produced some evidence of displacement. However, the degree of displacement appeared to depend on the type of offence, the type of area the cameras serviced, the extent of the camera coverage and the degree of media coverage of the project.

With the Newcastle study in particular, crime information from surrounding areas was monitored to check the displacement issue. In this case the conclusion was the there was little evidence to suggest that crime had been diverted to other areas. The researchers were also able to monitor whether displacement occurred in the form of a switch from one type of crime to another, and again there was

also little evidence of this. In fact, there was some evidence to indicate a diffusion of benefit to surrounding areas with no CCTV system.

However, both victimization and official data indicated that crime increased in areas that were covered by the project but that had only poor or no coverage by the actual cameras, indicating that some displacement may have occurred, but not to areas outside the boundaries of the project. Nevertheless, it would be extremely difficult to say with confidence that the observed increase in crime in some areas was in fact due to displacement and not perhaps to some other factor, such as the opening of additional licensed premises or clubs.

### **Is surveillance an invasion of privacy?**

The question of invasion of privacy - often referred to as *Big Brother is watching* - is the main focus point of the debate around the desirability of CCTV.

Chapter 2 of the Constitution - the chapter containing the Bill of Rights - guarantees the following individual fundamental rights: Section 10 - right to respect for personal dignity; Section 11 - right to life; Section 12 - right to freedom and security of the person; Section 14 - right to privacy; Section 24 - right to an environment that is not detrimental to health and well-being; and Section 25 - right to acquire and hold rights in property. The one argument is that CCTV is an invasion of the right to privacy and the right to personal dignity. The other argument is that where traditional forms of policing appear to be ineffective, television surveillance is justified in order to preserve the right to life, the right to freedom and security of the person, the right to own property and the right to a safe environment.

Many contend that an individual's right to privacy is one of the most fundamental of all rights. In democracies in particular, it is a right that is vehemently guarded and upheld. It is ironic that in situations of extreme threat to personal safety, which could be argued to be the case in many areas in South Africa, individuals are overwhelmingly willing to give up their right to privacy if it means that some action is being taken to ensure their safety. They obviously see it as a justified *trade-off*.

A fine balance needs to be maintained between the public's right to safety and an individual's right to privacy. Taylor (1987:114) asks in this regard: "At what point do we cross the line between the public's need for protection from crime and the loss of a citizen's individual freedom?" Bagshawe (1996) notes that a clear distinction must be drawn between the use of CCTV equipment for crime detection and the use of the equipment to satisfy personal needs (such as voyeurism). The yardstick that is used is whether the use of such cameras is essential to the prevention and control of crime; in other words, is it in the public interest (Metro, 23 July 1996)?

The American congressional report, *Electronic surveillance and civil liberties* (in Taylor, 1987:115), sums up the dilemma as follows:

The use of electronic surveillance devices may result in more efficient law enforcement. ... Yet, the cumulative impact of the increased use of surveillance, with or without a court order, is an important consideration for any society that prides itself on limited government and individual freedom. The key policy issue is to determine the appropriate balance between the civil liberty interests and the intelligence, law enforcement, or other governmental interests involved. In some circumstances, the law enforcement interests will be great enough to outweigh the civil liberty interest. In other circumstances, the reverse will be the case.

Some attempts have been made to determine the public's views on the invasion of privacy issue. Ideally, this should be established by means of community surveys every time that a CCTV project is being planned. Research conducted by the Home Office in 1992 (Brown, 1995) indicated that as few as 6% of the public were concerned about being watched by cameras. Other studies have confirmed overwhelming public support for CCTV (Hones and Charman in Brown, 1995). However, public support must not be taken for granted since a substantial proportion of people interviewed express concern about being watched. Abuse of any system, therefore, can never be tolerated. Public concern appears to centre not so much around the fact of being watched, but around the use of the information that is gathered.

SAPS legal opinion (Koekemoer, 1996) refers to the fact that no law or precedent exists in South Africa in regard to CCTV, making legal opinion speculative at best. Police legal experts consider CCTV to be the surveillance of public areas for the general prevention or detection of crime and not for the monitoring of specific individuals or suspects. In other words, one is not allowed to monitor the behaviour of specific individuals by video for the purpose of criminal detection and conviction, without obtaining a warrant. One wonders whether all CCTV projects in South Africa adhere to this requirement. Koekemoer (1996) notes that any challenge in court of the surveillance of individual persons may lead to evidence in the particular case not being accepted.

Furthermore, CCTV can only be used in public places (Koekemoer, 1996). In South African law, a public area is considered to be any road, thoroughfare, park or open space to which the public at large have access, or which is used by the public in general. It is not a question of whether the intention is for the area to be used by the public, but rather whether the area is in fact being used by the public. Foreign case law refers to a "reasonable expectation of privacy", which is said not to exist in a public space.

At the same time, Section 13 of the Police Act stipulates that the SAPS has a right to detect criminal behaviour. This means that they may use whatever legitimate means are available to them to do so. In terms of common law, private

individuals also have a right to take steps to protect their property. SAPS legal opinion concludes that "It can readily be accepted that in principle, there is no legal bar to the use of CCTV surveillance as a means to detect criminal behaviour" (Koekemoer, 1996:4). However, in order to measure up to an individual's right to privacy, CCTV systems should be strictly controlled.

### **Code of conduct for CCTV systems**

In recognition of the sensitivity of the ethical issues around television surveillance and the need for the systems to be operated in a highly professional manner, the SAPS's National Standards and Management Services drafted a *Code of conduct for closed circuit television systems* (Hasses, 1996). The document sets guidelines for practice and procedure that should be followed in terms of, *inter alia*, camera positions, sound facilities, video tapes (including storage), video tapes as evidence, stills, release of footage, CCTV control rooms, accountability and evaluation. The draft code of conduct was submitted to 22 NGOs and law departments at universities for comment. The final version will undoubtedly become SAPS policy in regard to CCTV.

