# Open-Street CCTV in Australia: A comparative study of establishment and operation

A report to the Criminology Research Council (CRC Grant 26/01-02)

Dr Dean Wilson & Dr Adam Sutton Department of Criminology University of Melbourne

April 2003

### **Abstract**

CRC Grant 26/01-02

Open-Street CCTV in Australia: A comparative study of establishment and operation

Dr Dean Wilson, Criminal Justice & Criminology, Monash University & Dr Adam Sutton, Department of Criminology, University of Melbourne

This study provides an overview of the current operation of Closed Circuit Television (CCTV) in Australian public spaces. Although the use of CCTV as a community safety measure in Australian public spaces has expanded remarkably in the past decade, little is known about how these surveillance systems operate. This study was not intended to be an evaluation. Rather it aims to provide a more informed context within which future discussion and research into Australian open-street CCTV, both theoretical and empirical, can proceed.

There are currently 33 systems operated by local governments in Australia. New South Wales, with eleven systems, has the greatest number, followed by Queensland with ten. Open-Street CCTV surveillance systems are presently subject to no direct regulation. There is a need for legislation to regulate open-street CCTV schemes, and bring some coherence to their manner of operation and mechanisms of accountability. Well thought out legislation, guidelines and codes of practice would increase public confidence that CCTV systems were appropriately controlled, administered and accountable.

To date, there has been very little evaluation of Australian CCTV systems. The need for greater evaluation of CCTV is apparent. Future evaluations should be conducted with reference to an appropriate framework, such as Tilley's model of 'realistic evaluation'. However it must be recognised that local government has limited capacity in this respect. Local governments may need to assess particular aspects or aims of their systems rather than attempt comprehensive evaluations. Additionally, State and Federal governments should examine the feasibility of committing resources to the future evaluation of CCTV.

The use of CCTV in open-street settings in Australia appears poised to expand. Increasingly, these systems will be integrated, with coverage ranging across public and private space. The ease of transmitting information may also facilitate centralised monitoring of systems spanning large areas and populations. The precise impact CCTV has upon crime and perceptions of safety in particular locations requires more thorough research. Despite ambiguous findings, many local councils remain enthusiastic about CCTV, although few see it as a panacea. However it remains to be established in what locations and under what conditions CCTV will prove most effective. Rigorous independent assessments both of the intended and unintended consequences of systems will assist in clarifying this picture. Future research should also include detailed ethnographic studies of control room operations and more sophisticated study of the impact of CCTV upon policing practice.

# **Contents**

List o	nowledgements of Tables utive Summary			iv v vi
1	Introduction			1
2	Open-Street (		rch & Theory	<b>3</b> 3
	2.1	Critical Persp	re Criminology	5
	2.3	Australian Re		7
3	Open-Street (	CCTV: Intern	national Developments	8
	3.1	United Kingd		9
	3.2	Ireland		10
	3.3	Other Europe	an locations	11
	3.4	USA & Cana	da	11
	3.5	South Africa		12
	3.6	New Zealand		12
	3.7	Other location	ns	13
4	Open-Street (			14
	4.1	New South W		15
		4.1.1	Blacktown	16
		4.1.2 4.1.3	Bourke	16
		4.1.3	Dubbo Fairfield	16 17
		4.1.5	Lake Macquarie	17
		4.1.6	Lismore	17
		4.1.7	Lithgow	18
		4.1.8	Sutherland	18
		4.1.9	Sydney	19
		4.1.10	Walgett	19
	4.2	4.1.11	Willoughby	19
	4.2	Queensland	Deighana	20
		4.2.1 4.2.2	Brisbane Cairns	20 20
		4.2.3	Gatton	20 21
		4.2.4	Gold Coast	21
		4.2.5	Ipswich	21
		4.2.6	Ĺogan	22
		4.2.7	Rockhampton	22
		4.2.8	Toowoomba	23
		4.2.9	Townsville	23
	4.3	4.2.10 Western Aust	Warwick ralia	23 23
	т.5	4.3.1	Bunbury	24
		4.3.2	Claremont	24
		4.3.3	Perth	24
		4.3.4	Rockingham	25
	4.4	Victoria		25
		4.4.1	Bendigo	25
		4.4.2	Box Hill	26
	4.5	4.4.3	Melbourne	26
	4.5	Tasmania	Developed	26
		4.5.1	Devonport	27
		4.5.2 4.5.3	Hobart Launceston	27 28
	4.6	South Austral		28
	4.0	4.6.1	Adelaide	28
	4 7		nital Territory	29

		4.7.1	Canberra	29
	4.8	Northern Terri	tory	29
	4.9	Current Regula	ation	30
5	<b>CCTV</b> Instal	lation		34
	5.1	The decision to	o install CCTV	34
		5.1.1	Economic Factors	34
		5.1.2	Political Factors	35
		5.1.3	Issues	36
		5.1.4	Anti-Social Behaviour	36
		5.1.5	Alcohol-Related Violence	37
		5.1.6	Drug Dealing	37
	5.2	5.1.7	Fear of Crime	38
	5.2	Processes of In		39
		5.2.1 5.2.2	Preliminary Research Steering Groups and Committees	39 40
		5.2.3	Community Consultation	42
		5.2.4	Objectives	44
		5.2.5	CCTV Trials	45
	5.3	Installation: Fi	nancial and Technical Considerations	46
		5.3.1	Initial Funding	46
		5.3.2	Technology and Consultants	47
		5.3.3	Digital versus Analogue	49
		5.3.4	Camera Placement	50
		5.3.5	Control Room Locations and Specifications	52
	5.4		ne prevention strategies	53
		5.4.1	Case Study: Sydney	53
		5.4.2	Case Study: Fairfield	53
		5.4.3	Case Study: Melbourne	53
		5.4.4 5.4.5	Case Study: Sutherland (Cronulla) Conclusion: CCTV and Crime Prevention	54 54
		3.4.3	Conclusion. CC1 v and Crime Frevention	34
6		gement & Publ		58
	6.1	Managing CCT		58
		6.1.1 6.1.2	Management Structures	58 59
		6.1.3	Meetings and Partnerships Strategic Planning	59
	6.2	Ongoing Fund		60
	0.2	6.2.1	Local Government Funding	61
		6.2.2	Business Funding	61
		6.2.3	State/Local Government Partnership	63
	6.3	Accountability	•	64
		6.3.1	Codes of Practice	64
		6.3.2	Tape Storage, Release and Destruction	65
		6.3.3	Audit Committees	66
		6.3.4	Complaints Processes	68
	6.4	Publicity		69
		6.4.1	Public Awareness	70
		6.4.2	Media Policy	71
		6.4.3	System Title	73
		6.4.4 6.4.5	Signage Public Information	74 76
-	CCTV: D			00
7	CCTV in Pra	Operators and	Monitoring	<b>80</b> 80
	7.1	7.1.1	Monitoring	80
		7.1.2	Monitoring Models	82
		7.1.3	No Monitoring/Record Only	82
		7.1.4	Council Employees	82
		7.1.5	Private Security Personnel	83
		7.1.6	Police Operators	85
		7.1.7	Volunteers	88
		7.1.8	Operator Selection	89
		7.1.9	Operator Training	90
		7.1.10	'Working Rules' and Monitoring	92

		7.1.11 Monitoring Hours	92
	7.2	Communications	93
	7.3	Policing and Open-Street CCTV	94
	7.4	Displacement	96
	7.5	Offender Awareness	98
	7.6	Is CCTV Effective? The Anecdotal Evidence	99
8	CCTV Evalu	aation	102
	8.1	Evaluation methodologies	104
		8.1.1 Evaluation Aims	105
		8.1.2 Issues with Crime Statistics	106
	8.2	Evaluation: A model framework	108
	8.3	Summary	110
9	Future Tren	ds and Research	111
	9.1	System Integration	111
	9.2	Algorithmic Surveillance	111
	9.3	Surveillance, Crime Control and Society	112
	9.4	Future Research	114
Inter	view Codes		115
Bibli	ography		116

# Acknowledgements

This project was supported by Criminology Research Council Grant 26/01-02. The authors express their appreciation to the Criminology Research Council, Canberra for providing the funding to facilitate this research. Additional financial support was also granted by Crime Prevention Victoria, Department of Justice, Victoria, to whom sincere thanks are extended. Mention should also be made of the local government authorities who generously donated time and resources towards the research for this project. Particular thanks are due to Adelaide City Council, Brisbane City Council, Gold Coast City Council, Ipswich City Council, Fairfield City Council, City of Sydney, City of Melbourne, Sutherland Shire Council and the City of Perth who provided documentation and access to their CCTV systems during field visits. Thanks are also due to the many local government and police representatives around Australia who provided information on CCTV and participated in telephone interviews for this project. Thanks are also extended to the Criminal Justice and Criminology Program, School of Political and Social Inquiry, Monash University, for allowing Dr Wilson the flexibility to complete the final stages of report preparation. Lastly thanks must be extended to the Department of Criminology, University of Melbourne, for providing ongoing project support. Marlene Chaitra and Jack Fagan of the Department of Criminology deserve special mention for their assistance.

The research and writing of this report was primarily carried out by Dr Dean Wilson. Dr Adam Sutton provided ongoing input into research design and methodology and in the editing and preparation of the final report.

# List of Tables

Table 4.1	Number of Open-Street CCTV Systems by State and Territory (as at October 2002)	14
Table 4.2	Year of Commissioning and Size of CCTV Systems (as at October 2002)	33
Table 5.1	Funding Sources of CCTV	46
Table 5.2	Recording Technology	49
Table 5.3	Funding Source and Cost of Installation	55
Table 5.4	Issues leading to CCTV Installation	56
Table 5.5	CCTV Technology (as at October 2002)	57
Table 6.1	Annual Operational Costs of selected CCTV systems	61
Table 6.2	Period of retaining images	66
Table 6.3	CCTV Audit Committees	67
Table 6.4	Public Awareness of CCTV	71
Table 6.5	CCTV System Titles	74
Table 6.6	Open-Street CCTV – Ongoing Funding	78
Table 6.7	Signage Display in Public Space (October 2002)	79
Table 7.1	Modes of Monitoring	82
Table 7.2	Operators and Monitoring (October 2002)	101
Table 8.1	Evaluations of Australian open-street CCTV (as at October 2002)	102
Table 8.2	Tilley's Model of 'Realistic Evaluation' for CCTV	105

# **Executive Summary**

This study provides an overview of the current operation of Closed Circuit Television (CCTV) in Australian public spaces. Although the use of CCTV as a crime prevention measure in Australian public spaces has expanded remarkably in the past decade, little is known about how these surveillance systems operate. This study was not intended to be an evaluation. Rather it aims to provide a more informed context within which future discussion and research into Australian open-street CCTV, both theoretical and empirical, can proceed.

Despite the growing body of literature devoted to the question of CCTV effectiveness, no consensus as to the effectiveness of CCTV as a crime prevention measure has yet emerged. This points to the importance of assessing the effectiveness of CCTV within the specific local contexts in which it is installed. While there has been considerable research internationally, Australian research in this area remains sparse.

There has been significant expansion of CCTV in the public spaces of Europe (particularly Britain), the USA and Canada, and in South Africa and New Zealand. The rise of CCTV must be understood not only as a technological development, but also as a manifestation of broader social, political and economic transformations.

There are currently 33 systems operated by local governments in Australia. The greatest number of systems are located in New South Wales, where there are eleven, followed by Queensland where there are ten open-street CCTV systems. Open-Street CCTV surveillance systems are presently subject to no direct regulation. Regulation of open-street CCTV would offer clear mechanisms of accountability, and increased public access to information on CCTV. For local government, considered legislative regulation would potentially increase public confidence in a crime prevention measure seen to be appropriately controlled, administered and accounted for.

The most frequent purpose for installing CCTV has been to combat 'anti-social behaviour'. However CCTV has also fulfilled a broader function, and has been linked to urban rejuvenation efforts and to the demands of local politics. To date there has been scant consideration given to other crime prevention initiatives once the concept of CCTV has gained political momentum. Community consultation has been similarly varied, although more recent systems have paid greater attention to community consultation as part of the installation process. Once installed most CCTV systems are now commonly one element of broader crime prevention strategies. Nevertheless there has been a strong emphasis on

combining CCTV with CPTED and situational crime prevention measures. Future systems might sensibly investigate the integration of CCTV with social, as well as situational, initiatives.

While existing research demonstrates the importance of the ongoing promotion of crime prevention initiatives to retain effectiveness, few local government authorities have as yet developed coherent media policies. While controls on the release of information to the media are widespread, there has been less attention given to proactive policies designed to increase public awareness of the initiative. More attention should be given to raising public awareness of CCTV if such initiatives are to achieve the aim of enhancing feelings of public safety.

The most significant factors impacting upon the operation of CCTV are the effectiveness of communications between police and operators and the skill of operators. Flawed communications between police and operators will seriously impede the crime prevention potential of CCTV. The greatest number of incidents are likely to be dedicated where a system is actively monitored twenty-four hours a day. However local governments must balance this against the substantial involved in employing operators and the scale of problem under surveillance. Many local governments have found it more cost-effective to only undertake dedicated monitoring during peak periods of activity.

There has as yet been very little evaluation of Australian CCTV systems undertaken. The need for greater evaluation of CCTV is apparent. Future evaluations should be conducted with reference to an appropriate framework, such as Tilley's model of 'realistic evaluation'. However it must be recognised that local government resources are limited. Local governments may need to evaluate particular aspects or aims of their systems rather than undertake potentially expensive comprehensive evaluations. Additionally, State and Federal governments should examine the feasibility of committing resources to the future evaluation of CCTV.

The use of CCTV in open-street settings in Australia appears poised to expand. Increasingly also, CCTV systems will be integrated, with coverage ranging across public and private space. The ease of transmitting information may also facilitate centralised monitoring of systems across considerable distances. The precise impact CCTV has upon crime in particular locations requires more thorough research. Despite ambiguous findings, many local councils remain enthusiastic about CCTV, although few view it simplistically as a panacea. Future research in Australia may well prove that CCTV is a viable crime prevention option. However it remains to be established in what locations and under what conditions CCTV will prove

most effective. Rigorous independent evaluations and research will assist in clarifying this picture. Future research should include detailed micro-social studies of control room operations. There is also a great need for more detailed study of the impact of CCTV upon policing practice.

# Introduction

Open-Street Closed Circuit Television (CCTV) schemes are now operational in thirty-three Australian locations. The first local government administered open-street commenced operation in Perth in 1991. CCTV has subsequently expanded across Australia, and represents one of the most significant developments in community safety of the past decade. Despite the obvious importance of CCTV as a local community safety measure and significant resources devoted to establishing and running systems, CCTV remains a significantly neglected area of research in Australia. The aim of this report is to provide an overview of the current extent of open-street systems in Australia. It is hoped that this report will act as a stimulus for future research and discussion of this important development.

'Open-Street' or 'Town Centre' CCTV refers to a specific development in crime prevention and community safety – surveillance systems established in the main by local government authorities in cooperation with police to monitor public spaces such as malls and major thoroughfares. This study is therefore not concerned with other uses of CCTV such as the use of surveillance cameras on public transport networks, within privately regulated commercial spaces such as casinos and shopping malls, or in retail outlets. This study is specifically concerned with cameras controlled by local authorities and/or police and which monitor public areas.

This report adopts a comparative approach analysing the initial establishment, aims and objectives, and subsequent operation, of Australian public CCTV programs. It provides a broad overview of systems currently operating in Australia, including the social and governmental context of system installation, administering bodies, funding arrangements, operator training, codes of practice and mechanisms of accountability. Specific issues in the operation, evaluation and social implications of CCTV are illustrated by reference to more detailed case studies of individual systems.

The research methodology consisted of semi-structured interviews with thirty-four participants involved in the daily operation and management of open-street CCTV surveillance. Participants were predominantly local government representatives, but there were also interviews conducted with police in various jurisdictions who regularly interacted with CCTV. In addition to semi-structured interviews are an extensive literature review was also undertaken, both of Australian and international material.

Chapter 2 reviews the empirical and theoretical literature on CCTV. The most sophisticated research has been undertaken in the UK, where the proliferation of CCTV has been accompanied by a burgeoning of academic interest in the topic. The chapter first provides an overview of empirical studies, and then discusses some recent theoretical developments in the discussion of CCTV that situate the technology within broader conceptual frameworks of social and economic transformation. Chapter 3 gives an overview of the international expansion of CCTV.

Chapter 4 outlines the current extent of open-street CCTV systems in Australia. The chapter provides a brief summary of all thirty-three systems in Australia, and concludes with an examination of recent recommendations for statutory regulation.

Chapter 5 discusses the processes of installing CCTV, including the economic and political factors influencing both the decision to install and the ways CCTV is implemented and managed. Using examples from individual systems, the chapter then discusses preliminary research undertaken, the formation of committees and steering groups to manage the installation process, community consultation, the setting of system objectives, and the possibility of trialling CCTV before installation. Consideration is also given to the technical questions of installing CCTV such as camera placement and the advisability of digital technology as opposed to analogue. Lastly consideration is given to the place of CCTV in broader crime prevention strategies.

Chapter 6 is concerned with the ongoing management of CCTV and issues such as the ongoing funding of open-street CCTV, mechanisms of accountability and publicity and media policy. Chapter 7 focuses on CCTV in daily operation. The chapter discusses models of monitoring and considers the advantages and disadvantages of private security operators, police operators, council employees and volunteers. The chapter also considers control room communications with police and private security and the interaction between police and CCTV systems. Lastly the chapter considers the issue of displacement and police perceptions of offender awareness of surveillance cameras.

Chapter 8 provides an extended discussion of ways CCTV might be evaluated. The chapter outlines potential pitfalls in evaluation, and then provides a model framework. The model framework includes a range of potential measures that might be engaged in undertaking an evaluation of open-street CCTV. The report concludes with Chapter 9. Chapter 9 signals some possible future directions in the development of CCTV, and also charts several areas that might prove fruitful for research.

# 2 Open-Street CCTV: Research and Theory

Over the past decade, there has been a growing body of literature concerned with the efficacy and implications of public CCTV systems. The most sophisticated research has emerged from the UK, which has seen widespread installation of urban CCTV systems, many funded by the Home Office. The depth and scope of British scholarship has to date not been replicated elsewhere. In Australia, academic investigation of open-street CCTV systems is inchoate. This chapter first considers the major issues debated in international scholarship, and then assesses the current state of scholarship in Australia.

# 2.1 Administrative Criminology

Criminological literature on public CCTV was initially concerned with the basic question of whether it actually reduced offending. Studies of CCTV deployment in closed locations had suggested positive results. Studies in locations such as shops (Van Straelen 1978; Burrows 1991; Gill and Turbin 1998), buses (Poyner 1988); car parks (Poyner 1991; Tilley 1993), the London Underground (Burrows 1979) and sports grounds (Hancox and Morgan 1975) demonstrated the utility of CCTV as a tool to prevent specific offences within defined locations.