## **AN EXAMINATION OF THE BENONI PROJECT**

In this section, the Benoni CCTV project, as an example of television surveillance in public spaces in South Africa, will be examined against the background of the discussion presented in the previous sections.

### **Crime prevention in Benoni**

CCTV is just one crime prevention initiative currently being operated in Benoni. Others are:

- The Farrarmere Precinct project: This is a community-oriented patrolling initiative in the suburb of Farrarmere. The project is funded by the community in that the community supplied and maintains a vehicle which is managed by off-duty police officers. There is a R100 joining fee and a R35 per month membership contribution.
- A friendly community service centre: The old-style charge office and police station has been changed into a customer-friendly environment, by means of:
  - the re-training of staff to become more sympathetic towards the community;
  - the provision of private cubicles for personal service;
  - the beautification of the environment in the form of plants;
  - the appointment of a client service manager;

- suspects not being brought directly into the front area of the station; and
- the provision of visiting hours for prisoners.
- An *adopt-a-cop* initiative: Every school in Benoni has adopted a police officer as a special friend. Both sides (the officer and the school) have responsibilities
  - officers must care for the school and pupils must be friendly and supportive.
- A Community-Police Forum (CPF) office: A CPF office was opened which forms the hub of CPF activities and makes an easy reference point for the public.
- A Section 21 company: A Section 21 company was registered to make fund raising possible and to co-ordinate the funding activities of the CPF.

The police have never considered themselves to be the sole players in crime prevention in Benoni; the Greater Benoni Town Council, Benoni Protection Services, Benoni Fire and Emergency Services and the CPF are regarded as partners in dealing with crime.

### **Brief overview of the Benoni CCTV project**

The Benoni police station serves approximately 270 000 people (1 million if greater Benoni is considered) in a 170 square kilometre area. Given the resources available (38 vehicles and a staff of 225, excluding civilians), the high rate of unemployment, particular problems such as juvenile crime and street children and the high rate of crime in the CBD, it was decided that some other means (other than traditional policing) would have to be found to deal with crime.

The Benoni CCTV project, known as *COM-SAFE*, was initiated by the Community Relations Division of the Benoni SAPS in June 1995. The idea was discussed at CPF level and a benefactor sent a delegation to Britain to examine CCTV in use in Britain and explore the possibility of installing a system in Benoni. Upon their return, the police made submissions to National Standards and Management Services and Head Office accepted the Benoni CCTV project as a joint venture with Business Against Crime (BAC), with a view to national implementation of television surveillance systems.

At the time of the launch of the project, the project leader at Benoni police station, Captain Leon van Dyk, expressed the view that "COM-SAFE is the most technologically advanced anti-crime initiative ever seen in South Africa ..." (Van Dyk, 1996b:3). The project is intended to be a comprehensive community safety management system and the following broad steps in the launch of the *COM-SAFE* project can be identified:

- The support of the local authority, the business sector and other possible sponsors was obtained.
- The possible locations of cameras were identified by analysing crime statistics and examining other information.
- The best possible equipment was obtained in the form of sponsorships by the companies involved.
- A multidisciplinary control room was developed, involving the police, fire and protection services and emergency services.

Ten cameras were placed in strategic positions in the CBD. Whereas three companies (two multinational and one local) initially installed systems as a gesture of goodwill, two are still involved in the project. The trial phase extended from March to August 1996, during which time different types of cameras and links were tested. The intention was that after the end of the test period, the system would be *marketed* and funds obtained to make it a full-time feature of safety in Benoni.

At present, three entities in Benoni each run 24-hour control rooms: the SAPS, Benoni Protection Services and Benoni Fire and Emergency Services. The aim is to co-ordinate all safety and emergency services from one control room, eliminating duplication and saving resources. In the meantime, the Emergency Control Centre of the Benoni Fire and Emergency Services was chosen as the most convenient, central location for the control room for CCTV.

Prospective control room operators were screened (using psychometric tests) and only suitable candidates were selected. No information is available on the criteria used. Training of operators was done by the SAPS (in terms of the general, background training) and the private companies (in the specifics of the system). Procedures for monitoring, handling and safekeeping of video material were developed.

At the time of the launch of the *COM-SAFE* project, an attempt was made to gauge the public's attitude toward CCTV. People were invited to telephone Crime Stop and express their views. Response was limited, but overwhelmingly positive. Radio stations also included CCTV as a talk show topic and the project received considerable coverage in the written media.

### **What did the project set out to achieve?**

The stated objective of the Benoni CCTV project was to revive the CBD and stimulate economic growth by providing a secure and safe environment for all the normal activities of a city centre. The project was considered to be more than just a crime prevention tool - a complete management system was envisioned,

encompassing traffic control (including congestion, accidents and parking); the management of fire and emergency situations (including accidents and potential conditions leading to a fire); and pro-active policing (including the identification of potential suspects, the co-ordination of responses to incidents, the facilitation of arrests when criminal acts occur and increasing the effectiveness of Business Watch personnel).

A secondary objective was to run the project as a model for the development of CCTV in other centres in the country. This would be achieved by testing a number of systems and various types of links over a period of six months with a view to making recommendations and developing standards regarding the most suitable equipment for South African conditions.

### **Were the objectives met?**

In terms of the objective to facilitate the development of CCTV in other centres in South Africa, the project team members have certainly gained invaluable experience around CCTV equipment and systems. A considerable amount of equipment and links have been tested and the findings have been documented by the project leader. This could serve as an indispensable guide to other stations planning similar projects.