These results reflect findings for situational crime prevention programs generally, with most success evident when clearly identified problems in specific locations are targeted (Clarke 1992; White and Sutton 1995).

Results of research on the impacts of CCTV in more diffuse urban locations have to date been ambiguous. One evaluation of CCTV on a public housing estate concluded that the technology had no impact on levels on offending (Musheno et al 1978). Many evaluations of larger town centre CCTV schemes have been of variable quality and often conducted in-house by local government authorities (Ditton and Short 1996). Nevertheless Britain has seen more systematic evaluations of public space CCTV. Brown's (1995) study of systems in Newcastle upon Tyne, Birmingham and Kings Lynn employed a rigorous methodology based upon Pawson and Tilley's (1994) realistic evaluation model. While concluding that there had been a decline in some forms of offending following the introduction of CCTV, Brown cautioned short term gains in crime prevention might wear off over time, and that displacement effects could undermine perceived advantages.

Ditton and Short's (1996) evaluation in Airdrie also found that introduction of CCTV had preceded a decline (of 21 per cent) in the overall level of offending. However the Airdrie researchers also cautioned that perceived benefits might have been counteracted by displacement, adding that rigorous cost-benefits analysis could further undermine the significance of perceived reductions in crimes committed. In Burnley, Armitage et al (1999) reported an overall fall of 25 per cent in recorded offences, sustained over two years. Other findings have been less positive. Brown (1995) found that in Birmingham cameras failed to produce an overall reduction in reported crime, with only a small decline in thefts of motor vehicles. A recent evaluation of CCTV in Glasgow (Ditton et al 1999) reports that installation of surveillance cameras in the city centre had coincided with an overall increase of 9

per cent in recorded crime. Offences of dishonesty and indecency showed the most significant increases, however, with serious violence, vandalism and motoring offences declining. Welsh and Farrington's (2002) meta-analysis compared thirteen evaluations in city centres and in public housing. Five of the evaluations found a positive effect (decrease in offences) and three an undesirable effect (increase in crime), while in five there was no effect or unclear evidence (Welsh & Farrington 2002: 13). Nevertheless attempts to link the effectiveness of CCTV to changes in the overall crime rate are problematic. As Tilley (1998) has cautioned, crime rates may be subject to random fluctuations, and it would be mistaken to assume a fixed invariant relationship between the introduction of any crime prevention measure and either decreases or increases in recorded crime.

Results in relation to specific categories of offences are similarly inconclusive. Brown's study (1995) found a reduction in all property offences for Newcastle and no evidence of displacement, with similar results recorded for Kings Lynn. In Birmingham, however, Brown noted an increase in thefts from vehicles and in criminal damage for areas covered by cameras. Against this, a later Birmingham study by Skinns (1998) found while there was a reduction in theft of and from motor vehicles there was no reduction in criminal damage. An overview of the findings of various evaluations is provided by Phillips (1999) and Coleman and Norris (2000: 167-69).

In common with other situational crime prevention measures, the issue of whether crime is prevented by CCTV coverage or is merely displaced to other locations remains contested (Gabor 1990; Barr and Pease 1990; Brown 1995; Ditton and Short 1996; Skinns 1998). Poyner (1988; 1991) has argued for the dispersal of positive benefits, Ditton and Short (1996; 1998b) and Brown (1995) found displacement impossible to measure though difficult to discount, while Skinns' (1998) evaluation maintained there was a significant dispersal of criminal activity to adjoining areas following the introduction of CCTV. Short and Ditton (1996) however found no evidence of either functional or geographical displacement and no evidence of dispersal of benefits, while Armitage et al (1999) also found no evidence of displacement and some evidence of diffusion of benefits. In the thirteen evaluations of city centre and public housing CCTV overviewed by Welsh and Farrington more schemes showed evidence of diffusion of benefits than displacement (2002: 42). In summary, while opponents of CCTV often suggesting an irrefutable link between cameras and displacement the statistical evidence is inconclusive. However the argument that CCTV will displace crime is difficult to counter, as it can never be proven that displacement has not occurred (Tilley 1998: 143). Existing research does suggest that future research should give greater consideration to measuring the potential diffusion of benefits that may result from CCTV.

Mixed findings in Britain as to the effectiveness of CCTV in preventing crime have led to a reformulation of research questions. There is an emergent literature specifically concerned with CCTV evaluation. Both Tilley (1997; 1998) and Skinns (1998) recommend evaluation methodologies that move beyond reliance on recorded crime statistics. Pawson and Tilley's (1994; 1997) 'realistic' evaluation framework, that takes account of context, mechanisms and outcomes of CCTV, is widely

considered the most sophisticated evaluation methodology. Brown (1995) and Armitage et al (1999) provide examples of applying the principles of realistic evaluation to open-street CCTV.

Even taking account of the need for realistic evaluation, however, overviews of CCTV evaluations continue to confirm that there have been mixed findings. These overviews provide greater detail on the results of individual evaluations (Phillips 1999; Welsh & Farrington 2002; Coleman & Norris 2000).

While most evaluation research has been reliant on crime data, several studies have used alternative data with interesting results. Sivarajasingam and Shepherd (1999) compared hospital accident and emergency admission statistics with police data to assess the impact of CCTV upon urban violence in three Welsh centres. In all cases the hospital data contradicted police data. Mazerolle, Hurley and Chamlin (2002) analysed video footage using coded categories of pro- and anti-social behaviour to assess the level of behavioural adaptation to CCTV in Cincinnati.

Studies of public perceptions have been controversial. Amateur or politically motivated surveys often have reported overwhelming public support for the introduction of CCTV (Ditton and Short 1998; Ditton 2000). A survey by Honess and Charman (1992) concluded that CCTV was acceptable to the public, although requiring careful controls to ensure rights of privacy were not infringed. However Honess and Charman's results, and their subsequent use, remain contested (Davies 1998). More recent surveys have demonstrated less public support and mixed opinions regarding effectiveness across gender and age groups (Ditton 1998, 1999b). Nelson (1997) also found that the installation of CCTV had no impact on female perceptions of safety in public spaces.

There has recently been considerable enthusiasm for the greater use of qualitative data in evaluation research, particularly the study of offenders' perceptions of CCTV. In 1998, Ditton and Short recommended future evaluations of CCTV should consider offender perceptions. To date there have been two pilot studies of offenders attitudes towards CCTV producing interesting (although inconclusive) findings on the displacement effects and preventive capacity of the systems investigated (French 1996; Short and Ditton 1998). The recommendation that evaluation include studies of offenders' perceptions has also been made by Welsh and Farrington (2002) and has recently been reiterated by the Home Office (2002).

# 2.2 Critical Perspectives

Recent criminological scholarship in Britain has begun to explore the dynamics of CCTV operation, rather than simply seeking to establish if it has reduced crime statistics. This has allowed CCTV to be situated within broader sociological and criminological debates on the significance of risk and surveillance in late modern societies. The sophisticated work of Norris and Armstrong (1999), for example, includes detailed observation studies of operator and police actions and attitudes. Their final study situated CCTV within the wider framework of social, political and technological change. Norris and Armstrong were therefore able to assess the discriminatory ramifications of CCTV, and initiate

crucial debates about the potential impacts of surveillance technology and crime control. Their work, and a more recent study by McCahill (2002), provide detailed micro-social accounts of CCTV in practice. McCahill and Norris (2002a) also have provided an overview of theoretical approaches to the study of CCTV.

Both Norris and Armstrong (1998; 1999) and Williams and Johnston (2000) situate CCTV within a broader political context driven by 'law and order' politics. Other scholars have linked the rise of CCTV with the changing nature of urbanism in British towns and cities. Fyfe and Bannister (1996; Bannister, Fyfe and Kearns 1998) and Dees (2000), drawing upon Davis's (1990) thesis for Los Angeles, suggest the widespread installation of CCTV contributes towards the commodification of public space, the erosion of social difference and the stigmatisation and exclusion of the socially marginalised. A concern with the 'exclusionary impulse' and broader urban processes also informs recent work by Coleman and Sim (1998; 2000). Graham (et al 1996; 1998) adopts a slightly different perspective, arguing that CCTV has, somewhat insidiously, become normalised and now constitutes the 'fifth utility' of British urban infrastructure.

Other scholars have expressed serious concerns over the social ramifications of new surveillance technologies (Lyon 1994; Lyon and Zuriek 1996; Norris, Moran and Armstrong 1998). Simon Davies, Director-General of Privacy International, remains the most trenchant critic of CCTV, arguing its effectiveness has not been demonstrated and that it represents an unacceptable threat to civil liberties - therefore it should not be introduced (1996a; 1996b; 1998). The utility of privacy as a basis for assessing new surveillance technologies is disputed by Lyon (2001) and Stalder (2002) who both argue privacy reduces an inherently social phenomenon to the level of the individual.

Maguire (1998) raises serious concerns about the absence of a regulatory framework for public CCTV systems. The Fifth Report of the House of Lords Science and Technology Committee (1998) voices similar concerns, and recommended licensing and enforceable codes of practice. The UK Data Protection Commissioner has subsequently issued a code of practice outlining the obligations of CCTV system operators under the *Data Protection Act* 1998.

While the bulk of CCTV research has been in the UK, evaluations have been published in the US (Mazerolle, Hurley & Chamlin 2002) and South Africa (Glanz & Nacerodien 1997). There have also been general discussions of public CCTV and its implications published in the US (Nieto 1997; Nieto, Johnston-Dodds & Simmons 2002), Canada (Flaherty 1998) and Europe (Meijie 2000; Hempel & Topfer 2002). Two significant research projects still underway are examining surveillance: one is based in Europe and the other in Canada. The URBANEYE Project, co-ordinated by the Centre of Technology and Society at the Technical University of Berlin, is a comparative research project analysing the use of CCTV in European public spaces and its social effects and political implications. Funded by the European Commission, the URBANEYE project involves a multidisciplinary team of researchers including philosophers, criminologists, political scientists and urban geographers. Four

reports have already been produced (Hempel & Topfer 2002; McCahill & Norris 2002a; McCahill & Norris 2002b; Wiecek & Saetnan 2002), and a final report of the project's findings is to be presented in 2004 (<a href="www.urbaneye.net">www.urbaneye.net</a>). There is currently a major research project being conducted through Queens University (Surveillance and Social Ordering in Global Information Societies) that includes a study of CCTV surveillance in Canadian locations (The Surveillance Project, Queens University 2002).

# 2.3 Australian research

As noted, scholarship in the UK, where the take up of CCTV technology has been most marked, remains considerably more advanced than that elsewhere. In Australia there is a serious lacuna in existing scholarship. Increasing attention has been given to the political, social and practical implications of situational crime prevention more broadly (O'Malley 1994; Sutton 1994; White and Sutton 1995; O'Malley and Sutton 1997). Grabosky (1998) has also considered the wider implications of technological developments on policing and crime control. However no significant study of public CCTV in Australia yet exists.

State government bodies have carried out a limited quantity of research on the question of public video surveillance. The ACT Standing Committee on Legal Affairs reviewed public CCTV systems in the course of an inquiry into the efficacy of surveillance cameras (1996). While providing a brief overview of CCTV operations at the time, the Committee reported that the absence of adequate research was a serious impediment to its investigations, and recommended [para 6.10.] that an Australia wide review of public CCTV be conducted. In 1997, the NSW Law Reform Commission examined the legal framework governing public CCTV surveillance in New South Wales, and recommended regulation be initiated. In 2001 the NSWLRC published a comprehensive report on surveillance including model legislation with implications for open-street CCTV. The Crime Prevention Division of the NSW Attorney General's Department has subsequently published voluntary guidelines for local authorities establishing CCTV (2000). Recently, the Victorian Law Reform Commission has also identified the absence of legal controls over video surveillance in public space as an issue of concern (2001).

Waters (1996, 1996a), Davies (1995), Gallagher (1997) and Fox (2001) have also discussed the legal and privacy implications of public CCTV surveillance in Australia. Hillier (1997) and Martin (2000), discuss the ramifications of CCTV for the use of public spaces in Perth and Sydney respectively using theories of urban transformation. Martin and Stubbs (2001) have also completed as yet unpublished research on the contexts of CCTV operation in two Australian sites. Isnard's (2001) recent paper discusses operational issues and relates these to the potential effectiveness of CCTV in reducing antisocial behaviour. Research in Western Australia is examining the impact of CCTV on perceptions of risk (Brooks & Smith 2002). To date, only one independent evaluation of CCTV is publicly available in Australia (Fairfield City Council 2002).

While Australian research on CCTV is comparatively underdeveloped, interest in this field is developing rapidly.

# 3 Open-Street CCTV: International Developments

As noted, the United Kingdom has made the most extensive use of CCTV as a crime prevention tool. However the past five years also has seen considerable expansion in other countries. Deployment of surveillance cameras in public now is extensive throughout the European Union. A similar trend is evident in Australia, New Zealand and South Africa. Public systems also are in operation in Canada and the United States, where rapid expansion in CCTV and the use of biometric technology has occurred in the wake of the September 11 World Trade Centre attacks and associated heightening of concerns about internal security and terrorism (Nieto, Johnston-Dodds & Simmons 2002: 3; Lyon 2001b).

In part, the rapid take-up of public CCTV has been driven by technological developments. These have included advances in imaging technology and the advent of the videotape and the Video Cassette Recorder (VCR) in the 1960s – the latter facilitating capture and playback of images without need for chemical processing. CCTV technology was first applied to crime control in 1967 with the launch in the UK of Photoscan, a retail sector system designed to deter and apprehend shoplifters (Norris & Armstrong 1999: 18).

It is important, however, to avoid technological determinism. Academic criminologists also have linked the rise of CCTV to economic and other social transformations affecting late modern societies. These include:

- The Rise of the 'Stranger Society' Sociologists such as Lash and Urry (1994) have argued that in contemporary post-industrial contexts, people are increasingly removed from familial and other traditional constraints and obligations, and dislocated from community networks. A lack of personal knowledge of fellow citizens contributes towards greater wariness of others and, some argue, a fear of difference (Norris & Armstrong 1999: 22-23; McCahill 2002: 19).
- The Risk Society and Actuarial Justice Ulrich Beck (1992) and Anthony Giddens (1990) see constant awareness and assessment of risk as one of the defining characteristics of complex contemporary societies. This has implications for crime control. Feely and Simon (1994) posit a declining faith in the 'old penology' that focussed on diagnosis of problems, intervention and treatment at the level of the individual. They suggest the emergence of a new 'actuarial' approach that attempts to regulate whole populations as a means of minimising risk (McCahill 2002: 17). New surveillance technologies such as open-street CCTV that focus upon whole populations can be seen as part of this broader shift toward 'actuarial justice'.
- The Entrepreneurial City and the Exclusionary Impulse Several theorists have linked the rise of CCTV to the tendency for urban centres to be transformed from sites of production to sites of consumerism and consumption. They argue that populations are being divided into competent and 'flawed' consumers the latter lacking resources to participate in a consumer economy. The globalizing of commerce also has led to a commodification of individual town

and city centres. Such centres are increasingly image conscious, and CCTV has played an important part in the marketing of public areas as 'risk-free' environments designed to attract consumers, tourists and business investment (McCahill 2002: 12). Intertwined with the reshaping of urban images has been the rise of an exclusionary impulse – the desire to rid public spaces of 'flawed consumers'. As McCahill suggests, 'the visibility of unemployed or homeless people on the streets or hanging around in shopping centres constitutes a crisis in the city's official representation and obstructs belief in the positive vision that the image-makers attempt to portray' (2002: 13).

These arguments provide a general framework for explaining the rise of public space CCTV. The following sections outline the rise of CCTV in specific locations.

# 3.1 United Kingdom

The 'surveillance revolution' in the United Kingdom began with private CCTV systems. Private cameras were used from the 1970s onward to watch over banks, petrol stations and private car parks. Technological advances and growing acceptance led to increasing political support for the extension of CCTV to spaces of greater public significance. This included sports stadiums, shopping centres and eventually the open streets of town centres (Williams, Johnstone & Goodwin 2000: 169).

The first public-space surveillance system in the United Kingdom commenced operation in Bournemouth in 1985. However the most rapid expansion of CCTV occurred from 1994 onwards, when as part of its 'law and order' policy agenda the Conservative government signalled strong support for its installation in town centres. Financial support from the Home Office was significant in this context.

Between 1994 and 1998 the Home Office ran four annual CCTV challenge competitions, awarding a total of £38 million to bidders, mostly local authorities and parish councils but also schools and hospitals. Funds were used to support the capital costs of introducing video equipment. Home Office grants covered up to 50 percent of initial set up costs with the shortfall to be met by local partnerships. In 1995 78 percent of the Home Office budget for crime prevention was expended on schemes to establish CCTV in public spaces (Williams et al 2000: 170).

In 1999 it was estimated that funding had been allocated to 530 town centre public surveillance schemes operating or scheduled for establishment across the United Kingdom. British government support for CCTV has not declined under the Blair Labour government. New funding challenges were announced, with £50 million available in 1999 and £103 million in 2000 (Williams et al 2000: 170).

Until recently, CCTV in the UK was subject to no direct regulation (Maguire 1998). The Fifth Report of the House of Lords Science and Technology Committee (1998) expressed concern about this, and recommended a licensing regime and enforceable Codes of Practice. The UK Data Protection

Commissioner was given power to issue a Code of Practice under the *Data Protection Act* 1998 (section 51(3) (b)). A Code of Practice issued in July 2000 provided for some level of regulatory control over open-street CCTV systems (Data Protection Commissioner 2000). However much of it is still voluntary and represents 'good practice' rather than legally enforceable standards. The only legally enforceable sections cover the collection and processing of the images of individuals as prescribed by the *Data Protection Act* 1998.

### 3.2 Ireland

Closed circuit television has expanded across the Irish Republic. The first open-street CCTV was established in the Temple Bar area of Dublin in the mid 1990s, and another 35-camera system was commissioned for the inner northern area in 1997. Both schemes are operated by and under the control of the Irish Police (Garda), and were funded by a partnership between the Irish Department of Justice and Dublin City Centre Business Association (Department of Justice, Republic of Ireland 2000).

Additional public surveillance schemes were approved in 2000 for Tralee and Finglas, and 20 other localities were reported to have expressed interest in the technology. A Garda Advisory Committee examines all proposals and applications for the establishment of public CCTV in Ireland (Department of Justice, Republic of Ireland 2000).

### 3.3 Other European locations

Over recent years, video surveillance of public spaces also has increased in other countries of the European Union. While less is known about the extent of video surveillance in the public spaces of continental Europe, two recent reports outline their general expansion (Meijer 2000; Hempel & Topfer 2002). The most surveilled territory is the tiny principality of Monaco with a system of 60 pan-tilt-zoom cameras monitoring both private and public spaces (Hempel and Topfer 2002: 9-10).

In France, CCTV surveillance of public spaces began in 1994, in the Parisian suburb of Levallois-Perret. In January 1995 the French Parliament passed a Security Act permitting video surveillance of public spaces for the protection of public buildings and in areas of high risk of thefts and assaults. Systems must be approved by the Prefect of each Departement after consultation with a special local body, the Commission Departmentale de Videosurveillance. A 1997 report noted that police in Paris were monitoring 160 cameras located in business and financial districts (Nieto 1997: 8). Between 1997 and 1999 200 public space CCTV systems were approved for installation in other French localities (Hempel and Topfer 2002: 10).

In Spain, the Interior Minister has installed video surveillance equipment in public places in the Basque region to combat street violence and politically motivated vandalism (Nieto 1997: 9). Recently such surveillance has spread to other Spanish locations (Hempel & Topfer 2002: 10-11). In Italy CCTV is used in Rome, the Vatican and other high profile tourist areas (Nieto 1997: 9). In Belgium, there are cameras both in the city centre of Brussels and in the municipality of Sint-Joos-Ten-Noode. In the

Netherlands public space CCTV is a comparatively recent development – however it is estimated to have been adopted by at least 20 of the Netherlands' 500 municipalities. Systems also are in place in Finland, Sweden and Norway. In Sweden a County Administrative Board must authorize the establishment of systems and associated oversight procedures. In Norway a pilot open street CCTV system around Oslo's central station commenced in 1999, and has been expanded to encompass other areas of the city (Hempel & Topfer 2002: 11).

In Germany the first town centre CCTV system commenced operation in Leipzig in 1996. In May 2000 a Conference of German Home Ministers declared CCTV at crime 'hot spots' to be a suitable tool for law enforcement. By January 2002 at least twelve town centre CCTV systems were in operation, with one industry organization reporting that schemes were planned for around 200 German cities (Hempel & Topfer 2002: 11-12).

# 3.4 USA & Canada

Public video surveillance was first introduced on a pilot basis by Police Departments in the USA in the mid 1960s. One system was in Hoboken, New Jersey in 1966. Another was in Mount Vernon, New York in 1971. A number of other US cities followed. Results from the early trials were less than spectacular. The Hoboken system resulted in only two arrests in its five years of operation, while Mount Vernon failed to produce a single arrest in three years. These early schemes were dismantled due to poor results and the cessation of federal grant funding (Burrows 1997: 1103; Nieto 1997: 11).

The current extent of public space video surveillance in the United States remains uncertain. A 1997 survey by Nieto (pp. 12-22) listed 13 public area CCTV schemes, mainly on the east coast. A recent update of this work (Nieto, Johnston-Dodds & Simmons 2002: 14-18) documents 21 schemes across the US, although the report concedes the survey is not comprehensive. Two CCTV systems in the US - Virginia Beach and Tampa Bay, Florida - have incorporated facial recognition technology. However the biometric scanning system installed on the Tampa Bay system has been discontinued due to public concerns about reliability and its limited success (Nieto, Johnston-Dodds & Simmons 2002: 15). In Washington DC a proposal for a police administered CCTV system that would be capable of linking as many as 1000 cameras in streets, subway stations, schools and federal facilities is currently under discussion (Hsu 2002: B01).

Even less is known about video surveillance in Canadian public areas. However systems are believed to be in place in Ottawa, Toronto, London, Peterborough, Sudbury, Hamilton, Vancouver, Kelowna, Sherbrooke and Hull. Major research currently being conducted through Queens University (Surveillance and Social Ordering in Global Information Societies) includes a study of CCTV surveillance in Canadian locations (The Surveillance Project, Queens University 2002).

The US has seen arguments that continuous video surveillance of citizens in public spaces may violate the Fourth Amendment of the US Constitution (Granholm 1987). The premise is that continuous video

monitoring of individuals in public spaces constitutes a search, and that such a search by police requires 'individualised suspicion' of involvement in criminal activity. Because video surveillance involves mass monitoring, law enforcement does not generally possess individualised suspicion. Therefore such surveillance violates the Fourth Amendment (Sher 1996: 4). American legal scholars generally agree, however, that that continuous video surveillance is not likely to be found in violation of the Fourth Amendment (Burrows 1997: 1090; Milligan 1999: 299). US Courts have upheld the notion that there is no reasonable expectation of privacy in public spaces (Burrows 1997: 1090). In Canada, however, legal opinion recently supplied by Justice Gerard La Forest to the Privacy Commissioner argues that continuous video surveillance operated by a police agency or government authority is in contravention of the Canadian *Privacy Act* (La Forest 2002).

# 3.5 South Africa

Closed circuit television surveillance of public spaces by government authorities is expanding throughout South African metropolitan centres. 40 cameras were installed in the CBD area of Durban in July 1995, for the purpose of monitoring and controlling traffic. 12 cameras were later added to this system for the purpose of crime control. A trial of 10 CCTV cameras under the control of Police (SAPS) was also conducted in the central area of Benoni from March to August 1996 (Glanz & Nacerodien 1997: 2)

Camera systems also have been established in Port Elizabeth, Cape Town and Johannesburg (Palmary 2001: 8). In Johannesburg a 15-camera system was established in April 2000, with joint Provincial Government and City Council funding. By December 2001 it had expanded to 90 cameras with predictions of growth to 360 by 2003, making this 'the largest surveillance system in Africa' (Gauteng News 2001: December).

# 3.6 New Zealand

The number of Closed Circuit Television systems in New Zealand public spaces has been expanding rapidly. In January 1995 16 cameras, monitored from the central police station, were installed in the downtown area of Auckland. In late 1995 15 security cameras were installed in the central mall area of Christchurch (Waters 1996: 49).

CCTV systems are also installed in Whangarei (5 cameras in a central mall area), New Plymouth (16 digital cameras in the CBD) and Wanganui (6 digital cameras installed in 2000). There are also systems in operation in Hamilton, Rotorua, Ashburton and Matamata (Christchurch Press 22/09/01: 8; 7/02/01: 4). Systems are also planned for Napier, Taupo and Lower Hutt (Crime Prevention News 2001: 4-5).

Cameras have been funded through Safer Community Councils, with police generally operating the equipment through monitors in local police stations (Crime Prevention News 2001: 4-5). In 1995 NZ Police prepared policy guidelines for the installation and operation of public surveillance cameras

(Waters 1996: 49) An updated policy statement on CCTV was recently released by NZ Police (2002). All New Zealand systems require signage under the provisions of the *Privacy Act* 1993.

# 3.7 Other Locations

Little or no research exists on the deployment of CCTV in public spaces in other locations. Nieto (1997: 9) notes that CCTV has been in use in public locations in the Russian Federation, China, Iran and Iraq. In China an advanced traffic control system sold to the government by Siemens Plessey was used to identify thousands involved in the 1989 Tiananmen Square protests. Images from the system were broadcast on television by the Chinese Government, who offered rewards for information on those shown in footage. Surveillance systems are also being installed in Lhasa, Tibet - ostensibly for traffic control, although Lhasa does not presently have traffic control problems (STOA 1998: 4). As part of a nationwide surveillance project known as 'Golden Shield', Chinese authorities are reported to be establishing a national network of CCTV in public spaces to improve police response times to outbreaks of social unrest (Walton 2001: 16). Singapore also has an extensive network of surveillance cameras for traffic control and to prevent littering in public areas (Privacy International 1999).

# 4 Open-Street CCTV in Australia

Australia's first open-street CCTV system commenced operation in Perth in July 1991. Such systems have subsequently expanded throughout the country, and now cover public spaces in the capital centres of Adelaide, Hobart, Sydney, Brisbane and Melbourne and many regional locations. A 1996 report of the ACT Standing Committee on Legal Affairs identified 13 in operation in Australian jurisdictions. The number has since expanded to 33, with the Northern Territory being the only Australian jurisdiction without CCTV surveillance in public spaces. While most systems were initially located in the Central Business Districts of capital cities, there is a notable trend towards the establishment of public surveillance in smaller regional and rural centres and in suburban locations.

Table 4.1

Number of Open-Street CCTV Sys	TEMS BY STATE OR TERRITORY
(АЅ АТ ОСТ	OBER 2002)
New South Wales	11
Queensland	10
Western Australia	4
Victoria	3
Tasmania	3
South Australia	1
Australian Capital Territory	1
Northern Territory	0
Total	33

The push to establish CCTV in Australia generally has come from local governments. One consequence is that town centre systems in this country display wide variation in administrative controls, funding models, operational practice and technology. When establishing new systems, local authorities have tended to rely on the experience of other councils with CCTV and on the advice of security consultants.

While primarily a local government initiative, the establishment of CCTV in Australian town centres has not been without State government involvement. Moreover, current trends suggest that such involvement will increase in near future. Both in Tasmania and South Australia, initial capital costs were covered in part by State government. In Queensland, State funding for CCTV in public space is becoming increasingly common. Since 1999 the Queensland State Government's Department of Local Government and Planning has administered a Security Improvement Program (SIP) offering funding for local government security initiatives. A number of councils have taken advantage of the program to install video surveillance in public spaces. The Queensland Premier's Department has also recently released guidelines for councils considering the installation of CCTV (2002).

In NSW the State Government, while not providing direct funding, also has demonstrated increasing interest in CCTV in public spaces. The Crime Prevention Division of the New South Wales Attorney General's Department has sought to advise local governments on video surveillance, issuing Guidelines for CCTV (NSW AGD 2000), subsequently evaluated by private consultants (ARTD Management and Research Consultants 2001).

State government involvement represents a valuable source of information, and in some jurisdictions potential funding, for local authority efforts to install CCTV. It also represents a degree of quasi-regulation and accountability. These developments foreshadow a new phase in the management of town centre CCTV systems in Australia, which for the past decade have been subject only to voluntary self-regulation. Nevertheless the fact remains that CCTV in public space remains largely unregulated in Australia, even if State government guidelines now are facilitating the identification and establishment of best practice benchmarks.

### 4.1 New South Wales

With 11 CCTV systems in operation, Australia's most populous State is also the most intensively surveilled. The NSW State Government has not provided any ready avenue for local government to access funds for CCTV schemes. Nevertheless it has contributed towards the establishment of a system in the Western Sydney suburb of Cabramatta. If NSW State Government financial involvement has been limited, there has been a more active effort than in other jurisdictions to impose operational and policy uniformity on open-street CCTV. In 1996 the NSW Police Service issued guidelines for the installation of CCTV that, although primarily concerned with operational matters, did recommend community consultation as part of the planning process.

In 1999 the Premier's Council on Crime Prevention established the Inter-Departmental Committee on Closed Circuit Television (IDCCCTV). The Committee included representatives from the Department of Local Government, Transport, Urban Affairs and Planning, Attorney-General's and the NSW Police Service. The Committee's role was to prepare a policy statement and guidelines for the establishment and implementation of closed circuit television in public places. The Guidelines were released in 2000, and an evaluation of their effectiveness conducted by consultants ARTD was published in 2001. The NSW Police Service is the only Australian police force to have developed policy in relation to CCTV schemes. In brief, this policy seeks to define police involvement in terms of planning and response but recommends that police not be involved in the funding or active monitoring of schemes (NSWPS 2002).

A number of NSW municipalities have rejected CCTV. For example, a study commissioned by Manly Council and the Manly Chamber of Commerce in July 1999 recommended that CCTV not be installed as a crime prevention measure. The report concluded CCTV would not be cost-effective, and would not prevent alcohol related offending – the predominant issue of concern in the area (Manly Crime Prevention Plan Part 1:7-8 2000). Waverly City Council also rejected a proposal in 2001 for closed

circuit television in Bondi Junction on the grounds of cost and the need to investigate alternative strategies (Waverly City Council 2001).

Nevertheless closed circuit television schemes in NSW town centres appear poised to expand further, with regional councils in Orange and Armidale, and urban municipalities such as Parramatta, investigating viability. Proposals for security cameras have been under discussion in Newcastle since 1995. A twelve-month trial of CCTV cameras in the Newcastle CBD, to be installed with business funding, was to commence in 2002 but has not yet proceeded. The following sub-sections detail current open-street CCTV systems. Unless otherwise stated, local government authorities have provided information.

# 4.1.1 Blacktown

Nine cameras were installed in Dawson Mall in May 2000 with vision fed through to the Mt Druitt Police Station. The cameras were introduced to combat incidents of anti-social and violent behaviour in the shopping precinct. Blacktown City Council met installation costs - reported to be \$88,000 (Mt Druitt Standard, 17/5/02). The system is not actively monitored although Police have ongoing access to vision. At the time of writing the system was not operating due to technical difficulties.

### 4.1.2 Bourke

In 1999, 4 pan-tilt-zoom cameras were installed in the Bourke main street area to combat problems of vandalism, break and enters, anti-social behaviour and violence. Wire mesh placed on shop-fronts had created an intimidating streetscape and visitor numbers to the central town were falling A Community Safety Committee, which included representatives from Council, local business, police and community, suggested the installation of CCTV along with other measures including streetscape improvements, changes to police patrol and a community development plan (ARTD 2001: Attachment 1, p. 8).

The cameras are linked to a monitor located in the Bourke Police Station and observed on an as-needs basis by police. They also operate on a preset tour when not being actively monitored. There is 24 hour recording. There are plans to extend the current system with an additional 2 cameras.

### 4.1.3 **Dubbo**

A CCTV system comprising 11 digital pan-tilt-zoom cameras in the Dubbo CBD area commenced operation in mid July 2002. Installation costs (\$225,000) were met entirely by Dubbo City Council. The system uses wireless technology, with images transmitted to two antennas located on Dubbo's tallest buildings. The images are then relayed to a monitor, control panel and recording equipment in the Dubbo Police Station. The cameras are on a preset tour although police can disengage cameras from the pattern to facilitate active monitoring. Police must log each instance that cameras are removed from the preset tour.

Dubbo's cameras were installed to combat robberies, stealing from the person and car theft in the main street area. There is reported to have been widespread public support for the installation of cameras. Signage is in place around the Dubbo CBD, and an audit committee has been formed to ensure compliance with codes of practice and operating procedures. The system has only recently been established, and there are no immediate plans for expansion. Nevertheless its infrastructure is capable of supporting as many as 64 cameras.

### 4.1.4 Fairfield

Fourteen CCTV cameras were installed in the Cabramatta CBD in September 1996 as part of the Fairfield City Council TownSafe Program. The NSW State Government provided half the funding for installation. The system currently consists of 23 cameras. Twenty-one are located in the Cabramatta CBD and 2 in Canley Vale CBD in the vicinity of the railway station. Pan-tilt-zoom colour cameras are linked via fibre optic cable to a rented control room (formerly a police shopfront) in the Cabramatta town centre. Cameras are monitored 24 hours a day, seven days a week, by a private security contractor. Vision can also be viewed on a monitor located in Cabramatta Police Station. Signage advising that areas are under video surveillance is in place in both Cabramatta and Canley Vale.

The Fairfield City Council CCTV system is unique in Australia as it is the only program whose principal objective is to combat drug trafficking (Fairfield City Council 2001: 1). Fairfield City Council has recently undertaken and made publicly available a five-year review of the TownSafe Program (2002).

# 4.1.5 Lake Macquarie

Lake Macquarie has 2 fixed cameras located in the Charlestown Mall area. The cameras were installed in 1999 in response to vandalism and damage to Council property. Council law enforcement officers (rangers) are responsible for system management and maintenance. The cameras are record only, with footage retrieved in the event of an incident. Students from the University of Newcastle undertook a review of this system in 2001.

# 4.1.6 Lismore

Lismore City Council installed 8 pan-tilt-zoom colour cameras in the CBD area in September 1999. The cameras were installed due to concerns about vandalism and a perceived lack of safety in the CBD. The perception that crime was endemic in the CBD was of serious concern to local business, which had been advocating CCTV as a possible solution since 1996. Although initially reluctant, Lismore City Council established a Cameras Safety Project Taskforce in February 1997. The Task Force included councillors, the president of the chamber of commerce, retailers, the mayor, the NSW Police Service Local Area Commander, a representative of Northern Rivers Community Legal Centre and a representative of the Nulangah Lands Council.

The Task Force oversaw the implementation of the City Safe Program: a crime prevention strategy that included security patrols, improved street lighting and street youth workers in addition to surveillance cameras. The costs of installing cameras were met by equal contributions from the chamber of commerce, Rotary West and Lismore City Council. Lismore City Council subsidises approximately 45% of ongoing costs, with the remainder financed through a special levy imposed on CBD properties.

Vision from the cameras is transmitted via fibre optic cable to a control room located in Molesworth House. Vision is also transmitted to a monitor located in the Lismore Police Station, although police cannot assume control of the cameras. Private security operators actively monitor the cameras during peak hours on Thursday, Friday and Saturday evenings, and occasionally at other times. Operators can communicate with security patrols on the street via two-way radio. In the event of an incident there is also direct communication with Lismore Police Station.

The system has now expanded to 11 cameras, and two more are scheduled for installation in the next six months.

### 4.1.7 Lithgow

Three black and white fixed cameras were installed in the Cook Plaza area of Lithgow CBD in 1997 at a cost of \$15 000. The cameras were installed to combat problems of vandalism, assault and congregation in the Plaza. An individual councillor promoted installation of security cameras. Images from the cameras are continuously recorded on equipment located in the post office adjacent to council offices.

Lismore's cameras are reported to have had some initial impact on offending. However positive results have not been sustained and the current system has proved to be of limited effectiveness. Images produced from this camera technology also are of limited utility as evidence. Signage is positioned in the Plaza to alert pedestrians to the presence of video surveillance.

Lithgow City Council intends to engage a consultant to assess the viability of the system.

# 4.1.8 Sutherland

Eleven CCTV cameras became operational in the Cronulla Mall area of Sutherland Shire in March 2002. The cameras were installed to combat anti-social and alcohol related offending in the area. Information from the NSW Bureau of Crime Statistics and Research, the NSW Police Service Miranda Local Area Command, Prestigious Protection Services (a private security company engaged by Sutherland Shire Council) and the Sutherland Shire Council Law Enforcement Officers all had suggested an increase in offending.

Sutherland Shire Council allocated \$600 000 for the scheme. Council staff perform active monitoring during peak hours, with cameras maintaining a preset tour at other times. The pan-tilt-zoom cameras are connected via fibre optic cable to a control room located in the Cronulla Police Station. A monitor

is also located in the Duty Officer's area of the station. The Sutherland CCTV system uses digital recording equipment. It was introduced as part of a range of other crime prevention measures including outreach youth workers, a liquor accord and free bus service from licensed premises. The system is to be evaluated after twelve months of operation, with the evaluation results informing the decision on whether to proceed with a second phase of CCTV installation.