Determining whether CCTV has led to the rejuvenation of the Benoni CBD was beyond the scope of this project. This objective is undoubtedly a longer-term one and whether it has eventually been met would need to be determined at some point in the future.

The analysis in the section to follow should shed some light on whether CCTV has led to an improvement in the crime situation in Benoni.

### **How successful has the project been?**

#### **Local SAPS opinion**

Benoni police are cautiously optimistic about the impact of CCTV on crime. However, different rates of decrease in crime are reflected in the documentation given to the researcher, although conflicting figures may be a function of different time periods used in the calculation of crime trends. For example, in an analysis dated 16 July 1996, Capt. Van Dyk quotes a 9,3% decrease in priority crime in the CBD; this percentage appears to have been calculated using January 1996 as a baseline figure. In the same document, a decrease of 17% in crime in general in the Benoni area is referred to; this percentage is arrived at by comparing the first six months of 1995 to the first six months of 1996. On the other hand, there have been newspaper reports (*Rapport*, 16 June 1996) that quote decreases in crime of 35%.

The document also refers to the fact that 20 arrests have been made since the inception of the project, although no additional information regarding prosecution and conviction is given. Also, there is no record of how many incidents were actually observed by control room personnel.

Clearly, a more rigorous analysis of the crime patterns and trends before and after installation of the system is needed.

### **Analysis of crime statistics, including 'best practice'**

Examining crime statistics in order to determine how successful a CCTV project has been is generally done in two ways: Firstly, the monthly crime figures for different types of crime for a set period before the installation of a system are compared to the monthly crime figures for a set period after installation. Two years before and after is the ideal, however, this is seldom achieved. The problem with this method is that there may have been particular environmental factors present during the pre-installation period that affected crime figures which then gives a biased set of statistics against which the post-installation figures are compared. For example, the crime figures for a city experiencing large-scale urban unrest would probably not be a good set of statistics for comparison.

Secondly, a particular month (generally the month of the installation of a system) is taken as a baseline figure and compared with crime figures for the months that follow. Again, the problem with this method is that particular factors may have affected the baseline figure, creating a biased picture against which everything else is compared. Crime in December in a city such as Durban would be a good example of this problem. The ideal would be a combination of these two methods.

It is also important to gather statistics on all types of crime in order to examine whether CCTV has led to displacement from street crime to other types of criminal activity. What often happens is that offenders switch their activities from crimes that are easily detected by camera to those that are more difficult to observe. They may also shift their activities from public to private spaces (such as from the street to the inside of shops), which is then reflected in changes in types of crime (for example, a shift from robbery to shoplifting).

Gathering statistics on all types of crime will also give the analyst an idea of whether a general increase or decrease in crime has occurred, which must then be taken into account when interpreting the impact of CCTV.

In order to monitor the effect of CCTV on crime, the police stations in the three towns and cities included in the British review (Brown, 1995) generally divided their areas into the smallest possible blocks. It appears that earlier crime statistics were used to compare with later (following installation) statistics in only one of the studies. In the other studies, the crime statistics from the time of

installation were used as a baseline figure in order to monitor what happened after that.

One of the problems facing police station management is the fact that computerised systems for recording crime generally do not record crime separately for areas as small as CBDs. This is the case with the Crime Administration System (CAS) in use by the SAPS in South Africa. The CAS blocks would need to be made smaller if the system were to be used to collect crime statistics for both the placing of cameras as well as the determination of the success of CCTV projects. CIMC at SAPS head office (Krüger, 1996) has in fact recommended that this be done in the case of stations who wish to install camera systems.

Against this background, an assessment of the success of the Benoni CCTV project will be made using the following crime statistics that were made available to the researcher:

- The total number of **priority crimes** for the CBD and the rest of Benoni for January to May 1995 and January to June 1996, as well as the total number of **all crimes** for the CBD and the rest of Benoni for the same period. These figures are given in Table 1. (Note that the figures for June 1996 were not used in the table since the comparative figures for June 1995 were not given.)
- A separate set of crime figures for the CBD and the rest of Benoni for January to September 1996, which included figures for individual crimes, although they were still classified as priority crimes. These figures are given in Tables 2 and 3. (Note the discrepancy in the monthly totals for priority crimes for 1996 in the different tables. The reason for this is not clear.)

Table 1 examines the five-month total for 1995 against the five-month total for 1996, for both the CBD and the remainder of Benoni, and gives a percentage change in these totals (refer the third-last column of the table). These calculations indicate that priority crime in the CBD decreased by 8,8% in the five-month period covered by the table. However, priority crime in the rest of Benoni increased by 46,0% during the same period, indicating substantial displacement of crime to areas outside the CBD. This trend, which can be clearly seen in Figures 2 and 3, will be again referred to in the section dealing with displacement. It was not possible to do a similar comparison (i.e. for the CBD and the rest of Benoni) for all crime (as opposed to priority crime), since these figures for 1995 were not made available. However, total figures (for the whole of Benoni) for all crime for January to May 1995 were given, and a comparison of these with the figures for 1996 show that crime in general in all of Benoni decreased by 15,2% from January to May 1996, compared to the same period in 1995.

It should be pointed out that the period covered in the table (January to May), is in fact two to three months prior to installation of the cameras, and two to three months after installation. This time frame may not be a good measure of the effect of CCTV on crime. In fact, the more detailed statistics in Table 2 show that crime in the CBD declined substantially from May 1996 onwards. The start of this trend can be seen in Table 1 by looking at the total number of priority crimes reported in the CBD during April 1995, compared to the total in April 1996; a 28,4% decrease was noted. Similarly, the total number of crimes reported in the CBD during May 1995, compared to May 1996 showed a 28,7% decrease in priority crime. Quite the opposite was experienced in the rest of Benoni - the total number of priority crimes reported in the remainder of Benoni during April 1995 compared to April 1996 increased by 22,1%, and the total number of priority crimes reported in the rest of Benoni during May 1995 compared to May 1996 increased by an enormous 118,5%.