# 4.1.9 Sydney

The City of Sydney CCTV system consists of 48 pan-tilt-zoom cameras that were progressively installed in CBD locations around George Street, the Rocks and Hyde Park through 1998/99. The cameras are linked by fibre optic to a purpose built control room located in Town Hall. Council employed security-staff monitor the cameras 24 hours a day seven days a week. Vision can be transferred from the control room to both the Central City and Rocks Area Police Commands. The system is one of the few in Australia to have several publicly available documents. These include a Code of Practice (2001), Standard Operating Procedures (SOPs) and protocols, a brochure including a map of camera locations (2002) and Audit Committee Reports produced every six months.

# 4.1.10 Walgett

In mid 1999 5 colour pan-tilt-zoom cameras were installed in the central area of Walgett. The stated purpose of the cameras was to deal with anti-social behaviour in the area, particularly incidents of vandalism. Council funded installation costs. The Council also pays for camera maintenance although for a period local Police met these costs.

A monitor is located in the local police station, which also has control and recording facilities and the ability to print stills. Cameras are passively monitored but have 24 hour recording onto VHS tape. Signs have been erected indicating that the area is under video surveillance.

# 4.1.11 Willoughby

Six fixed colour cameras were installed in Chatswood Mall and a bus interchange area in Willoughby in 1998. The cameras were installed in response to concerns about assaults in the area. The cameras record continuously but are not monitored. No signage is displayed in the locations under surveillance.

Four further cameras are scheduled for installation. Vision from the new cameras will be transferred to a monitor located in council buildings, although this will not be actively monitored.

# 4.2 Queensland

Queensland has seen significant proliferation of CCTV. Initial impetus was provided by the establishment of schemes in the major centres of Brisbane and Toowoomba (see below). Other Councils have drawn on the experience of these earlier schemes in the design of their own. Another important factor in the spread of CCTV has been the establishment of the Security Improvement Program (SIP) administered through the Department of Local Government and Planning. There are

presently 10 town centre CCTV schemes in Queensland. CCTV also is under consideration for a number of other centres including Mackay and Bundaberg.

The Security Improvement Program is an initiative within the Queensland Government's Statewide crime prevention strategy *Building Safer Communities*. Introduced in 1999, SIP grants offer councils up to 50% funding for the establishment of CPTED projects in public spaces. Such projects can include 'the provision of surveillance equipment in malls and other public places' (QDLGP 2002: 6). Conditions of SIP include that local councils provide evidence of community consultation and of arrangements for ongoing funding of the project, and that they conduct post-implementation evaluation (QDLGP 2002).

The Crime Prevention Division of the Queensland Premier's Department has also recently released CCTV Guidelines (2002).

### 4.2.1 Brisbane

The Brisbane CCTV camera system, now referred to as 'City Safe', was first installed in 1993. The initial system consisted of 13 cameras located in the Queen Street Mall area. Installation of the system was pursuant to an election promise by the incoming Lord Mayor. The system has expanded, with 8 cameras installed in Fortitude Valley in 1995. The City Safe program now has a total of 44 cameras with 13 located in Fortitude Valley.

The cameras are monitored 24 hours a day seven days a week by private security operators. Images are fed in real time to a control room located in the CBD. There is 24 hour multiplex recording of all camera images. Vision can be transferred to police shopfront locations in the CBD and Fortitude Valley, however police cannot manually manipulate the cameras or select specific images.

There has not been an external evaluation of the system although there have been several procedural and technical reviews.

### 4.2.2 Cairns

In 1995 Cairns City Council undertook a trial of 4 cameras in Cairns Mall. In 1997 a permanent system consisting of 14 pan-tilt-zoom colour surveillance cameras was installed in the Cairns CBD. The cameras were installed to deal with problems of anti-social behaviour, drug dealing and alcohol-related violence around licensed venues. The CCTV system was specifically intended to provide assistance to private security guards patrolling the central area. Initial funding for the project was provided through a Queensland State Government Security Improvement Program Grant (SIP) and council funding.

Cameras are connected to the control room via both coaxial and fibre optic cable. Private security operators actively monitor the cameras from 5pm to 6am five nights per week with 24 hour recording. Two additional cameras were added to the system in 1999, making a total of 16. There are currently plans to upgrade the current system with the 12 additional cameras.

### **4.2.3** Gatton

In January 2002, 5 CCTV cameras were installed in the central area of Gatton. The cameras were installed along with a streetscape upgrade that occurred over a two-year period. The Council's Community Services Division administers the system. At present, the cameras only record and operate on a preset tour. However the engaging of camera operators at peak times is being investigated.

### 4.2.4 Gold Coast

The Gold Coast Camera Network commenced operation in December 1998 with 16 cameras located in Surfers Paradise. Installation of surveillance cameras followed pressure from local businesses concerned that the image of Surfers Paradise as a family friendly tourist resort was being undermined by alcohol-related violence. Eighteen months after the initial installation a further 10 cameras were installed in Broadbeach and 5 in Coolangatta. In November 2001 an additional 8 cameras commenced operation in Southport, taking the total number in the system to 41.

Cameras in Surfers Paradise are connected to a control room via fibre optic cable, while those in Southport are connected via coaxial and fibre optic cable, with vision transmitted to Surfers Paradise via microwave link. Vision from Broadbeach and Coolangatta cameras is transmitted to the Surfers Paradise control room through the ISDN network. There is a combination of analogue and digital recording, with vision recorded in sixteen-frame time lapse twenty-fours a day.

The central control room is located above a police post in the central Surfers Paradise area. Private security operators monitor the cameras from 12.00pm to 6am Monday to Friday. During peak weekend periods there is 24 hour monitoring, and occasionally two operators. An external consultant is about to undertake an evaluation of the scheme. Signage is also currently under design and is hoped to have a deterrent effect.

### 4.2.5 Ipswich

The Ipswich cameras program commenced with the commissioning of 13 pan-tilt-zoom cameras in December 1994. Cameras were introduced to deal with perceived problems of alcohol related violence and youthful misbehaviour in public spaces. A number of public forums were held prior to the commissioning of the system to inform the community of the project. A Safe City Steering Committee was established to manage the first phase of the cameras program.

Later phases of the project have involved the installation of further cameras and there are now 44 in the Ipswich CBD. Ipswich City Council provided all initial funding. The Council has recently obtained Security Improvement Project (SIP) for additional cameras. The Council has also introduced a benefited levy on local businesses to help finance the ongoing costs of the system.

The Ipswich Control Room is located in a central mall kiosk which also houses a Police Beat Station. Private security operators monitor the cameras 24 hours a day seven days a week. There is also continuous recording in real time. The Police Communications Centre also has vision, and its operators have direct radio contact with police during incidents. Although there has been no formal evaluation, a 78% decrease in reported crime statistics for areas under coverage is alleged.

# 4.2.6 Logan

8 pan-tilt-zoom cameras were commissioned for a shopping strip area adjacent a train station in Logan in July 2001. The initial recommendation that Logan City Council consider installation of CCTV was put forward in a 1998/99 Crime Plan. Two Queensland Department of Local Government and Planning SIP grants have provided partial (50%) funding for the system, with remainder being provided by Logan City Council. Council meets ongoing costs with contributions from local businesses through a special levy.

An external consultant was engaged in the planning phase of the project. Planning also involved close cooperation with local business, Queensland Rail and Police. There has been some research into public awareness of the system. There are also internal evaluations although council has no plans to fund an external evaluation of the system.

# 4.2.7 Rockhampton

Four pan-tilt-zoom cameras were installed in the central nightclub precinct of Rockhampton in December 2001. Images are transmitted to the control room via microwave link, with 24-hour digital recording. The suggestion for security cameras arose from a safety audit conducted by Rockhampton City Council in consultation with the Queensland Police Service in November 1999. Half the initial capital cost of \$125,000 for the project was provided by a Queensland State Government Security Improvement Project (SIP) grant, with the other half met by Rockhampton City Council.

There is active monitoring of the cameras by private security personnel between 10pm and 6am on Fridays and Saturdays. At other times security personnel who patrol the CBD have access to the control room and can undertake casual monitoring. SIP funding has recently been approved for Stage Two of the Rockhampton Cameras Project. This will involve the installation of additional cameras, and the location of monitors with control capacity both in City Hall and in the Police Communications Centre.

# 4.2.8 Toowoomba

A CCTV system consisting of 24 cameras (13 pan-tilt-zoom colour and 11 fixed black and white) was commissioned in Toowoomba in June 1995. The cameras were installed to combat perceived problems of anti-social behaviour and drunkenness in the CBD area, and to assuage public perceptions that the CBD was unsafe.

The Control Room is located in a Council operated car park facility. During normal working hours Council employees who also perform car park attendant duties monitor cameras. At other peak periods there is dedicated monitoring by private security personnel. A monitor is also located in the Police Communications Centre, with vision controlled by camera operators. The cameras are recorded on multiplexer 24 hours per day. A trial of digital recording equipment is currently underway. The system has now expanded to a total of 43 cameras (30 pan-tilt-zoom colour, 2 colour fixed and 11 black and white fixed).

### 4.2.9 Townsville

Twelve cameras were installed in the central mall area and an adjoining nightclub strip of Townsville in 1995. The stated reason was to combat problems of petty crime and vandalism in the mall. A purpose built control room, also housing a police beat kiosk, was established in the mall. One monitor was located in the Police Station and another in the police beat section of the Kiosk, allowing access to vision twenty-four hours a day. The installation cost of \$260 000 was met by Townsville City Council.

Private security operators actively monitor the cameras between 10pm and 6am five nights per week. Police can also control the cameras and record vision from the Police Communications Centre and the police kiosk in the mall. Six cameras were added to the system in 1998, following redevelopment of the Strand waterfront area.

# 4.2.10 Warwick

Ten pan-tilt-zoom cameras were installed in the main street area of Warwick in 1996. The cameras are linked to a control room located in the Town Hall. There is also a monitor located in the police station. Operators do not listen to police radio but do have a direct telephone line to the local station. Cameras record continuously on time-lapse and are actively monitored on Friday and Saturday evenings. Council funded initial installation costs, with these costs being recuperated through a levy on central area traders that was in place for the first two years of operation.

Addition of a further 2 cameras to the system is scheduled. Existing cameras are also being repositioned to facilitate improved vision.

# 4.3 Western Australia

Western Australia presently has four open-street CCTV schemes, including Australia's largest scheme in Perth. There has been only limited involvement from the WA State Government to date, with the Ministry of Justice providing policy advice to the City of Perth upon establishment. However the Claremont security cameras, installed in the wake of several high profile murders, were funded by the Ministry of Justice to assist special police investigations. Bunbury City Council has also applied for funding to expand its system through the Safer WA program.

### 4.3.1 Bunbury

Bunbury City Council installed a CCTV system in its central area in 1998. CCTV was initially used in car park facilities to combat car theft and malicious damage. Consultations between police and council

led to expansion of the system to public space areas. The system currently consists of 14 cameras linked by fibre optic cable to monitoring facilities in council offices. Monitoring facilities and a control panel were also installed in the Bunbury Police Station in early 2001. However recording facilities are only available from the council location. The Bunbury system digitally records image to hard drive. Apart from incident specific monitoring by Police, the Bunbury system is primarily reactive and record only. There is no signage in public areas advising that locations are under video surveillance.

Expansion of the system is planned, with funds allocated for an additional 4 cameras. Employment of operators to actively monitor the system is also under discussion. Bunbury City Council has recently prepared a five-year strategic plan for the CCTV camera program.

# 4.3.2 Claremont

Nine CCTV cameras were installed in the central area of the Town of Claremont in August 1997. The cameras were installed as part of ongoing WA Police operations into several high profile abductions and murders in the area. The WA State Government provided \$150 000 to fund installation of the cameras.

In 2000 the Macro Task Force investigating the homicides informed the Town of Claremont that the cameras were no longer required for its investigation. The Macro Task Force ended its management of the cameras in July 2001. The Town of Claremont opted to continue using the CCTV system in the interests in public safety and security. The system was upgraded to digital and the City of Perth was contracted to provide monitoring services. The current system consists of 5 cameras.

# 4.3.3 Perth

The City of Perth CCTV surveillance network was the first in Australia to be installed and overseen by a local government authority. Perth's remains Australia's largest town centre surveillance systems, now consisting of 105 cameras. It was commissioned on the 1 July 1991 at a cost of \$750,000, with 48 pantilt-zoom monochrome cameras. Installation resulted from public perceptions, fuelled by media reporting, that the central Perth area was unsafe. The Perth CBD was also suffering a retail decline in the 1980s, and the installation of security cameras was part of an overall rejuvenation effort (City of Perth 2000: 1-2).

In 1994/95 the system was extended to incorporate the nightclub precinct in West Perth and the Northbridge area. The cameras are linked by both fibre optic and coaxial cable to a central control room located on the railway concourse. The building housing the control room also contains a police shopfront. The system is actively monitored 24 hours a day seven days a week with two operators at most times. An officer of the WA Police also is present in the control room at all times. Until recently, recording on this system was only undertaken when an incident was actually occurring. However 48 cameras in the system now have continuous digital recording. Vision also is transmitted to a monitor

located in council offices and to the Communications Centre of the WA Police. While both areas have the capability to manipulate cameras, the control room retains the ultimate override.

An external evaluation of the Perth system has recently been undertaken. It is hoped the evaluation will provide strategic direction for the program and a framework for future evaluation.

# 4.3.4 Rockingham

Two surveillance cameras began operation in the CBD area of Rockingham in May 2002. The cameras are linked to monitors located in the local police station, and police personnel are responsible for monitoring and changing videotapes. The cameras were installed to combat disorderly behaviour around licensed premises and as a measure against anti-social behaviour in the beachfront area. A report on the first 3 months of operation is being prepared and there are plans to extend the system with the addition of 2 further cameras.

# 4.4 Victoria

Victoria currently has three open-street CCTV systems in Melbourne, Bendigo and Box Hill. There has been some interest from Melbourne outer suburban locations such as Dandenong, and from regional locations such as Mildura. The issue has also been raised in Shepparton. In Ballarat, Bridge Mall traders have recently presented Ballarat City Council with a proposal for a twelve-month trial of digital surveillance cameras (Ballarat City Council 2002: 37-39).

State government funding was provided for the camera scheme in Bendigo, however there is as yet no uniform policy from the Victorian State Government regarding CCTV. Police also undertake casual monitoring of cameras in two of the three Victorian systems. The Crime Prevention Division of the Victorian Department of Justice is currently preparing guidelines for the use of CCTV in public places.

# 4.4.1 Bendigo

Greater Bendigo City Council commissioned 6 CCTV cameras in the Bendigo CBD area in October 1998. The cameras were introduced to combat perceived problems of vandalism and anti-social behaviour in the Mall area and to deal with issues of drag racing in streets adjoining the CBD. The idea was originally promoted after a fact-finding tour of Tasmania by Greater Bendigo City Councillors, during which they viewed the Launceston system in operation. The concept was then delivered to the Safe City Forum Group, a committee chaired by a local MP and with a membership comprised of Victoria Police, the Hotel Traders Association, Council representatives, and members of various community services. Partial funding for the installation cost of \$130,000 was secured from the Victorian State Government with the remainder provided by Greater Bendigo City Council.

The Victoria Police at the Bendigo Police Communications Centre monitors the cameras. Monitoring by police in the Centre is passive, and the cameras operate on preset tours. They can be disengaged from such tours during an incident. Monitors are also located in a council building that has a time-lapse

24-hour recording facility. There are 8 signs around the CBD advising the public that video surveillance is in operation.

# **4.4.2 Box Hill**

Whitehorse City Council, in consultation with Victoria Police, installed 8 pan tilt zoom colour cameras in the Box Hill Mall in October 1999. Installation was part of attempts to prevent and detect criminal activity including drug use and dealing and anti-social behaviour. Images are digitally recorded onto hard drive. Equipment is located is located in the Box Hill Police Station. The cameras operate on a preset tour but are not monitored. However police do have the capacity to actively monitor the cameras in the event of an incident. Signage in the Mall indicates that the area is under video surveillance.

Whitehorse City Council is installing an additional 2 cameras to extend the area of coverage. No evaluation has been undertaken although it is alleged that the system has been successful in securing apprehensions and convictions.

### 4.4.3 Melbourne

Melbourne's Safe City Cameras Program commenced in February 1997 with 10 cameras positioned in King Street to address concerns about incidents of violence around licensed venues. As part of the Westend Project, Safe City Cameras were introduced with a range of other crime prevention measures including improved lighting, general infrastructure improvements, safe taxi ranks and an Accord with licensed venues in the area. The Safe City Cameras Program is now an element of the City of Melbourne's broader *Strategy for a Safe City*. The program has subsequently expanded and now incorporates 23 cameras located in 'hot spot' locations around the CBD. Cameras are linked via fibre optic cable to a control room located in Council buildings. Private security operators monitor the cameras twenty-four hours a day seven days a week. Vision can be transferred to the Victoria Police in two locations. Two evaluations of the Safe City Cameras Program have been undertaken: an external evaluation conducted by KPMG in 1998 and an internal evaluation in 2000. Neither evaluation has been made public.

### 4.5 Tasmania

There are currently three town centre CCTV systems currently in operation in Tasmania, located in Hobart, Launceston and Devonport. The Tasmanian State Government has provided financial support for installation of all systems. There has also been pressure for the installation of surveillance cameras in other Tasmanian locations. The Glenorchy City Council has rejected two proposals for surveillance cameras on the grounds of expense (Hobart Mercury 21/06/01: 13). However the Glenorchy City Ratepayers Association has continued to agitate for the installation of CCTV, and in September 2001 distributed 20,000 leaflets encouraging householders to voice support for a CCTV scheme (Hobart Mercury 18/09/01: 9). A proposal considered by Dorset Council in April 2001 to install surveillance cameras in the main street of Scottsdale was also rejected on the grounds of expense (Hobart Mercury 21/04/01: 11).

### 4.5.1 Devonport

The Devonport Police Community Liaison Committee suggested CCTV as early 1996. A system was installed in mid 2000 and became fully operational in October 2000. It consists of 8 cameras: 6 located in the CBD and 2 in a shopping centre precinct. The two shopping centre cameras are connected to the control room by cable while vision from the six CBD cameras is transmitted via microwave.

Devonport's broad aims in moving to CCTV were to combat anti-social behaviour and to tackle problems of alcohol related violence around licensed venues. Devonport City Council provided initial funding of \$60 000 towards the cost of installation. This Tasmanian State Government, through the Department of Police and Public Safety (DPPS) provided funding of \$100 000.