A more detailed trend analysis of specific types of crime is given in Tables 2 and 3. Significant decreases were experienced between January and September 1996 in the CBD (refer Table 2): breaking into residential premises decreased by an average of 20,2% per month; breaking into business premises decreased by an average of 8,2% per month; and the theft of motor vehicles decreased by an average of 24,5% per month. Theft out of motor vehicles, however, increased by an average of 6,8% per month. The picture for the rest of Benoni (Table 3) looks considerably different and will be discussed in the section dealing with displacement. The difference in the crime trend in the CBD and in the rest of Benoni can also be seen in Figures 4 and 5. Ideally one would have wanted to examine the trend in other types of crime, such as assault, in order to see whether decreases in crimes that are not normally affected by CCTV systems also occurred. Regrettably, the crimes shown in the table were the only ones that the Benoni police were able to supply.

It would be fair to conclude that Benoni CBD has experienced reasonable decreases in crime since the inception of the CCTV project, but the question is, at what cost (in the form of displacement)? Both measurements of crime change (i.e. the month-on-month and the baseline measurement) showed decreases in priority crimes in the CBD.

It should be pointed out, however, that both measures of the impact of CCTV on crime in the CBD are flawed since the period used is too short. Any concrete conclusions would not be convincing from a statistical perspective since the random effect of crime statistics is lost when time periods are short. As noted earlier, two years before and after installation is the minimum period that would be required to conduct a conclusive analysis of the impact of CCTV.

### **Has displacement occurred?**

Displacement of crime can take place in a number of ways: crime can be displaced to areas falling outside of the jurisdiction of the police station that is managing the CCTV system; it can be displaced from the area where the cameras are located to other areas within the jurisdiction of the police station (for example, from the CBD to the suburbs); it can be diverted from the actual view of the cameras to areas falling between cameras; it can be displaced in the sense of criminal activity shifting from types of crime that can be easily detected by cameras (such as breaking into vehicles) to types of crime that are more difficult to detect (such as automatic teller machine fraud); and it can be diverted away from the public spaces monitored by the cameras to private spaces, such as inside shops.

During this limited investigation it was only possible to examine two types of displacement in relation to the Benoni project: The displacement of crime from the CBD to other areas and the displacement of crime to the adjacent areas of Boksburg and Brakpan.

There appears to be considerable displacement of crime from the Benoni CBD to other areas in Benoni. Table 2 gives an indication of the trend in priority crimes in the CBD for the first nine months of 1996, which should be read together with Table 3, which gives the same trends for the rest of Benoni. The second-last column in both tables gives the net loss or gain in number of crimes in the nine-month period, the baseline figure being the number of crimes reported in January 1996. The last column shows the average percentage change per month during that period.

From these two tables it is clear that although decreases in all priority crimes except theft out of vehicles were noted in the Benoni CBD, substantial increases in all priority crimes were recorded in the remainder of the Benoni area. This would appear to be an indication that displacement of crime to areas outside the Benoni CBD has occurred. Again, one would have ideally liked to examine trends in other types of crime in order to determine whether the increase in crime in areas other than the CBD has been general or only in respect of crimes that would normally be prevented (and thus displaced) by CCTV. The average increase of 8,6% for residential burglary, for example, gives one the idea that increases in other types of crime may have occurred. The crimes shown in the table were the only ones that the Benoni police were able to supply.

A word of caution: even when crime has increased substantially in areas outside of the coverage of CCTV, one can not say with certainty that the increase is due to displacement; there may be other factors responsible. Without rigorous, controlled investigation of all possible factors, it is impossible to ascribe increases in crime one area to the displacement effects of a television surveillance system in another.



<b>Priority crime:</b>										
CBD	104	168	168	229	244	162	168	165	164	174
Rest of Benoni	117	155	243	181	124	237	197	271	221	271
<b>All crime:</b>										
CBD	*	*	*	*	*	358	356	413	412	416
Rest of Benoni	*	*	*	*	*	438	387	515	407	494
TOTAL	996	869	1 230	905	948	796	743	928	819	910
<b>Proportion of priority crimes to all crimes:</b>										
CBD										
Rest of Benoni	*	*	*	*	*	45,3	47,2	40,0	39,8	41,8
	*	*	*	*	*	54,1	50,9	52,6	54,3	54,9

\* Figures not available.

**Table 2: Number of reported crimes in Benoni CBD: Priority crimes for the first nine months of 1996**

Type of crime	Jan.	Feb.	March	April	May	June	July	Aug.
Murder	1	2	1	-	1	3	-	-
Rape	-	1	3	1	1	-	-	2
Armed robbery: business	-	1	6	1	1	5	2	-
Housebreaking: residential	26	21	28	16	44	17	15	13
Housebreaking: business	23	37	20	37	12	18	15	16



Bagsnatching/pickpocketing	1	-	-	1	1	-	-	-	-	-
Shoplifting	13	13	12	19	31	8	14	19	14	16
Ordinary robbery	11	12	6	11	33	28	25	20	22	21
Aggravated robbery	39	55	48	41	24	40	34	37	38	25
Burglary - business premises	16	16	30	23	22	13	34	32	29	27
Motor vehicle theft	60	48	63	61	32	40	46	47	41	34
Theft from vehicles	44	63	78	110	78	72	61	63	57	33
Common assault	93	102	78	83	68	91	80	71	75	83
Aggravated assault	87	80	40	55	42	59	79	72	70	52

\* Conclusions cannot be drawn about changes in crime trends in the case of crimes with very small reporting figures.

**Table 5: Number of reported crimes in Boksburg: Priority crimes for March to September of 1995 and 1996**

Type of crime	1995							1996			
	March	April	May	June	July	Aug.	Sept.	March	April	May	June
Burglary	53	63	56	46	37	41	47	58	67	57	4
Armed robbery	10	10	3	6	10	9	7	6	6	9	
Motor vehicle theft	34	44	33	50	23	33	32	34	25	24	1
Theft from vehicles	46	26	34	29	40	40	52	32	42	49	5
Hijacking	2	3	11	2	2	3	5	6	6	9	

\* Conclusions cannot be drawn about changes in crime trends in the case of crimes with very small reporting figures.

**Figure 2: Trend in selected priority crimes in Benoni CBD: First nine months of 1996**

**Figure 3: Trend in selected priority crimes in the remainder of Benoni: First nine months of 1996**

When asked about displacement of crime from Benoni to adjacent areas, the project leader of the CCTV project indicated that no *official* complaint had been received from any other police station, but rumour had it that crime levels in other areas had been affected. Besides Boksburg and Brakpan, Benoni is also bordered by Kempton Park and Springs. His view is that each police station must deal with its crime problem in the best manner at its disposal. This tends to be the general view of station managers.

### **Public opinion**

A limited *street* survey was conducted in the Benoni CBD during which 13 females and 11 males were interviewed to determine their awareness of and views on CCTV, and their attitudes toward crime-related issues. Approximately half of the respondents were aged 30 years and older and most earned less than R 3 000 per month, although this question was poorly answered. The vast majority (19) lived in the Benoni area and an equal number indicated that they came daily to the Benoni CBD.

Most of the respondents (17) reported that they were aware of the CCTV surveillance system in Benoni and all but one of those who were not aware of the system, supported the installation of cameras. It appears that those who were aware of the cameras, heard about them at the time that the project was launched, with six persons learning about it from newspapers, five from friends and relatives, two from television and one from radio. The vast majority of the respondents (19) reported that they were comfortable with being observed by camera and only two indicated that they were not.

Views on who was responsible for installing the system were varied, ranging from the city council (3), to the traffic police (3), the SAPS (4) and business (1). The rest indicated that they did not know who had installed it. Similarly, opinions on the purpose of the cameras were quite diverse, with most (10) reporting that they thought it was to deal with crime and the remainder mentioning reasons such as traffic control and the protection of businesses.

When asked who should pay for the installation and maintenance of the CCTV system, respondents gave responses such as the city council (5), the traffic police (3) and the business sector (4). Only two indicated that in their opinion the SAPS should pay for the system. One respondent innovatively suggested that criminals should pay for the cameras. The reasons given for the various suggestions concerning payment were in most cases either "It is their responsibility" or "They will benefit".

Although most of the persons interviewed were in fact aware of the cameras, they in turn were of the opinion that most people visiting the CBD are not aware of them. On the other hand, the majority of the respondents felt that the criminals were aware of the cameras. Two-thirds of those interviewed indicated that people should be informed of the cameras when entering the CBD, which concurs with the view held by the majority that if people know about the cameras, they will be less likely to commit crime.

More than 80% of the respondents agreed with the statement, "People who are aware of the cameras feel safe". This appears to indicate that the cameras have a positive effect on feelings of safety in the CBD. When asked about the crime rate during the past few months, seven reported that it had increased, five were of the opinion that it had stabilised and only four indicated that it had decreased.

One of the most disturbing findings of the *street* survey is the fact that almost one-half (ten of the 21 respondents who answered the question) reported that someone close to them (i.e. a family member of a friend) had recently been the victim of a crime in the CBD area. In addition, six (out of the 21 who responded) indicated that they themselves had been victimised. The types of victimisation ranged from theft of vehicle (1), to robbery (3), shoplifting (1) and a *hit and run* attack. Although these results must be placed within the context of the limited sample and the nature of the sampling procedure, it is nevertheless alarming that 28% of the group had been recently victimised.

Finally, when asked about the most common type of crime occurring in the Benoni CBD area, robbery was mentioned most often, followed by petty theft, pickpocketing, bagsnatching and vehicle-related crimes. According to two of the respondents, crime around automatic teller machines was a problem in Benoni.

In sum, given the limitations on the generalisability of these findings (due to the constraints imposed by the sampling procedure), it would appear that most

residents of Benoni are aware of the cameras and the vast majority are not particularly concerned about being watched. In addition, the presence of the cameras seems to have some positive effect on feelings of safety in the CBD. If the fact that nearly one half of the respondents reported that a friend or family member had recently been the victim of a crime in the Benoni CBD and that six of the 21 indicated that they themselves had been victimised is to be relied upon, then the level of crime in Benoni appears to be very high.

### **Security officers' views**

Four security guards working in the Benoni CBD were interviewed to canvass their views on the success of the system. All were aware of CCTV in Benoni and were of the opinion that criminals were also aware of the system. Three of the four felt that the cameras had had some effect on crime in Benoni, however, they were only cautiously optimistic regarding the extent of the system's positive impact on crime. They were unanimously of the view that criminals tend to shift their activities to areas, such as the inside of shops, not covered by the cameras. None were supportive of the idea that CCTV is an invasion of privacy and two expressed the view that sacrificing privacy is little to ask if it leads to improvements in safety. All were in support of retaining the system and two felt that it should be extended. As with the general public, there was no agreement regarding who should pay for CCTV; two officers referred to local business, one to the police and one to the local authority.