The control room is located in the local police station. Cameras are actively monitored in the peak periods of Friday and Saturday evening. The operators are volunteers associated with local Neighbourhood Watch committees.

### 4.5.2 Hobart

Four surveillance cameras were installed in the Elizabeth Mall area of Hobart in December 1996. The system has subsequently expanded, and now comprises 7 cameras covering Elizabeth Mall, adjoining courts and lanes and bus passenger waiting areas. Adoption of CCTV was in response to pressures from the business community to tackle problems of anti-social behaviour and property damage in the Mall area. The main aim was to improve public perceptions of safety, with a secondary aim being to protect persons and the property of businesses in the Mall area. The advent of camera surveillance was part of a broader program of Mall refurbishment and other crime prevention initiatives including the erection of a police kiosk in the Mall and strengthened foot patrols.

The 7 cameras are connected via fibre optic cable to 4 monitors located in the Hobart Police City Enquiry Office. Both recording equipment and cameras are digital. The system has 24 hour recording and is passively monitored by Police. However Neighbourhood Watch volunteers actively monitor the system between 6pm and 2am on Friday and Saturday evenings. The system is managed by Hobart City Safe Incorporated, a committee including representatives from council, City Heart (a CBD business interest group), the Tasmanian Chamber of Commerce and Industry, police and the Tasmanian State Government.

#### 4.5.3 Launceston

A 4-camera surveillance system was installed in the Launceston CBD in 1995. The Tasmanian State Government and City Prom, a local group representing CBD businesses, funded the original installation (LAACT 1996: 19). There are currently 5 cameras in the CBD area, used mainly to address alcohol-related violence around licensed venues. The 5 CBD cameras are linked to a monitor in the

Launceston Police Headquarters. Neighbourhood Watch volunteers actively monitor the cameras on Thursdays, Friday and Saturdays between 10pm and 4am. Some effort currently is being made to recruit volunteers to actively monitor the cameras during the day.

Four cameras also have been installed in the Launceston suburb of Mowbray. These are record only and are not connected to the Launceston Police Station.

Launceston's camera program was at one time managed by a committee comprising representatives of business (City Prom, an insurance company and Chamber of Commerce), the Tasmanian Police Force and Launceston City Council. However this committee no longer meets, and the cameras are now managed on an 'as needs' basis through communications between Tasmanian Police and Launceston City Council. Launceston City Council funds the annual cost of maintenance while the Tasmanian Police provide videotapes for the system. Launceston City Council has recently agreed to fund an additional camera for the system.

#### 4.6 South Australia

South Australia presently has only one public space CCTV located in the State capital Adelaide. A proposal for CCTV in the public spaces of the municipality of Glenelg was recently rejected on the grounds of expense.

## 4.6.1 Adelaide

Surveillance cameras were installed in Adelaide between July and November 1995. Cameras were installed following concerns about assaults and other antisocial behaviour in the Rundle Mall area. The system initially comprised 12 cameras in the Rundle Mall area. Adelaide City Council met two-thirds of the initial establishment cost of \$530,000 with one-third being provided by the SA State Government. The system now consists of 33 cameras in key locations including Rundle Mall, Hindley Street, James Place, the National Soldiers Memorial, Victoria Street and the Skate Park.

A business unit of the SA Police – Police Security Services Division (PSSD) – monitors the cameras. Vision is monitored in a control room located in the State Administration Centre. There is active monitoring of the cameras for sixteen hours per day between 10am and 2am. Vision and control of the cameras is also possible via a link with Hindley Street Police Station. Cameras are casually monitored in this location during the hours 2am-10am. Vision and camera control is also possible from the Police Communications Centre, Carrington Street. The system records continuously.

# 4.7 Australian Capital Territory

The Australian Capital Territory has one system located in Canberra. In 1996 the Standing Committee on Legal Affairs of the ACT Legislative Assembly examined the efficacy of surveillance cameras in public spaces (LAACT 1996). The inquiry arose from an approach to the ACT Attorney-General from a private security company offering the free use of surveillance cameras in the Civic area for a trial period.

## 4.7.1 Canberra

Canberra's 'Civic Safety Camera System' became fully operational in May 2001. It comprises 15 cameras located in the Civic area of Canberra, with images digitally recorded to hard drive. Monitors are located in the City Police Station, and vision is actively monitored by the Australian Federal Police (AFP) from Thursday evening to Sunday morning. Camera operators can talk directly to beat police. At other times the cameras are monitored on an ad hoc basis or in response to police intelligence. Eight signs are presently in place around the Civic area alerting the public to the presence of video surveillance.

The installation of the cameras followed growing public perceptions that the Civic area was becoming a 'no-go zone'. The Civic area hosts Canberra's main entertainment area and experienced alcohol related anti-social behaviour including vandalism, harassment, assaults, drunkenness and offensive behaviour. There was also an issue of drug dealing within the area. Cameras were installed as a final element of a Safer City campaign including CPTED projects such as the removal of trees, improved lighting and streetscape improvements and an increased uniformed police presence.

A four person Audit Committee has been appointed by the ACT Government for a period of two years. The Committee comprises the Deputy Chair of the ACT Crime Prevention Committee, a representative of young people's interests, a representative of Civic leaseholders and representative of women's safety interests.

Early statistical indicators suggest that the Civic Safety Camera System may have had some impact. Following the installation of cameras on the 21 May 2001 recorded crime (across all categories) has fallen from 6950 incidents (21/05/00-21/05/01) to 5604 incidents (21/05/01-21/05/02): a decline of 1346 incidents or 19.3% overall. The Australian Federal Police reports this has permitted a reduction in the strength of City Beat Team Operations from 25 personnel to 18, freeing 7 officers for other duties (OSP I#29).

#### 4.8 Northern Territory

There are presently no public CCTV systems in the Northern Territory, although proposals have been presented to local government authorities in Alice Springs and Darwin. In Alice Springs there has

recently been considerable demand from retailers in Todd Mall to install security cameras. Following incidents of vandalism in the Mall, traders indicated that they would finance the capital costs of CCTV equipment and installation if the Alice Springs Town Council would fund ongoing maintenance and monitoring (Centralian Advocate 25/1/02: 5).

Plans to install a trial camera in the Mall in 2001 were abandoned in favour of a study into security and safety in Alice Spring's CBD. The Town Council has resisted pressures to install cameras, arguing they are prohibitively expensive and that problems of security in the Mall would be better addressed through improved lighting and police presence, and improvement to physical facilities (Centralian Advocate 8/1/02: 1). However, Alice Springs Town Council recently allocated \$10 000 towards a study of CCTV viability in Todd Mall (Centralian Advocate 25/1/02: 2).

In 1997 the Darwin City Council rejected a proposal for surveillance cameras to be installed in the CBD. In 2001 the Territory's Police Minister again proposed surveillance cameras for central Darwin following several well-publicised assaults. Darwin City Council however remains uncommitted to CCTV as a crime prevention measure (Northern Territory News 11/05/02: 1)

## 4.9 Current Regulation

Currently there is no specific Federal, State or Territory legislation covering CCTV surveillance in public areas. Overt surveillance, of which town centre CCTV systems are one form, has recently been the subject of inquiry by law reform commissions in two Australian States (NSWLRC 1997; 2001; VLRC 2001). In 1997 the New South Wales Law Reform Commission (NSWLRC) released an issues paper that noted the absence of regulations directly governing the use of visual surveillance equipment. The paper noted that various Codes of Practice for CCTV schemes already were in place, and that in 1996 the NSW Police Service had prepared guidelines outlining community consultation procedures for the establishment of CCTV (NSWLRC 1997: Paras 4.17; 4.26). The Commission's paper suggested that if regulation of visual surveillance was desirable 'enforceable standards of behaviour, rather than guidelines, are likely to be required' (NSWLRC 1997: Para 4.26)

An information paper released by the Victorian Law Reform Commission also has noted the absence of regulation. The report sees this as a major deficiency in the Victorian *Surveillance Devices Act* 1999, which covers only 'private activities' and precludes any regulation of surveillance of activities taking place outside buildings or in any situation where the parties might reasonably expect they will be observed by someone else (VLRC 2001: 42). Finally, the paper noted that 'the regulation of mass surveillance in public places is a substantial gap in the privacy protection offered in Victoria' and identified this as a priority area for law reform (VLRC 2001: 46) The VLRC's criticisms might equally be applied to the Western Australian *Surveillance Devices Act* 1998 or to the Northern Territory's *Surveillance Devices Act* 2000, concerned as they are with covert surveillance operations in 'private' locations and offering no protection against overt visual surveillance in public spaces.

In 2000 a bill was introduced into the ACT Legislative Assembly by the then Labor opposition that would have represented the first statutory regulation of overt visual surveillance in Australia. The Surveillance Cameras (Privacy) Bill 2000 proposed statutory control over visual surveillance in public spaces, including the right of the subjects of surveillance to access videotape, requirements for compulsory signage, mandatory compliance with a model code of practice, the right of the ACT Government to appoint an inspector to investigate any scheme, and mandatory external evaluation on an annual basis. Those breaching the provisions of the legislation were to be subject to criminal sanctions, with maximum penalties of a \$5000 fine or six months imprisonment. The ACT Attorney-General argued the bill would force small businesses to 'unnecessarily fork out thousands of dollars each year' and that it was seeking to 'criminalize overt and reasonable use of cameras in public places' (ACT Attorney General, Media Release: 28/03/01). The bill, whose main provisions were drawn from the recommendations of the 1996 ACT enquiry into electronic surveillance, failed to pass into law.

A recent interim report on surveillance released by the New South Wales Law Reform Commission (NSWLRC) also has drawn attention to the lack of regulation of overt surveillance. This report noted that 'there is very little to fetter the unrestricted use of overt surveillance, other than codes which are adhered to voluntarily and lack sanctions for breach, or a patchwork of common law remedies which are inapplicable in the vast majority of cases' (NSWLRC 2001: 150).

The NSWLRC interim report proposes a model Surveillance Act, some sections of which directly relate to the regulation and operation of town centre CCTV schemes. The most pertinent recommendations of the proposed Act include:

- An enforceable Code of Practice (Para 4.32);
- Such a Code of Practice to be available to the public (Para 4.35);
- Overt surveillance only permissible for one or more of the following specified purposes:
  - 1. Protection of the person;
  - 2. Protection of property;
  - 3. Protection of the public interest; and
  - 4. Protection of a legitimate interest (Para 4.44)
- Notice requirement identifying surveillance user and providing contact details (signage) (Para 4.48);
- Full responsibility to reside with surveillance user and cannot be delegated to contractor;
- A register to be maintained containing details of number, type and location of all overt surveillance devices (Para 4.51);
- Government departments, statutory authorities, local councils and any other public bodies required to disclose statistical information relative to the extent and costs of overt

surveillance systems, and the results believed to have been obtained from them, in annual reports (Para 4.53);

- Monitoring staff to hold security licences (Para 4.55);
- Monitoring staff to be appropriately trained in procedures set down in Code of Practice (Para 4.57);
- Restricted access to control rooms and surveillance material (Paras 4.59-60.);
- In relation to surveillance material:
  - 1. No unauthorised viewing, listening etc;
  - 2. No unauthorised copying of all or any part, and where authorised copies are made they should be strictly limited in number;
  - 3. No unauthorised transfer or conversion to another format;
  - 4. No unauthorised person to be given access; and
  - 5. No amendment, deletion or alteration. (Para 4.62)
- Surveillance material to be destroyed or erased within 21 days (Para 4.64);
- Inspectors appointed by Privacy Commissioner empowered to inspect registers of surveillance devices and inspect system where it is believed an offence against the Act has been committed (4.70); and
- Privacy Commissioner to be empowered to issue binding rulings on matters of a preliminary or threshold nature (Para 4.73)

Significant elements of the proposed legislation are consistent with codes of practice already in place for many town centre CCTV schemes. However the proposed legislation does envisage an expanded regulatory role for the Office of the Privacy Commissioner. Such legislation is likely be beneficial both for the general public and for CCTV system operators. For the general public the proposed NSW legislation would offer clear mechanisms of accountability and increased access to information on how systems are operated, who is operating them and what financial burden they represent to communities. Appropriate control, administration and accountability measures may also benefit system operators by helping sustain public confidence. Minimum standards of operation contained in an enforceable Code of Practice also would remove uncertainty about appropriate procedures and help create a degree of uniformity in the application of CCTV in local areas.

TABLE 4.2: YEAR OF COMMISSIONING AND SIZE OF CCTV SYSTEMS (AS AT OCTOBER 2002)

Location	State/Territory	Year	Initial Cameras	Current Cameras
Blacktown	NSW	2000	9	9
Bourke	NSW	1999	4	4
Dubbo	NSW	2002	11	11
Fairfield	NSW	1996	14	23
Lake Macquarie	NSW	1999	2	2
Lismore	NSW	1999	8	11
Lithgow	NSW	1997	3	3
Sydney	NSW	1998	48	48
Sutherland	NSW	2002	11	11
Walgett	NSW	1999	5	5
Willoughby	NSW	1998	6	6
Brisbane	QLD	1993	13	44
Cairns	QLD	1997	14	16
Gatton	QLD	2002	6	6
Gold Coast	QLD	1998	16	40
Ipswich	QLD	1994	13	44
Logan	QLD	2001	8	8
Rockhampton	QLD	2001	4	4
Toowoomba	QLD	1995	24	43
Townsville	QLD	1995	12	18
Warwick	QLD	1996	10	10
Bunbury	WA	1998	14	14
Claremont	WA	1997	9	5
Perth	WA	1991	48	105
Rockingham	WA	2002	2	2
Bendigo	VIC	1998	6	6
Box Hill	VIC	1998	8	8
Melbourne	VIC	1997	10	23
Devonport	TAS	2000	8	8
Hobart	TAS	1996	4	7
Launceston	TAS	1995	4	9
Adelaide	SA	1995	12	33
Canberra	ACT	2001	15	15

### 5 CCTV Installation

The aim of this chapter is to outline the circumstances preceding the installation of CCTV systems, and to chart relevant local government processes. One of the major objectives of this study is to identify why CCTV systems are proposed and implemented. Where possible, research has tried to identify the forces that ensure that the concept of a system proceeds to the commissioning stage. In this context we note that to date, prior to the implementation of local CCTV systems there has been relatively little empirical research into their likely impacts.

### **5.1** The decision to install CCTV

The most common reason given for the installation of CCTV in town centres is to combat loosely defined 'anti-social behaviour'. However the decision to install CCTV in any given location seems to be driven by a combination of broader economic and political factors. CCTV is frequently linked to attempts to arrest, and hopefully turn around, local economic decline. Making shopping areas safe is also a means of encouraging trade and improving a centre's image. The powerful symbolism of CCTV also makes it peculiarly attractive to politicians, usually local but also increasingly at the State and national levels (see for example, the U.K.). Sizeable capital investment in CCTV is proof to communities that 'something is being done' about crime.

This section will first consider this broader context of installation and will then consider some of the specific issues that have prompted the installation of open-street CCTV.

## 5.1.1 Economic Factors

In Australia, as in Britain, attempts to reduce offending and anti-social behaviour through the installation of CCTV have been inextricably linked to attempts to rejuvenate town centres, stimulate local commerce and attract investment (Reeve 1998; Coleman & Sim 1998; 2000). Introduction of CCTV has been underpinned by broader economic and spatial transformations that have forced intensified competition between cities, towns and regions to attract capital (Martin 2000). In an increasingly deregulated and globalized economy local authorities are compelled to become more entrepreneurial in their efforts to attract private capital and stimulate the regeneration of town and city centres through consumption. The need to attract investment and visitors and arrest decline is articulated in the Perth CCTV Information Kit. The Kit gives the background to the system:

The Central Business District was suffering a retail decline in the mid 1980s and the best efforts of the Council to rejuvenate the area were often offset by emotional stories in the media which generated an undesirable image of the city.

The promise of open-street CCTV is that creating a safer environment will lead to an increase in visitors to retail areas, and a subsequent boost for trade. This is not always the case. In one British survey, retailers did not believe open-street CCTV schemes had increased either their trade or profit (Brown 1995: 1). Nevertheless business interests, particularly retailers, have been key players in the

installation of CCTV throughout Australia. Their involvement ranges from simply offering in principle support for schemes through to the full responsibility of funding ongoing operations.

# Case Study: Lismore

In Lismore the main push for surveillance cameras came from the local Chamber of Commerce. The Chamber's concern was that perceptions that crime was rampant in the CBD was keeping shoppers away from the area and damaging retail businesses. Even prior to the Lismore City Council giving serious consideration to the issue, the Chamber of Commerce and the local Rotary Club began a drive to raise funds for CCTV cameras. The Chamber of Commerce remained actively involved in the planning process, and when cameras were finally installed in 1999, contributed \$60 000: one-third of the total installation cost. Rotary West met a further third of installation cost. CBD businesses continue to support the ongoing funding of CCTV through a levy on properties. The levy was actually requested by CBD businesses, who wished to make a contribution. It is reported they are pleased with the results of the camera system, and that their retail turnover has improved since the installation of CCTV along with other crime prevention measures. (OSP I#33)

#### 5.1.2 Political Factors

Although driven from the local level, the impetus to install CCTV has frequently been underpinned by the consistent 'law and order' rhetoric of the past decade. This is no less true for local government politicians than their State and Federal counterparts. To promise ratepayers a CCTV system is to demonstrate that Council is 'tough on crime'.

The clearest example of this is the installation of the Brisbane's CCTV system in 1995. In the run up to mayoral elections, one candidate stood on a 'law and order' platform. CCTV formed part of the candidate's election promise and, following a successful campaign, it was implanted with no examination of potential alternatives.

However most systems are established with some level of political motivation, if less overt than was the case in Brisbane. CCTV systems provide powerful symbols to communities that local government is doing something about crime.

The political motivation to install CCTV also results from competitiveness between towns. It is clear that for some regions of Australia, having a CCTV system is now a symbol of municipal success. This is most notable in Queensland, where town centre systems have spread up the coast. There is clearly a strong 'me too' factor at play in the installation of these systems. In regional areas, a CCTV system can be a symbol of the community's commitment to sustainability and growth.

The politicisation of CCTV is also occurring at the State level. In the lead up to the 1999 Victorian election the then leader of the Labor opposition, Steve Bracks, pledged to boost the number of surveillance cameras in Melbourne as part of a 'tough on crime, tough on the causes of crime' platform (*Herald Sun* 7/04/99: 15). In NSW a promised five million dollars towards the funding of CCTV for

towns in the west of the State is a key element of the National Party election platform (*Weekend Liberal* 20/07/02: 3). Even representatives of the security industry have noted 'the increasing willingness of politicians using the implementation of surveillance cameras as election carrots' (Dolahenty 1999: 16-17).