### **Is the Benoni CCTV project cost-effective?**

This section of the report addresses the issue of whether or not the substantial financial outlay needed for CCTV systems is justified by a reduction in crime, or whether the funds would be best invested in efforts to improve conventional policing. A cost-effectiveness analysis of the *COM-SAFE* project in Benoni would therefore have to ask: "What are the relative costs and benefits of the CCTV project and those of conventional policing?"

The inconsistencies in the Benoni crime figures and difficulties with the analysis of the statistics have already been referred to in this report. These factors to a large degree problematised the assessment of the effectiveness of the CCTV project. Although, in the final analysis, it appears that priority crime declined in the CBD, the impact of CCTV on the reduction in crime remains inconclusive. The effect of camera surveillance has been less persuasive in the light of the crime displacement issue (to both within Benoni and surrounding areas). Furthermore, one cannot reject the hypothesis that certain positive outcomes of CCTV were offset by particular negative trends. For instance, CCTV's apparent ability to have an effect on priority crime may have encouraged criminals to shift their focus to other types of criminal activity, and/or to change their *modus operandi*.

These difficulties experienced with the evaluation of the broader project impact directly on any effort to analyze the cost-effectiveness of the Benoni COM-SAFE project. Furthermore, it was not possible to satisfactorily measure, let alone value, each of the relevant benefits and costs.

The following issues further inhibited the cost-effectiveness analysis:

- The reports provided by the Benoni project reflect rand-cost translations for crimes reported in the CBD (refer Tables 6 and 7). According to these figures, the March to June 1995/96 comparisons show that losses in the CBD declined by approximately 18,7% (i.e. by, on average, an estimated R3 423 760 per month). This figure, however, is severely skewed since: (1) the 1995 baseline figures show that excessive losses were incurred during the month of March 1995 (resulting in an inflated reduced figure); and (2) the 1995 baseline figures show that a substantial reduction in losses occurred during the month of April (this reduction is larger than any reduction observed with CCTV in Benoni).

**Table 6: Reported crime and costs of crime in the Benoni CBD: January to June 1995 and 1996**

1995	January	February	March	April	May	June
Total number of crimes* and priority crimes (in brackets)	(104)	(168)	(168)	(229)	(244)	**
Losses in Rand***	28 132 578	29 511 217	28 368 721	11 470 694	15 346 003	17 824 034
1996	January	February	March	April	May	June
Total number of crimes and priority crimes (in brackets)	358 (162)	356 (168)	413 (165)	412 (164)	416 (174)	341 (123)
Losses in Rand***	12 554 499	13 144 708	13 737 531	14 308 248	16 936 469	14 332 167

\* Total number of crimes for 1995 not available.

\*\* No figure available.

\*\*\* Losses relate to total crime figures.

**Table 7: Comparison of costs of crime in the Benoni CBD: January to June 1995 and 1996**

		1995 (no CCTV)	1996 (CCTV)
Total cost of	EX	R73 009 452	R59 314 415

crime			
Monthly average	X	R18 252 363	R14 828 603

Notes: (1) Crime figures and associated costs were obtained from the Benoni *COM-SAFE* project.

(2) Comparative crime costs for March to June 1995 and 1996 were derived from the reported statistics. An average monthly estimate was arrived at by summing the monthly reported costs and dividing by the number of months for 1995 and 1996 respectively.

The 18,7% reduction in losses since CCTV's implementation is further questioned by an alternative before-after analysis. (Note: such an analysis is also restricted since statistics for only two months before and four months during and after the implementation of CCTV are available.) This analysis suggests the very opposite: A steady increase in losses for the period January to June 1996 is observed.

The more crucial issue impeding this cost-effectiveness analysis, however, is the question of credibility. This study could not gain from the rand-cost translations since no credible explanation is offered concerning the actual method of translation - one is hence left with many unanswered questions such as, "How does one accord a monetary value to the act of rape?" and "Were current market values of stolen property used in the translation?"

- It was found that no manageable system for assessing the costs and benefits of conventional policing exists. Contributing to this problem is the lack of station information on variables such as the number, utilisation and maintenance costs of the vehicle fleet employed for patrol duty in the Benoni CBD.
- A further issue is the actual expenditure incurred by the *COM-SAFE* project. The Benoni project received aid from a number of sources in the community, largely in the form of *no charge* for the use of fixed resources. Running costs incurred were generally covered by the Greater Benoni Town Council and the Emergency Communication Centre. These actual expenses were unfortunately not recorded by the respective agencies, thereby influencing the researcher's capacity to assess actual expenditure for the project.

The *COM-SAFE* project team, however, compiled a projected budget for a 14-camera surveillance system. These projections are very high, with capital outlay totalling approximately R2 million and monthly running costs estimated at R83 207 (refer Table 8). If one accepts that monthly loan repayments are as such not yet applicable to the project (due to the present nature of the sponsorship), one would then assume that running costs for a 14-camera project would be in the

region of R58 207 (i.e. the total monthly running costs less R25 000 allocated to servicing the loan). Annual running costs would therefore accrue to approximately R698 484. On the other hand, the current unit cost per police officer for the police service as a whole is estimated at R70 000 per year (this amount includes all standard items). The unit cost of a constable would be in the region of R40 000. This presents a situation that calls for a choice between implementing 14 CCTV cameras or investing in an additional 17 police officers (i.e. approximately 5 per shift) for the city centre.

In the event of national implementation of CCTV being considered, certain issues that have been raised in the above discussion and that may impact on the costs and/or effectiveness of a CCTV project should be considered:

**Table 8: Benoni CCTV surveillance: Projected budget**

<b>Capital outlay</b>	
14 (10 X 80mm auto focus) cameras @ R35 000 each	R490 000
2 microwave links for 4 mobile cameras @ R80 000 each	R160 000
Optic fibre linkages for 10 cameras	R500 000
Establishment of operation room infrastructure	R805 000
	_____
TOTAL	R2 000 000
<b>Monthly running costs</b>	
Electricity for camera operation: R0,40c per hour X 14	R4 167
Fibre optic links	R4 000
Servicing of R2 million loan over 20 years	R25 000
Telephone costs	R3 000
Salaries of six additional operators @ R3 000 per month	R18 000
Electricity: control room	R1 000
Video recording cassettes: 14 cameras X 2 per day X 31 X	R26 040

R30	
Maintenance: communication	R2 000
	_____
TOTAL	R83 207

- While the projected budget is very high, it does not account for all the costs associated with the management of a CCTV project. Costs that may have to be factored into the budget include those associated with the training of control room staff, the analysis of crime patterns and trends to locate target areas for camera location, publicity costs, and the indirect costs of co-ordinated police patrols on the ground.
- In the international literature it is highly recommended that (1) camera systems be fully integrated into police command and control strategies; (2) a high degree of camera coverage be used since surveillance intensity has the greatest impact on crime; and (3) CCTV, and any successes it has achieved, be well publicised, both to help reduce fear of crime and to deter offenders (Brown, 1995, p.vii).

Each of these recommendations in turn has short and/or long-term effects on the issue of cost-effectiveness. For instance, publicity initiatives intended to educate and create public awareness of the operation and purpose of CCTV will induce large additional costs in the short term. In the long run, even greater publicity costs may be expected to sustain positive CCTV outcomes, especially since the deterrent effect of cameras may start to fade over time (Brown, 1995). Publicity costs therefore are only one of the costs that, on the one hand, seem necessary for sustaining an effective surveillance system yet on the other, are very likely to inflate a project's budget.

To deny some of the positive effects that the Benoni project has produced would be unjustified. For example, the project leader reported that since the inception of CCTV, 50% of the police officers who normally patrol the CBD have been deployed elsewhere. However, given the inconclusive findings of this study and the impact of additional unforeseen costs (immediate and in the longer term), to conclude that the Benoni project has been cost-effective when its effectiveness has not been established, would be equally unjustified.

### **Where Benoni SAPS see the project going**

Benoni SAPS have set short-term (August 1996 to January 1997) objectives for the project that include consultation with all role players, the raising of funds, the installation of 14 cameras, the linking of the cameras to a control room, the creation of a *107-type* centre (a comprehensive safety and security response

centre, incorporating emergency and other services) and the creation of an information technology system (to manage the information gathered in such a way that it can be used, *inter alia*, for intelligence-gathering).

What is needed to take the project forward is R2 million for 14 cameras, two microwave links, optic fibre links, control room infrastructure and video tapes. A further R83 000 per month is needed to maintain the system, which includes servicing the R2 million loan.

The longer-term objective is to expand the system to the greater Benoni area. The Benoni project is also seen as the *launching pad* for CCTV in Gauteng and the Benoni SAPS have compiled a business plan for the implementation of CCTV in Gauteng. The plan contains detailed information on the steps that need to be followed for it to be realised. In fact, in view of the extensive knowledge and experience gained from the testing of equipment and links during the pilot phase of the project, the project leader (Capt. Van Dyk) is of the opinion that the Benoni project should become the *official* pilot project for the implementation of CCTV in towns and cities in South Africa.

## **CONCLUSION: THE WAY FORWARD**

Although the conclusions of this report on the effectiveness of CCTV in Benoni are not over enthusiastic, it is important to offer suggestions on how to maximise the benefits of CCTV.

### **What works? The requirements of a good system**

From the discussion presented in this report it is clear that certain issues are critical to the success of television surveillance. These will be briefly summarised:

- A CCTV project must be a joint venture between the local police, the business sector, the local authority and the community. The consultation process must be inclusive and must be embarked upon before any decisions are taken about CCTV.
- The fact that television surveillance may not be the answer to a particular cities' crime problem must always be borne in mind. CCTV has definite limitations and can be expected to have an impact on only certain types of crime. Another major limitation of television surveillance (and other situational crime prevention methods) is the fact that it does nothing to address the social causes of crime. Although crime may be prevented in the sense that it is either displaced to other areas or offenders make a rational choice not to commit an offence, situational crime prevention has no impact on the factors present in society that contribute to criminality.

- CCTV should never be considered to be anything more than a technological tool or aid to assist the police with crime management and control and the efficient use of resources.
- Related to the above is the fact that television surveillance should be only one part of a total crime prevention package. There are considerable dangers of crime displacement and this issue must be debated at all levels. Community residents in particular are vulnerable to the effects of displacement since "motivated offenders will always find victims" (Brown, 1995:65).
- CCTV should be used for more than just crime detection and control; it should be the means to achieve a comprehensive safety and security management system (including accident, fire and other emergency response) in a city or town.
- Legal opinion on the admissibility of evidence obtained from television surveillance should be absolutely clarified.
- The question of funding remains an obstacle to the implementation of CCTV in South Africa. Ways will have to be found to assist local authorities and the police to overcome this problem.
- Making the right choices as regards equipment is essential to the success of the system. Operators need to be adequately trained in the use of the equipment and there should be a strong technical support system and equipment maintenance system available to them.
- Before deciding on the placement of cameras, a careful analysis of crime patterns and trends must be undertaken and patrol personnel and investigative staff should be consulted. In addition to analysing the statistics, a thorough physical inspection must be carried out in order to monitor traffic and people and to look for possible structures on which to mount the cameras. It should also be borne in mind that in order for a camera system to be effective, there needs to be a high degree of coverage (Brown, 1995:65).
- Operating procedures, standards and guidelines are a fundamental requirement and relate directly to the projects eventual credibility.
- The effectiveness of CCTV often wears off over time. This can be reduced by ensuring constant and systematic media coverage of the successes achieved in the form of arrests and convictions.
- The system works largely on deterrence and this can be assisted by placing prominent signs in the area covered by cameras warning the public that CCTV is in operation.