Economic and political pressures for CCTV systems can have negative consequences. Once the CCTV concept has gained sufficient momentum alternative crime prevention measures, particularly social ones, are seldom considered. Councils may than find themselves locked into substantial ongoing expenditures (for monitoring and so on). This may be no great problem for wealthier municipalities such as Melbourne or Sydney, but can represent a considerable burden for smaller regional centres with a more limited rate base. Finally, once commitment has been made there is a tendency for local politicians and others with an investment in the system to make grandiose claims about its likely and actual achievements.

#### **5.1.3** Issues

As demonstrated in table 5.4, there are three main problems CCTV has been installed to address. These are:

- 'anti-social' or 'public nuisance' behaviour;
- alcohol-related violence; and
- drug dealing;

An additional significant factor leading to the installation of CCTV is:

· fear of crime.

As noted, fear of crime can have significant adverse effects on local consumption and investment. Local business and political interests therefore can see reduction in such fear as an achievement in itself.

An exception to this general Australian pattern was the installation of security cameras in the Perth suburb of Claremont. These were installed in 1997 with funding from the WA Ministry of Justice following a series of unsolved homicides.

## 5.1.4 Anti-Social Behaviour

'Anti-social behaviour' is a catchall phrase that can mean different things in different locations. In interviews conducted for this project it was used mainly to refer to activities such as vandalism, harassment, public drinking, solvent abuse and shoplifting. However the definition can be extended to cover a vast range of other minor infractions including urinating in public, underage smoking, littering and traffic violations (Davis 1996: 328). Frequently CCTV has been introduced not to deal with any specific offence, but to address a more generalised conception that public spaces are experiencing

unacceptable levels of 'incivility'. In many instances there has been an implicit understanding during the establishment of CCTV systems that 'anti-social behaviour' was attributable to specific groups – particularly young and/or indigenous people. Therefore findings in CCTV research that camera operators focus upon particular targets based upon stereotypical assumptions are hardly surprising (Crane & Dee 2001: 15; Norris & Armstrong 1999) given that this purpose is often structurally integrated with the establishment of the system.

The use of CCTV to police 'anti-social behaviour' is not without critics. Several commentators have noted that use of the technology in this way compounds an already marked tendency in urban environments to exclude young people and other socially marginalised groups from public space (Crane & Dee 2001; Dee 2000). Using CCTV to monitor 'anti-social behaviour' can make it a tool for enforcing public morality rather than for crime prevention (Davis 1996: 328). Other researchers (e. g. Brown 1995: 62) have argued, however, that while the offences characterized as 'anti-social behaviour' may appear trivial, they can present significant problems of public space management. If such problems are not addressed, they may contribute to perceptions of an area as unsafe, thereby deterring legitimate users. The continuance of anti-social behaviours might also act as an attraction to other potential offenders, triggering a further decline in public civility (Oc & Tiesdall 2000: 190). Many local business interests and public space managers have taken this view. Hence reducing 'anti-social behaviour' remains the most common rationale for the installation of CCTV systems in Australian town centres.

### 5.1.5 Alcohol-Related Violence

Another issue frequently prompting calls for CCTV and justifying its installation is alcohol-related violence. This has been the primary issue driving installation in Sutherland, Brisbane, Gold Coast, Rockhampton, Cairns, Warwick, Canberra and Melbourne. Several studies have documented the problem of assaults and disorderly behaviour around licensed venues. Alcohol or drug affected persons are unlikely to be deterred, however, simply by the presence of surveillance cameras. The main function of CCTV in relation to alcohol-related violence seems to be to facilitate police responses to incidents, thereby minimising the escalation of violence and the potential for greater injury. There is also a possibility that CCTV combined with improved police responses to incidents might have an incremental deterrent impact over time, however this would require greater investigation.

## 5.1.6 Drug Dealing

Several Australian systems have been installed for more specific purposes. The most notable example is that of Cabramatta, where cameras were installed with the primary aim of detecting drug dealing and usage. The installation of the cameras followed significant negative publicity of the area as the 'heroin capital of Australia' (Fairfield City Council 2002: 13). While detecting drug dealing is not the primary objective of any other Australian system, it was a significant issue in the establishment of systems in Box Hill, Cairns and Canberra. In Melbourne and Bendigo drug dealing has become a later focus of the CCTV program although not stated in the initial aims.

### 5.1.7 Fear of Crime<sup>1</sup>

The desire to combat problems of 'anti-social' behaviour is frequently premised on the belief that incidents of offending and public incivility will the public's 'fear of crime'. Decreasing the community's fear of crime, sometimes more positively phrased as increasing feelings of public safety, has thus been an underlying motivation behind the installation of most open-street CCTV systems. In Perth it was the primary objective of the system (OPS I#24). CCTV has consequently been installed in several locations in reaction to a perception of crime rather than on the basis of firm statistical evidence. This was stated quite frankly by the City of Perth in a CCTV information kit that comments:

The closed circuit television system (CCTV) arose as part of a strategy responding to the continual media hype about street kids, violence and the alleged high level of crime in the city area. Whilst there was a problem of young people attracted to the City as part of a street kid subculture, the real facts of the situation were unknown and in most cases they were misstated. There was however, a very real perception by a large part of the community that the City was not a safe area and violence was a continued aspect of daily life there (City of Perth 2000: 1).

Media reporting of incidents and the public perception this helps to shape have been an important factor in prompting local councils to install CCTV. In 1995 the King Street area of Melbourne's CBD received extensive negative press coverage, including feature articles and editorial coverage calling for an end to violence in the area (see for example *Herald Sun* 20/12/95: 3).<sup>2</sup> Research commissioned by the City of Melbourne revealed that 88% of those questioned had heard of King Street through the media, and the most frequently associated words with the area were 'violence', 'stabbings' and 'unsafe' (City of Melbourne 1996: 10). The installation of 10 security cameras as part of the Westend Project was an effort to counter negative perceptions.

Media focus on particular issues can stimulate pressure to install CCTV. A causal relationship between the fear of crime and crime reporting is yet to be firmly established (Williams & Dickinson 1993: 51). However sustained reporting of offences within a specific area can create and environment where local government feels that 'something must be done'. Councils are understandably attracted to CCTV as it is a high profile measure, offering the public undeniable evidence that problems are being addressed.

There are at least three major problems with installing CCTV to combat the fear of crime. The first is that if crime rates in fact are high, fear may at least motivate people to behave in ways that reduce their individual chances of victimisation. Initiatives that make people feel safer in places that in fact remain dangerous are morally problematic. The second is that situational crime prevention measures such as CCTV may in fact increase rather than decrease fear of crime. High profile initiatives such as CCTV may lead to 'fortress' public spaces perceived to be crime prone rather than secure (Gilling 1997: 188). Finally, measuring whether the public's fear of crime has been reduced as a result of CCTV is very

<sup>&</sup>lt;sup>1</sup> For a review of the literature on the fear of crime see Hale 1996.

<sup>&</sup>lt;sup>2</sup> For a discussion of crime reporting in Melbourne's CBD see Parliament of Victoria Drugs and Crime Prevention Committee 2001, *Reporting Crime in the Melbourne CBD*, Melbourne: DCPC.

difficult. Fear of crime is 'a subjective and nebulous concept' (Gilling 1997: 187). Evaluating shifts in 'fear of crime' post-installation therefore presents considerable challenges.

At the policy level, there is disagreement on whether CCTV should be installed if the concern is in fact the public's 'fear of crime' rather than a problem confirmed by crime statistics and other data. Local authorities in New South Wales and Queensland receive different advice from their respective State governments. New South Wales guidelines that advise cost is likely to outweigh benefits where a problem is not confirmed by crime statistics (NSWAGD 2000: 6). The Queensland Government guidelines suggest, however, that CCTV might still be appropriate to address the public's 'fear of crime', even where such perceptions are not firmly supported by crime data (QGDPC 2002).

Whatever the merits of these positions, it has been commonplace in Australia for CCTV to be installed in areas where crime statistics have not indicated a significant problem.

#### **5.2 Processes of Installation**

This section deals with processes local councils have undertaken in planning for the installation CCTV. It considers the levels of preliminary research undertaken, the formation of steering groups and committees in different locations, processes of community consultation, the importance of setting system objectives at an early stage, and the possibility of CCTV trials.

## 5.2.1 Preliminary Research

Both the NSW and Queensland guidelines recommend that research into the viability of CCTV be conducted prior to the approval of any system. This has not generally been the case in systems established to date. Most systems have undertaken some research into the establishment of CCTV systems in other locations. In Dubbo for example, field visits were undertaken to Lismore and Bourke prior to the system being installed. In Brisbane and Adelaide CCTV was introduced without research and without consideration of other crime prevention initiatives. The importance of research however is that it can avoid 'knee jerk' installation of CCTV following a sensational incident. Preliminary research can also help identify alternative, possibly more cost-effective, crime prevention measures.

Broadly there have been three types of research conducted in Australia prior to system installation. These are:

- CCTV feasibility studies;
- safety Audits; and
- technical CCTV installation studies.

A CCTV feasibility study should appropriately address the following concerns:

the nature of the crime problem;

- the spatial characteristics of the location identified and its suitability for CCTV surveillance;
- the potential impact of CCTV on the problem identified;
- the approximate initial and ongoing costs of installing CCTV; and,
- alternative crime prevention measures that might be undertaken to address the problem

It is interesting to note that where feasibility studies have been undertaken, CCTV has not always subsequently been pursued as a crime prevention option. In Manly for example, a feasibility study recommended security cameras were an inappropriate response to problems of alcohol-related violence (Manly Crime Prevention Study 2000).

Safety Audits differ from CCTV feasibility studies in that they while they may help identify problems within an area, they do not necessarily confirm the merits of CCTV as opposed to other crime prevention measures. In Rockhampton an open-street CCTV system was commissioned in 2000. The suggestion for CCTV arose from a Safety Audit conducted in 1999, which recommended security cameras as a solution (OSP I#23). The NSW guidelines recommend that a crime assessment be undertaken in consultation with local police and should consider the following:

- the nature, type and volume of criminal activities occurring within the area under consideration;
- current usage of area and variations in use over day, time and year;
- situational and other environmental factors that may be facilitating criminal activities; and
- the possibility of displacement (NSWAGD 2000: 8)

The most frequent relevant studies, however, can be termed 'installation research'. This is where it has already been decided CCTV will be engaged as a crime prevention measure and research is undertaken to ascertain appropriate technology and operating procedures. The point of such research is to ascertain technical requirements, specifications and estimated costs. Security consultants have in some locations undertaken this work. It has also been undertaken through field trips to locations with a CCTV system and liaison with other councils.

## 5.2.2 Steering Groups and Committees

Open-street CCTV projects are complex and difficult to manage, both in establishment and ongoing operation. For this reason steering groups or committees have been formed in some locations to provide oversight of the installation phase. Establishing steering groups or committees is recommended in the UK and in the two State government guidelines currently available in Australia (LGIU 1994; NSWAGD 2000; QGDPC 2002). However it has to date been the exception rather than the rule in the establishment of CCTV systems.

The potential benefits of a committee to oversee installation can be summarised as follows:

- ability to assemble a diverse range of expertise to advise on a complex project;
- provision of an ongoing mechanism for community consultation;
- provision of a mechanism for monitoring project progress and direction; and
- creation of the basis for ongoing administration once CCTV has been established.

The extent to which these possibilities are fulfilled will depend upon both the level of involvement and frequency of meeting of the committee and its composition. Examples are provided by the following case studies of Toowoomba and Lismore.

## Case Study: Toowoomba City Council

In Toowoomba a Committee was established to oversee the installation of the cameras. The Committee included representatives of local traders, representatives from local Neighbourhood Watch Groups, a representative from the local QPS Licensing Branch, and a representative from the local Aboriginal community. A representative from the Queensland Council for Civil Liberties was also invited to attend. QPS and Council staff were also on the Committee.

## **Case Study: Lismore City Council**

In Lismore a Task Force to oversee the cameras project was formed in 1997. Membership of the Task Force included Lismore City Councillors, the president of the Chamber of the Commerce, retailers, the Mayor, the Inspector of Police (Local Area Commander), a representative from the Northern Rivers Community Legal Centre and a representative from the local Aboriginal Lands Council.

Both the Lismore and Toowoomba models provide for community input into the project during the establishment phase. They also provide a means by which Councils can assemble a variety of expertise to draw upon. Steering Committees should if possible include a representative with technical knowledge and another with legal expertise. The next case study, of Newcastle, shows different model for managing the installation of CCTV.

### **Case Study: Newcastle**

In Newcastle the process of establishing CCTV is being managed by the Newcastle Alliance. The Newcastle Alliance is a private not-for-profit incorporated body that manages projects on behalf of the two 355 Committees of Newcastle City Council. The two 355 Committees (East & West) represent 1300 businesses (500 retail outlets & 800 other businesses) in the City Centre. The 1300 businesses pay a levy to improve the CBD. The Newcastle Alliance manages projects on their behalf related to marketing and crime and safety issues. The Newcastle Alliance has managed the process of negotiating with suppliers and conducting research into the technology, management and design of the system. A Steering Group has also been established to oversee the CCTV project. Membership of the Group includes a member of the NSWPS, a member of the Newcastle City Council, the General Manager of the Newcastle Alliance, the Project Manager of the Newcastle Alliance and a community representative from the Board of the Newcastle Alliance.

### **5.2.3** Community Consultation

Both NSW and Queensland CCTV guidelines recommend that consultation be undertaken prior to the installation of an open-street CCTV system. The NSW Guidelines suggest community consultation assists in ensuring systems are designed to meet local needs, and additionally will promote continuing public support for the scheme once it has been established (NSWAGD 2000: 10). It has already been noted (5.2.2) that community consultation can be achieved by assembling a CCTV steering group with appropriate community representation. This approach has been taken in Lismore and Toowoomba.

However there are other means by which community consultation might be undertaken. These include:

- leaflet distribution;
- public meetings;
- media notices; and
- publicly available plans and studies for comment.

Community consultation has not to date been widely or very enthusiastically undertaken in Australia, although it has been far more common for recently established systems. In most major capital city systems – Perth, Adelaide, Brisbane and Melbourne – no process of community consultation preceded installation. Both Sydney and Melbourne consulted with civil liberties representatives rather than the broader community. Civil liberties organizations may raise specific concerns related to the deployment of surveillance. However there may be other concerns within the wider community not represented by civil libertarians and this should be borne in mind.

There has also been a tendency to conflate 'community' consultation with consultation with local business. Business plays an important role in most local communities. However it is mistaken to believe that this is the only local voice having an opinion or interest in the establishment of surveillance. This also highlights a problem experienced in community consultation generally – that of identifying a representative cross-section of the community with which to consult (O'Malley 1997: 262).

There is of course some difference between a community information strategy and a community consultation process. While a community information strategy is important to keep interested parties informed of the progress and plans of a CCTV proposal a community consultation process actively seeks out their opinions and input into the development of the scheme. Obviously there is some overlap between the two.

The following case studies outline some of the methods of community consultation so far engaged in the installation of open-street CCTV.

### Case Study: Fairfield City Council (Cabramatta/Canley Vale)

There was extensive community consultation during the establishment of the CCTV system in Cabramatta. Relevant measures included leaflet distribution, public meetings, consultation with business and advertisements in the print media. Leaflets printed in community languages were distributed on three occasions to 3000 residents surrounding the central Cabramatta. The leaflets included an outline of the proposal and a contact number to call should resident's wish to register any concerns about the proposal. There also were two public meetings, where members of the community were invited to voice any concerns they might have about the installation of the system.

### **Case Study: Sutherland Shire Council (Cronulla)**

Sutherland Shire Council undertook comprehensive community consultation prior to the installation of the Cronulla CCTV system in 2002. Consultation included workshops, leaflet distribution and calls for written submissions through the local press. The consultation process was facilitated through the Council's Strategic Planning Unit. An information sheet (Sutherland Shire Council: 2001) was prepared and distributed. It outlined details of the system including its anticipated installation cost, the ongoing cost of monitoring, the aims of the system, sources suggesting increases in crime in the area (NSW Bureau of Crime Statistics and Research, NSWPS, Council & Private Security data), and how the cameras were to be integrated with other crime prevention measures.

The information sheet also informed Shire residents that the NSW Guidelines were available to view on the Internet or at local libraries. A feasibility study prepared for Sutherland Shire Council by Business Risks International was also made available for public inspection at local libraries. Although the Council already had approved funding for the installation of the cameras, members of the public were invited to voice their 'ideas, suggestions and concerns' to the Council. The information sheet provided email, phone and mail contacts through which the public could provide input. Calls for comment were also solicited through the local press, Council newsletters and residents associations.

While community consultation in the installation of CCTV has not to date been extensive, there are signs that it is becoming more commonplace. This may well be due to the publication in Australia of guidelines recommending community consultation as an integral component of system establishment. Both in NSW and Queensland, State guidelines recommend broad community consultation. The Queensland Guidelines specifically recommend that indigenous and youth groups be consulted (QGDPC 2002).

However there remains something a blurring between community information and community input and participation. It is not always clear whether the community is being asked if they want CCTV, to comment upon a system that will go in whether they like it or not, or if they are having CCTV sold to them. Although it would require greater research, the strong impression gained during this project was that community consultation mainly occurred *after* a decision to install CCTV had already been made.

The earlier the stage at which community consultation begins, the greater the overall participation and consequent acceptance of the measure is likely to be.

# 5.2.4 Objectives

The establishment of 'aims' and 'objectives' is an important part of the installation process as it sets out exactly what the system is supposed to achieve. The situation can be complicated by the different terms used to describe the purpose of a system. Fairfield City Council for example has a 'program rationale' and 'operating aims and objectives' (Fairfield City Council 2001: 1-2). The City of Sydney has broad 'objectives' and more clearly defined 'purposes' for the cameras.

However 'aims' for CCTV systems are fairly uniform and broad across open-street systems. Usually they encapsulate a broad crime prevention agenda. For example, the 'aims' of Melbourne's Safe City Cameras Program are to:

- aid in the provision of a safer physical environment;
- reduce crime levels by deterring potential offenders; and
- aid crime detection (Safe City Cameras Audit Committee 2002)

The objectives of the City of Sydney Street Safety Camera Program are similar and are:

- to reduce crime levels by deterring potential offenders;
- to reduce fear of crime;
- to help ensure a fast, effective police response in emergency situations;
- to assist in the detection and prosecution of offenders; and
- to help secure a safer environment for those people who live in, work in and visit Sydney's CBD. (City of Sydney 2001)

The importance of setting these objectives (or aims) is that they provide general criteria against which a system can later be evaluated. They also reveal something of the guiding philosophy behind a system. The first objective of Canberra's Civic Safety Camera System is 'to assist police and other agencies in responding to anti-social and crime incidents in the targeted area'. By placing this objective first, the Canberra system, perhaps realistically, has chosen to prioritise police response as an objective. In contrast, the City of Sydney's scheme places a greater emphasis upon deterring offenders.