- A high level of professionalism and a sound code of conduct are essential for the system to be credible to the community and other role players.

## **What should be considered**

### **Legal requirements**

A number of legal requirements must be met. These have been outlined by SAPS legal experts as follows (Koekemoer, 1996):

- CCTV should only be used in public places, i.e. in areas where persons do not have a reasonable expectation of privacy.
- Approval must be obtained from the owners of buildings and structures to which cameras will be attached.
- Personnel operating the system should be carefully screened and selected to ensure professionalism and trustworthiness since recorded material is sensitive and confidential.
- The recorded material must be treated as highly confidential and be erased after a specified period of not longer than 30 days, unless needed for evidence. Material can under no circumstances be used for any purpose other than crime detection and evidence. Video tapes must be kept locked and there must be registers to control the storage of material.
- There should be sanctions attached to the transgression of guidelines.
- No promises or guarantees should be made to the public or any other role player about the system.
- CCTV should not be used to prosecute offenders for minor offences since this will discredit the system.
- CCTV should only be used where conventional methods of crime prevention have failed. It should always be seen as a drastic measure to be used only when absolutely necessary.

The Secretariat is not convinced of the relevance of the last two provisions: firstly, recent evidence had indicated that dealing with minor offences and incivilities in communities helps to reduce more serious crime (Gladwell, 1996) and secondly, CCTV may be just the type of extra policing needed in high-crime areas to make a difference in terms of crime prevention.

### **Funding**

The implementation of CCTV on a countrywide basis is being dealt with by National Standards and Management Services. One of the biggest hurdles is the funding issue; there is in fact no budget at SAPS head office or no funds available for CCTV. One of the problems with the business sector or local authority making direct contributions to local police stations for CCTV projects is that the money goes to a central account at the Treasury and can not be redirected or reallocated back down to any specific station. Some stations have tried to overcome this problem by forming a Section 21 company. However, the problem with this option is that a police officer is not able to serve on the board of such a company (it would be a conflict of interests), and the police must therefore remain at the periphery of the planning and consultation process for the CCTV projects arising from such initiatives.

Ideally, local authorities and police stations should be able to apply for funding on a rand-for-rand basis from a central fund controlled by the SAPS. This path is envisioned by National Standards and Management Services and a business plan has been drawn up by Dir. Gous which will enable the SAPS to approach international donors for funding for the constitution of such a national fund.

The Secretariat does not necessarily agree with this approach and has not as yet formed a firm opinion on this matter. There is the view that although the local police must be involved in the setting up of CCTV projects, the capital needed should not come from the police but should be raised by the local authority in co-operation with the business sector.

Another possibility in terms of funding is the budgets that are allocated to safety and security by provincial parliaments. The size of the provincial budget allocated to policing varies considerably with Gauteng, for example, having a budget that is five times greater than that of KwaZulu-Natal. The provinces with substantial budgets for policing could consider using part of the funds for CCTV projects within their boundaries.

### **Project management**

National Standards and Management Services are in favour of the appointment of a programme manager on a full-time basis at national level to oversee and manage the implementation of CCTV. Although this appears to be a good idea, it in no way detracts from the need for sound management at station level. They have also recommended the appointment, part-time, of a technical manager for the project. Again, a fairly high level of technical expertise is also needed within the project team at station level.

A careful documenting of the requirements of a successful CCTV project has been undertaken by the project leader of the Benoni project. In his report, *Closed circuit television: Draft proposals for national implementation with specific reference to Benoni as a role model and case studies conducted in Britain*

1995/96, Capt. van Dyk paid attention to aspects such as camera equipment, links, control room, computer and video equipment, types of recordings, safekeeping of tapes, co-ordination of all safety services, access control, supervision, communication and publicity. Many of the systems operating in the UK have been criticised for being poorly planned. "The absence of official designs and standards and a lack of independent advice is now being highlighted" (*Security Focus*, 1995). Capt. van Dyk's document could very well form the basis for a set of guidelines for the implementation of systems throughout the country.

With regard to crime statistics, the fact that CAS blocks are too large to be of much help in the analysis of crime statistics for both the placement of systems and the monitoring of their impact needs to be addressed. At present, station commissioners are basing such decisions on either their pin-dotted crime maps (if such a system is used by the station) or a manual analysis of crime patterns and trends. Consideration should be given to reducing the size of CAS blocks where this is needed in specific areas.

Stations should also consider collecting information on other variables that may affect crime trends since these should be taken into account when assessing the impact of CCTV.

In addition, the outcome of arrests in terms of prosecution and conviction should be effectively monitored. This is a way of determining the success of CCTV that has not been utilised at all.

In conclusion, the importance of engaging with communities on an ongoing basis should not be overlooked. Consultation with the community should not end at the planning stages of a project; communities are extremely vulnerable to the highs and lows of crime and their views should be solicited at regular intervals.

CCTV should never be considered out of its intended context, and its limitations should always be kept in mind. It can be used to manage only certain types of crime and should therefore be one part of a comprehensive crime prevention initiative in public areas. CCTV initiatives should be subject to ongoing evaluation and the sustainability of such projects should be assessed. Furthermore, as with all situational crime prevention methods, surveillance does nothing to address the causes of crime. However, with these limitations in mind, CCTV nevertheless makes a notable contribution to increasing the safety and security of public spaces, and ultimately enhancing the quality of life of those who use them.

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