Many CCTV systems have broad objectives such as those already mentioned. There is some danger in this, as the very broadness of the objectives may provide insufficient direction for the appropriate use of the cameras. For example making 'the public feel safer' is an aim so general as to justify an enormous variety of uses for surveillance. This renders a system liable to the phenomenon of 'function (or mission) creep', where a system comes to be used for purposes other than those originally intended.

Several Councils have produced more detailed 'objectives' clearly defining the purpose of the cameras and the activities that should be subject to surveillance. By default, such definitions also prescribe what cameras should *not* be used for.

The City of Sydney Code of Practice (2001a) states the primary purpose of the Safe City Cameras Program is 'to assist in the prevention of crimes against the person'. The following offences are listed: armed robbery; robbery with wounding; robbery in the company of others; extortion; assault; assault occasioning grievous bodily harm; assault occasioning actual bodily harm; sexual assault; and aggravated sexual assault (City of Sydney 2001a: 6).

### 5.2.5 CCTV Trials

The NSW guidelines recommend that CCTV systems be tested for a period of not longer than six months to see if objectives are being met and whether adjustments to objectives or infrastructure are required. The guidelines suggest that councils lease CCTV services for the trial period rather than invest in permanent infrastructure at considerable expense (NSWAGD 2000: 13). As sound as such advice is in principal, no instance of a CCTV trial using leased equipment was encountered in research for this project.

There is a difference between a trial and an initial evaluation period in which early technical problems with a system are addressed. A trial of CCTV was conducted in **Toowoomba** prior to the installation of the system in 1995. At the instigation of the Police Commissioner, a camera was installed at a traffic intersection for two months to test public acceptance of the system. Advertisements were placed in the local Press and on local TV advising the public that the camera was to be installed. The Queensland Criminal Justice Commission formulated and conducted a survey testing public attitudes to CCTV surveillance. It is reported that over 90% of those surveyed had no objection to the camera (OPS I#26).<sup>3</sup>

The **Newcastle** CCTV system comprising 5 cameras will operate as a twelve-month trial. At the end of the twelve-month period there will be a full assessment both of technical questions such as camera placement and of operational matters such as the appropriateness of Codes of Practice and Operating Procedures. Pre-installation crime statistics have already been assembled on a database to assist in future evaluations (OSP I#14).

In relation to the Cronulla CCTV system **Sutherland** Shire Council has adopted a slightly different approach. It has introduced the 11-camera system as stage one of a two-stage strategy. Stage one is to be evaluated at the end of twelve months, and on the strength of the Cronulla evaluation, the Council will make a decision on whether to implement stage two – which includes additional cameras in other locations within the LGA (SSC 2001).

<sup>&</sup>lt;sup>3</sup> The authors did not sight the questionnaire used or the final results of this survey.

## 5.3 Installation: Financial & Technical Considerations

This section deals with the technical and financial considerations in installing a CCTV system. There are of course other issues to consider in the establishment of a system. These include whether it should be actively of passively monitored, whether operators should be council, private security or police, and what form of communications should exist between the control room and enforcement agents. These additional questions are dealt with in the chapter six.

## 5.3.1 Initial Funding

The most common funding source for open-street CCTV systems is local government. Twenty out of thirty-three systems (61%) were funded solely in this way. However State governments have made significant contributions towards the establishment of CCTV. The ACT Government met the cost of Canberra's system. Queensland's government contributed 50% of installation costs in Cairns, Logan and Rockhampton. The Tasmanian State Government has also contributed towards the cost of establishing systems in Launceston, Hobart and Devonport. Victoria's government contributed to the Bendigo system, South Australia's to the Adelaide system, NSW's to CCTV in Cabramatta system, and the Western Australian government payed for the Claremont system. In summary, across Australia State government funding has assisted in the installation of 9 CCTV systems, over one-quarter of all those currently operating.

**Table 5.1 Funding Sources of CCTV** 

Funding Source	No.
Council Only*	20
State Govt/Council	8
Private/Council	3
State Govt/Private/Council	1
State Govt/Private	1

<sup>\*</sup>Includes ACT Government (Canberra Civic Safety Cameras Program)

It is also worth noting that five CCTV systems have been installed with the assistance of private funding, in all cases from business organizations. The Lismore funding model has already been outlined (see 5.1.1). In Warwick, up-front costs were met by the Warwick City Council but recovered through a business levy imposed for the two years following installation. In Newcastle all installation costs will effectively be met by local businesses via a business levy directed toward general city improvement and administered through the Council (OSP I#14).

Business funding for CCTV raises a number of ethical questions. Will the system be used only for purposes that business interests see as appropriate – perhaps at the expense of the wider community? Can a local council maintain control over a system when it is dependent on sectional community interests for funding? It is important that local authorities address these issues. However it is also reasonable for councils to expect contributions from local businesses, given that local businesses often

are strong in lobbying for CCTV and will quite possibly reap the greatest benefits in terms of town centre improvement.

The same issues also arise in relation to the ongoing funding of CCTV systems, discussed in the following chapter.

## 5.3.2 Technology & Consultants

The world of CCTV technology is complex and confusing to most local government officers. It is hardly surprising therefore that consultants conversant in CCTV installation and equipment are often engaged on projects at an early stage. Some consultants assume a wider role in the development of CCTV, drafting standard operating procedures and giving general policy advice in addition to technical contributions. In **Ipswich** the security consultant who designed and oversaw the installation of CCTV performs an ongoing management role in the cameras program, and also advised on and developed other crime prevention measures for the City Council (OSP I#07).

Consultants need to be selected carefully, and not all Councils have had happy experiences in this regard. The main problem is that some security consultants operate as agents for various CCTV component manufacturers and distributors. Their recommendations will therefore specify technology for which they are acting as an agent. This may or may not be the most suitable for the needs of a given location. There have also been instances of considerable mark up between the manufacturer and the installation of equipment, with component prices sometimes doubling (end even trebling!) in price (OSP I#14)

Inevitably, relevant authorities will need to rely on consultants with specialist technical expertise at some stage in the installation process. It is important however that technical consultants do not have a vested interest in companies or products associated with the supply and installation of equipment. Despite the obvious need to consult technical experts, it has also proved useful where possible for someone within a Council to gain a working knowledge of the field. This assists in dealing with consultants and in drafting contracts that can clearly stipulate what is required. The development of inhouse expertise was strongly recommended by the **Newcastle** Alliance. After an unsatisfactory experience with a security consultant, a Newcastle Alliance project manager developed relevant expertise, and manufacturers were contacted directly. The Newcastle Alliance maintains that this allowed the sourcing of a product more suitable for requirements at a more competitive cost (OSP I#14).

This report makes no claim to offer technical advice, however the general technical specifications of systems now operating are of interest. In relation to cameras, the current basic standard for open-street CCTV systems is for colour digital cameras with pan-tilt-zoom capabilities. Only 6 systems use fixed cameras, and in two of these the fixed cameras are used in combination with pan-tilt-zoom cameras. In **Toowoomba** fixed monochrome cameras are used in car parks with colour pan-tilt-zoom cameras used

for open-street application (OPS I#26). Colour is important for evidentiary purposes and pan-tilt-zoom capabilities are essential if the cameras are to be actively monitored. Fixed cameras may be effective in closed locations such as car parks, but will be of very limited utility in an open-street environment. Systems using pan-tilt-zoom usually also have the capability to operate on pre-set tours rather than remain in fixed positions when not monitored.

A major issue confronting Councils is selecting the mode of transmitting the video signal from camera to monitor. Images from cameras may be transmitted via coaxial cable, optic fibre cable or by microwave signal. Optic fibre cable links were reported to be the most consistently reliable connection and these are widely used. However they can be expensive, particularly where existing optic fibre does not exist and must be installed as part of the overall installation. Trenching and laying conduits for optic fibre cable may prove prohibitively expensive. A number of different approaches have been taken by Councils to address the problem of expensive optic fibre connections. In **Bendigo** optic fibre connections were installed externally (overhead) to avoid the significant cost of trenching underground, although this did involve negotiating with individual property owners for permission to lay cable across their properties (OPS I#28). In **Lismore** a sponsorship arrangement was entered into with Telstra, who agreed to provide optic fibre connections free of charge (OSP I#33).

Several locations have avoided the issue of optic fibre cable connections by opting for full or partial microwave connections. In **Devonport** microwave connection was chosen because it had the advantage of portability: cameras can be moved without the need for expensive trenching. It was reasoned that, as patterns of offending shifted, the cameras could moved to new trouble spots. Although some initial technical difficulties experienced, the system is now reported to be receiving real time images (OSP I#06). The **Rockhampton** system also has a microwave link and no problems have been reported with the quality or speed of transmission (OSP I#23). The **Dubbo** system also uses microwave technology, with transmitters located on the City's two tallest buildings. Dubbo's eleven camera system is reported to be the largest in Australia currently using microwave technology (OSP C#1).

However some microwave transmission systems have experienced problems. In **Townsville** a microwave link to the Police Station suffered from interference from banners and poles in the Mall, resulting in images that were often of poor quality, although the problem has now been rectified (OSP I#13).

Microwave connections appear to be most effective in locations where building heights are low and clear signals can be transmitted.

## 5.3.3 Digital vs. Analogue

-

<sup>&</sup>lt;sup>4</sup> Coaxial cable is a cable consisting of an 'inner' solid copper conductor or twisted copper wires surrounded by a flexible insulating material such as polythene. Optic fibre cable uses optic fibres – fine strands of glass with high quality optical transparency that acts as wave-guides for light beams. They have lower transmission loses than conventional cables and are virtually immune to electrical interference (Pacom no date: 16-17).

The majority of open-street CCTV systems in Australia use analogue recording technology. Analogue recording uses VCR recorders, similar to home VCRs, although usually of a higher standard. Twenty-three Australian open-street CCTV systems (70%) use analogue recording (see Table 5.6). Many systems also use multiplexers. Multiplexers allow the recording of images from multiple cameras (as many as 32) onto one VHS tape. Analogue equipment has proved reliable. However there are problems encountered with storing bulky VHS tapes in the frequently limited space available in control rooms.

**Table 5.2 Recording Technology** 

Image Recording & Storage	No.
Analogue (VCR)	22
Analogue/Digital	4
Digital	7

Advancements in computing technology are facilitating the increasing transmission, recording and storage of CCTV images in digital form. Digital recording involves the storing of images on a computer hard drive, where they can later be burnt onto CD format. The digital storage of images has a number of advantages over analogue records stored on VHS tape. The advantages of digital systems are:

- higher resolution images;
- less physical storage space required;
- less tape destruction required; and
- greater ease of image retrieval.

Seven systems have digital recording only. A further four systems have a combination of digital and analogue recording. A trial of digital recording technology is being undertaken in **Townsville**. Recording to hard drive is taking place in conjunction with analogue recording through VCRs (OSP I#13). A similar trial is also being undertaken in **Toowoomba** (OSP I#26). Both systems confirm that the ease of image retrieval and the quality of image is an improvement on analogue technology. Digital systems also avoid problems of erasing large quantities of VHS tape as the hard drive automatically records over existing images (unless saved in another format) once it reaches capacity. In **Rockhampton** the hard drive works on a seven-day cycle. Police are aware that they must request footage within seven days or it will be erased (OSP I#23). Other Councils are examining the installation of digital technology. Both **Devonport** and **Bendigo** are considering conversions to digital (OSP I#06; OSP I#28).

A current disadvantage of digital recording remains the expense of hard drive space required for 24 hour 7 day a week recording. In **Toowoomba** it was suggested the amount of hard drive space required to retain 28 days of recording was, in mid 2002, still prohibitively expensive (OSP I#26). Another problem confronting Councils is the substantial investment already made in analogue equipment. For

this reason some Councils have chosen to transfer to digital in phases rather than invest in a total overhaul of existing equipment.

There is also some uncertainty over the acceptability of digital images as evidence. Analogue images will show deterioration in image quality from the 'original'. Each VHS copy tape will have less clarity than the original tape storing the images. With digital images the 'original' is data stored in memory from which the image is generated. Exact copies may be made and there is no loss of quality between generations. The issue with digital images is the ease with which they can be manipulated using software programs. Ascertaining whether an image has been enhanced or manipulated is exceedingly difficult. In the UK the House of Lords Science and Technology Committee examined the status of digital images as evidence in 1998. The Committee recommended technological markers (watermarking, encryption and digital signatures) be encouraged to show evidence of tampering, and also that clear 'audit trails' be established (Murphy 1999).

Watermarking is been used in Australian digital systems. Digital evidence downloaded to VHS is also being presented as prosecution evidence in Australian courts. Nevertheless no firm legal precedent has yet been established as digital evidence remains to be challenged. There is therefore still uncertainty regarding its status as evidence. Some Councils remain concerned about the ability to effectively ensure that digital recordings will not be tampered with, and the acceptability of digital evidence in Court. The City of **Sydney** did examine the viability of digital technology but has opted not to proceed with conversion at this time (OSP I#16).

There has been rapid growth in the digital sector the CCTV market (Love 2000) and digital technology is increasingly being chosen for open-street applications. Digital recording has several advantages over analogue recording – higher resolution images, less physical storage space requirements and ease of image retrieval in comparison to VHS tape. However purchasing adequate hard-drive space for adequate image storage remains expensive, and there is uncertainty regarding the status of digital images as evidence.

## 5.3.4 Camera Placement

The exact placement of cameras has frequently been entrusted to consultants working from information provided from Council and Police outlining the general locations where surveillance is desired. Police statistics and opinion were sought to identify appropriate 'hot spots'. All sites visited for this report had also installed cameras so that vision from the cameras overlapped. This was seen as important in allowing camera operators to track subjects through public space. However in complex urban environments there were inevitably blind spots – such as private arcades and rights of way – where the skill of operators was imperative in anticipating the camera a subject was likely to reappear on.

The NSW Guidelines provide a thorough list of the issues for consideration in the positioning of cameras. The environmental factors the guidelines suggest should be considered include:

- lighting levels;
- rate of growth of trees and vegetation;
- density of vehicular and pedestrian traffic in area;
- height of equipment to deter vandalism and damage from vehicle traffic;
- structural factors that might obstruct vision (trees, awnings, signage, traffic lights etc);
- direction of sun:
- whether cameras will be affixed to private or public property;
- whether private premises come into view of the cameras;
- possibility of additional lighting for the cameras intruding on adjoining areas (NSWAGD 2000: 16)

The most common problems encountered with the positioning of cameras were the following:

- the growth of vegetation following the installation of cameras obscuring vision;
- changes to the urban environment, either private or public, such as changes in street lighting, the erection of signage that impacted upon the vision of the cameras;
- lighting levels insufficient for adequate night vision; and
- changing patterns of offending leaving cameras in areas of minimal activity.

Vandalism was not reported as a significant problem in any locations, and this is even less likely in those locations where cameras are housed in protective domes. There have however been problems with infrastructural improvements post-camera-installation that have had a detrimental effect on the capability of systems. In **Townsville** a Mall upgrade involved changing existing lighting. Floodlights were replaced with powerful globe lights placed beneath the level of the cameras. This has created a problem with the lights blinding camera vision in the Mall area at night (OSP I#13).

The blocking of vision by trees that have grown since installation was also reported as an issue in several locations (OSP I#34; I#31). In **Toowoomba** additional cameras are being installed to cover areas where vision has been blocked by a CBD beautification strategy involving tree planting (OSP I#26).

These examples point to the necessity of the camera manager being involved in the broader infrastructure programs of their Council. Too often, it appears, improvements to the physical environment have been undertaken without due consideration to their impact upon the camera system.

# 5.3.5 Control Room Location & Specifications

Control Rooms vary across Australian systems from purpose built locations with high-level security through to the location of monitors in conventional council offices. Establishing a Control Room has only been an issue for those systems adopting active monitoring, and where monitoring is not carried

out by police. Some systems with private or Council monitoring have chosen to co-locate monitoring facilities and police facilities. This has to some extent been because space was available and offered in police facilities. But it is also considered that this encourages a better working relationship between police and camera operators. This is the case in **Perth** where the control room is in a Police Station located on the Perth railway concourse. The **Sutherland** Shire Council CCTV control room is located in the Cronulla Police Station. Until recently the NSWPS and private security operators shared a shopfront location in Cabramatta that also acted as a centre for special police operations. Fairfield City Council now plans to relocate the control to a facility shared with Cabramatta Police. The Council's recent review suggested this would allow the camera system to operate in a facility 'seen as a coordination point for the areas crime prevention efforts' (Fairfield City Council 2002: 45).

The 1996 UK model Code of Practice recommended access to control rooms be restricted to 'operating staff and their managers according to prearranged shifts and on the production of valid identification'. Furthermore the model Code recommended that in 'non police schemes' police visits should be prearranged and approved by the system manager (Kitchen 1996: 54). In most Australian CCTV schemes similar procedures are laid out in Codes of Practice and Standard Operating Procedures (for example City of Sydney 2001b: 12). There is great variance in the degree of access allowed to police. In Perth and Cabramatta police entered control rooms relatively freely, while in Sydney and Melbourne police access is more limited. All schemes visited during field research also had some form of occurrence book to be signed by those entering the Control Room.

The level of entrance security is variable, ranging from intercom access to highly secure facilities such as those in Sydney, Adelaide and Melbourne.<sup>5</sup> The Adelaide Control Room, located in the basement of the State Administration Building, is probably the most stringent with five security entrances that must be passed before entry. Purpose built control rooms can be expensive, and the City of Melbourne's CCTV Control Room was established at a cost of \$200 000 (OSP I#27).

Several systems had experienced problems with the capacity of control rooms, as the expansion of systems required new recording and monitoring equipment. In Fairfield alterations were carried out on the rented shopfront location housing the control room in 2000 to increase the size of the facility (Fairfield City Council 2001: 44). The City of Melbourne is also experiencing problems with the amount of space required for tape storage and monitoring equipment (OSP I#27).

# 5.4 CCTV and broader crime prevention strategies

Although earlier open-street CCTV systems were introduced as stand-alone crime prevention measures, it is now widely accepted that they are most effective when combined with other crime prevention initiatives. Even in systems where CCTV was initially a stand-alone measure, it has now been combined with a broader crime prevention program. The suggestion that CCTV be integrated with a wider package of crime prevention measures was promoted by the UK Home Office in 1994 (Tilley

<sup>&</sup>lt;sup>5</sup> Standards Australia has set standards for Central Stations graded from 1 to 3: see AS 2201.2—1992.

1998: 143). Inevitably it must be added 'other crime prevention measures' has been assumed to mean other situational crime prevention initiatives. The most common practice is for CCTV to be integrated with a package of infrastructural improvements along CPTED principles such as improved street lighting, paving and furniture. In addition to CPTED measures, there is an increasing trend for CCTV to be combined with the patrolling of public spaces by private security guards and Council Law Enforcement Officers. The following case studies indicate the present broader strategies of introducing CCTV.

### 5.4.1 Case Study: Sydney

Security cameras were introduced to Sydney in 1998 as part of a broader program known as *Safe City*. The *Safe City* strategy is described in the Council's own literature as 'a multi-faceted crime prevention strategy designed to improve personal safety – and perceptions of safety – in the City of Sydney (City of Sydney 2001a: 9). Along with 'street safety cameras' other initiatives include safe urban design, improved lighting, city maintenance, community safety education, an accord with licensed premises, an accord with amusement centres and an illegal drugs action plan (City of Sydney 2001a: 9)

### 5.4.2 Case Study: Fairfield

In Fairfield cameras were introduced in September 1996 as part of an overall program known as *TownSafe*. While the central element of the *TownSafe* program is the CCTV system, other elements based on a 'broken windows' (Wilson & Kelling 1982) inspired philosophy include the removal of litter, infrastructure improvements such as enhanced lighting and seating design, and the removal of graffiti and bill posters. The emphasis of *TownSafe* is upon Crime Prevention through Environmental Design (CPTED) with cameras remaining an integral part of the strategy (TownSafe Coordinator: 6/06/02)

## 5.4.3 Case Study: Melbourne

Security cameras were initially installed in Melbourne's King Street as part of the Westend Project. The City of Melbourne allocated \$5.5 million to the Westend Project over five years in an effort to upgrade and revitalise the areas image. Issues and problems were grouped into five areas: urban design; traffic and by-laws; venue management; policing; and transport (City of Melbourne 1996; DCPC 2001: 52). Measures introduced in conjunction with surveillance cameras included improved lighting, street paving and seating, secure taxi ranks, local laws restricting the consumption of alcohol in public and a licensing accord negotiated between Police, the City of Melbourne and nightclub owners.

The Safe City Camera Program is now one element of the City of Melbourne's *Strategy for a Safe City* (2000). Other components of the strategy include an alcove lighting scheme and lighting upgrades, a Safe City Car Parks Accreditation Scheme, the Amusement Centre Accord, Melbourne City Licensees Accord, a Bourke/Russell Street Development Strategy, Safe City Neighbourhood Officers and a Drugs Action Plan (2000).

## 5.4.4 Sutherland (Cronulla)

The Cronulla system was introduced with a broader crime prevention strategy including: outreach youth workers, monthly safety and security meetings attended by police, licensees, shop owners and Council, a Liquor Accord, a free bus service (the One-Life-One Chance Bus) from licensed premises, a beach property minding service and policing strategies (SSC 2001). In addition private security personnel and Council Law Enforcement Officers patrol the Mall and are in contact with camera operators (OSP I#17).

#### 5.4.5 Conclusion: CCTV and Crime Prevention

It is now commonplace for CCTV to be introduced in conjunction with a broader crime prevention strategy. Commonly CCTV is introduced with CPTED and situational crime prevention measures. There is a strong trend towards combining CCTV with an increased private security or local enforcement presence, as noted above for Cronulla. In some Queensland locations, CCTV is also working in conjunction with augmented police move-on powers, provided through the *Police Powers and Responsibilities Act* (QLD) 2000.<sup>6</sup> These increased police powers operating in tandem with CCTV do amplify the potential for youth to be socially excluded from public spaces (Spooner 2001).

Increased attention needs to be given to including CCTV in broader crime prevention strategies that include *social* as well as situational crime prevention measures.

<sup>&</sup>lt;sup>6</sup> Under section 37(1)(a) *Police Powers and Responsibilities Act* 2000, police may move-on any individual from a prescribed area for 'causing anxiety to a person entering, at or leaving the place'. Section 40 provides for local governments to apply for an area to be prescribed under the Act.

TABLE 5.3: FUNDING SOURCE AND COST OF INSTALLATION

LOCATION	State/Territory	Year	Initial Cameras	Installation Cost* (Where Available)	Funding Source
Blacktown	NSW	2000	9	\$88 000	Council
Bourke	NSW	1999	4	\$40 000	Council
Dubbo	NSW	2002	11	\$225 000	Council
Fairfield	NSW	1996	14	\$652 000	NSW State Govt (50%)/ Council (50%)
Lake Macquarie	NSW	1999	2	\$25 000	Council
Lismore	NSW	1999	8	\$180 000	Chamber of Commerce (33.3%)/ Rotary West (33.3%)/ Council (33.3%)
Lithgow	NSW	1997	3	\$15 000	Council
Sydney	NSW	1998	48		Council
Sutherland	NSW	2002	11	\$600 000	Council
Walgett	NSW	1999	5		Council
Willoughby	NSW	1998	6	\$25 000	Council
Brisbane	QLD	1993	13	\$250 000	Council
Cairns	QLD	1997	14	\$500 000	State Govt (50%)/ Council (50%)
Gatton	QLD	2002	6		Council
Gold Coast	QLD	1998	16	\$380 000	Council
Ipswich	QLD	1994	13	\$640 000	Council
Logan	QLD	2001	8		State Govt (50%)/Council (50%)
Rockhampton	QLD	2001	4	\$125 000	State Govt (50%)/Council (50%)
Toowoomba	QLD	1995	24	\$200 000	Business (50%)/Council (50%)
Townsville	QLD	1995	12	\$260 000	Council
Warwick	QLD	1996	10		Council/Business Levy
Bunbury	WA	1998	14	\$200 000	Council
Claremont	WA	1997	9		State Govt
Perth	WA	1991	48		Council
Rockingham	WA	2002	2		Council
Bendigo	VIC	1998	6	\$130 000	State Govt/Council
Box Hill	VIC	1998	8	\$40 000	Council
Melbourne	VIC	1997	10	\$1 033 344	Council
Devonport	TAS	2000	8	\$160 000	State Govt (67%)/Council (33%)
Hobart	TAS	1996	4		State Govt/Business/Council
Launceston	TAS	1995	4		State Govt/City Prom
Adelaide	SA	1995	12	\$530 000	Council (67%)/State Govt (33%)
Canberra	ACT	2001	15		ACT Govt

<sup>\*</sup> Costs are approximate only.

LOCATION	State/Territory	Issue	
Blacktown	NSW	Anti-social behaviour/Violence	
Bourke	NSW	Anti-Social Behaviour/Vandalism/Violence	
Dubbo	NSW	Thefts from the Person/Thefts from Motor	
		Vehicles	
Fairfield	NSW	Drug Dealing/Usage	
Lake Macquarie	NSW	Vandalism	
Sutherland	NSW	Anti-social behaviour/Alcohol Related	
		Violence	
Walgett	NSW	Anti-social behaviour/Vandalism	
Brisbane	QLD	Violence/Alcohol Related Violence	
Cairns	QLD	Anti-Social Behaviour/Drug Dealing/Alcohol	
C tt	OL D	Related Violence	
Gatton	QLD	Alcohol Related Violence	
Gold Coast	QLD	Anti-Social Behaviour/Alcohol Related Violence	
Ipswich	QLD	Anti-social behaviour/Alcohol related	
ipswich	QLD	incidents	
Logan	QLD	Petty Offences	
Rockhampton	QLD	Anti-Social Behaviour/ Alcohol Related	
		Violence	
Toowoomba	QLD	Anti-Social Behaviour/	
Townsville	QLD	Vandalism/Petty Crime/Alcohol Related	
		Violence	
Warwick	QLD	Alcohol Related Violence	
Bunbury	WA	Malicious Damage/Car Theft	
Claremont	WA	Homicide	
Perth	WA	Anti-Social Behaviour	
Bendigo	VIC	Vandalism	
Box Hill	VIC	Anti-social behaviour/Drug Dealing	
Melbourne	VIC	Anti-Social Behaviour/Alcohol Related	
		Violence	
Devonport	TAS	Anti-social behaviour/Alcohol Related	
		Violence	
Hobart	TAS	Anti-social behaviour	
Launceston	TAS	Anti-social behaviour/Alcohol Related	
		Violence	
Adelaide	SA	Violence	
Canberra	ACT	Alcohol Related Violence/Drug Dealing	

TABLE 5.5: CCTV TECHNOLOGY (OCTOBER 2002)

LOCATION	State/Territory	Year	Cameras	Recording
Blacktown	NSW	2000	Fixed Monochrome	Analogue
Bourke	NSW	1999	PTZ Colour	Analogue
Dubbo	NSW	2002	PTZ Colour	Digital
Fairfield	NSW	1996	PTZ Colour	Analogue
Lake Macquarie	NSW	1999	Fixed Colour	Analogue
Lismore	NSW	1999	PTZ Colour	Analogue
Lithgow	NSW	1997	Fixed Monochrome	Analogue
Sydney	NSW	1998	PTZ Colour	Analogue
Sutherland	NSW	2002	PTZ Colour	Digital
Walgett	NSW	1999	PTZ Colour	Analogue
Willoughby	NSW	1998	Fixed Colour	Analogue
Brisbane	QLD	1993	PTZ Colour	Analogue
Cairns	QLD	1997	PTZ Colour	Analogue
Gatton	QLD	2002	PTZ Colour	Analogue
Gold Coast	QLD	1998	PTZ Colour/Fixed Colour	Analogue/Digital
Ipswich	QLD	1994	PTZ Colour	Analogue
Logan	QLD	2001	PTZ Colour	Analogue
Rockhampton	QLD	2001	PTZ Colour	Digital
Toowoomba	QLD	1995	PTZ Colour/Fixed Colour/	Analogue/Digital
			Fixed Monochrome	
Townsville	QLD	1995	PTZ Colour	Analogue/Digital
Warwick	QLD	1996	PTZ Colour	Analogue
Bunbury	WA	1998	PTZ Colour	Digital
Claremont	WA	1997	PTZ Colour	Digital
Perth	WA	1991	PTZ Colour/PTZ Monochrome	Analogue/Digital
Rockingham	WA	2002	PTZ Colour	Digital
Bendigo	VIC	1998	PTZ Colour	Analogue
Box Hill	VIC	1998	PTZ Colour	Analogue
Melbourne	VIC	1997	PTZ Colour	Analogue
Devonport	TAS	2000	PTZ Colour	Analogue
Hobart	TAS	1996	PTZ Colour	Analogue
Launceston	TAS	1995	PTZ Colour	Analogue
Adelaide	SA	1995	PTZ Colour	Analogue
Canberra	ACT	2001	PTZ Colour	Digital

# 6 CCTV Management & Publicity

This chapter deals with the ongoing administration and promotion of CCTV systems. The first section deals with management structures and ongoing operational issues such as strategic directions, partnerships and funding models. The second deals with program accountability, including codes of practice, auditing and complaints processes. The final section deals with system publicity: public awareness, media policy, signage and methods for disseminating public information.

## 6.1 Managing CCTV

All system managers participating in this research confirmed that the ongoing administration of CCTV is both complex and time consuming. CCTV programs bring with them substantial responsibilities for contract management and design, staff supervision, and routine administration (such as tracking and releasing videotape as evidence) in addition to the ongoing task of cultivating and maintaining partnerships with the various stakeholders.

## 6.1.1 Management Structures

The complexity of CCTV management structures varies across systems, depending on the size and resources of respective councils. Larger capital city authorities such as **Sydney**, **Brisbane** and **Melbourne** have adopted structures that separate policy and development from day-to-day system operation. In **Sydney**, day-to-day operations are managed by the City's Prosecutions and Compliance Unit. The City of Sydney Safe City and Homelessness Strategy Section oversees the development of policy for the cameras program (OSP I#16). In **Brisbane** day-to-day operation of the cameras is managed by the City Malls, Community Services Development Program, which receives policy support from the Community and Economic Development Division (OSP I#10). **Melbourne** has a similar structure.

## Case Study: Melbourne

Overall management of the City of Melbourne Safe City Cameras Program resides with the Council's Community Services Division. This Division has overall responsibility for the program budget and for the strategic planning of expansion or changes to the system. The Program Manager, based in the Community Services Division, is responsible for reporting to Council. The unit of the City of Melbourne responsible for security (Facilities Management) is responsible for day-to-day operation of the cameras program, including the release of videotape, daily control room oversight and responding to enquiries from police. In co-operation with the Program Manager, Community Services Division, Facilities Management also oversees the day-to-day operation of external contracts. The Program Manager is responsible for the overall planning and monitoring of service delivery (OSP I#27)

Such comprehensive management structures require significant resources. In smaller councils, camera system management is considerably more ad hoc and informal. From research, it became apparent that the volume of work associated with the management of CCTV had not always been anticipated.

System managers reported that time officially allocated to managing camera programs was only a fraction of their overall duties, but that this was an area that kept 'growing and growing' (OSP I#33). Managing CCTV is especially labour intensive because it entails not just the oversight of contracts and staff but the development and cultivation of partnerships between councils and stakeholders.

## 6.1.2 Meetings & Partnerships

There is considerable variation in the number of regular meetings held between stakeholders in relation to the ongoing operation of cameras programs. Most programs have some sort of regular contact between those involved in the operation of the system. In the City of Logan, a Safety Camera Working Group meets monthly and includes councillors, staff from the Community Services Division, the Director of the Community Services Division, four to five representatives from the Queensland Police Service, monitoring staff, the supervisor of monitoring staff and occasionally maintenance staff (OSP I#08). In Adelaide there are bi-monthly meetings of a CCTV Management Group including the City of Adelaide Project Officer responsible for the program, the police officer in charge of Hindley Street Station, the manager of the CCTV monitoring room, a technical expert from South Australia Police and the City of Adelaide staff member responsible for camera maintenance (OSP I#01). The City of Sydney has monthly meetings of relevant Council staff to discuss operations and policy. There are also quarterly working group meetings between Council staff and the two New South Wales Police Service Local Area Commands involved in the program (OSP I#16).

It is of course important that such meetings have a clearly defined purpose. The City of **Brisbane** has opted to schedule meetings of relevant stakeholders on an as needs basis. It is argued this has lead to focused meetings that have a definite context (OSP I#10). Monthly meetings between police, camera operators and maintenance personnel were abandoned in **Townsville**, as they were considered to have ceased to be informative or useful (OSP I#13).

A different option is to discuss camera related issues within the forum of a committee dealing with broader questions of community safety. In the **Gold Coast** camera issues are discussed by the Community Safety Executive Forum, a group with representation from business, police, Neighbourhood Watch groups and the Gold Coast City Council (OSP I#12).

### 6.1.3 Strategic Planning

Few systems to date have had any forward planning for CCTV program development and expansion. Pressure to install additional cameras through requests from both police and members of the public are common, and while some councils have set criteria for the installation of new cameras<sup>7</sup>, there has been an absence of broader strategies. This is significant as the installation of new cameras places strain on overall system administration, maintenance and operation. And, once installed, systems are likely to

<sup>&</sup>lt;sup>7</sup> For example cameras are installed in Sydney on the basis of statistics of crimes against the person as supplied by the NSWPS (City of Sydney 2001b: 4).

expand. Of the twenty-five CCTV systems installed prior to 2000, thirteen have expanded since installation (see table 4.2).

Councils are beginning to pay greater attention to strategic planning. Two systems, **Perth** and **Brisbane**, had consultants preparing reports on the strategic directions of their programs during field visits. **Fairfield** City Council has also published a five-year review of its program that considers future developments in the TownSafe program (Fairfield City Council 2002).

The City of **Brisbane** has engaged a consultant to develop a master plan for the City Safe Program. It is envisaged this will provide a strategic direction for the expansion, operation and financing of the system over the next five years (OSP I#10). The City of **Perth** is also currently undertaking a review of its CCTV operations that is considering, amongst other issues, the advisability and criteria that might be applied in extending the system beyond its current boundaries (OSP I#24; City of Perth 2000b: 39). In **Adelaide** the 'development of a strategic direction for the CCTV system to enable longer term objectives to be achieved' is one of the designated functions of the CCTV Management Group (City of Adelaide 2001: 5).

## 6.2 Ongoing Funding

The most common funding model for public CCTV systems is for the cost of operation, monitoring, maintenance and upgrade to be financed solely through the general revenue of local government authorities. Twenty-two out of 33 systems (67%) are funded in this way. Ten systems (31%) have some form of business funding for the ongoing operation of their systems. In all cases this funding is collected through a levy on businesses paid to council. Three councils (Brisbane, Gold Coast & Logan) fund the ongoing operation of the camera system entirely through a business levy. In Adelaide the council and the South Australian State Government share ongoing operational costs. In Canberra the system is funded entirely by the government of the ACT.

Cost is primarily dependent upon the level of monitoring and the maintenance costs. Monitoring is however clearly the most significant expense. A review of the **Fairfield** City Council system in Cabramatta/Canley Vale states that monitoring staff accounted for 70% of ongoing costs (Fairfield City Council 2002: 40). Some examples of the ongoing costs incurred by systems are given in Table 6.1 below.

Table 6.1 Annual Operational Costs of selected CCTV systems

Location	Annual Cost
Ipswich	\$444,000
Sydney	\$900,000
Fairfield	\$340,000
Melbourne	\$400,000
Adelaide	\$310,000
Toowoomba	\$85,000
Brisbane	\$270,000

The other significant cost is maintenance. In **Townsville**, system maintenance costs \$25,000 annually. This includes maintenance and reports on the condition of all equipment every three months, as well as assessments of areas likely to require upgrade (OSP I#13). In the larger **Melbourne** Safe City Cameras Program \$110,000 is spent annually on maintenance. It is suggested this expenditure has extended the life of existing equipment and is cost efficient in the long term (OSP I#27). Some councils, such as the City of Adelaide, carry out routine camera maintenance in-house and absorb costs internally.

## 6.2.1 Local Government Funding

As Table 6.1 shows, ongoing operational costs for CCTV can be high. The advantage of funding being met totally by councils is that this enables them greater control over the system. Nevertheless the ongoing costs do represent a significant capital expenditure and several councils are currently reviewing their funding arrangements. The City of **Perth** CCTV system is presently under review, with one of the key areas for investigation being models that might allow the system to become self-funding. In Perth this may be achieved through providing monitoring services for neighbouring municipalities. Perth already provides such a service to the Town of Claremont and there is the potential that other Perth councils installing CCTV might see this as an option (OSP I#24).

In **Adelaide**, a developed business-funding model has not been advanced. However the City of Adelaide has no policy difficulties with business funding. Businesses requesting surveillance near their premises have been asked to contribute towards the cost of camera installation, but have been unwilling to contribute financially when approached (OSP I#01). Business funding is also under consideration in **Rockhampton** (OSP I#23). Business-funding models have been considered and rejected in both **Melbourne** and **Sydney**, as it was considered they would be difficult to administer and would unreasonably compromise the policy integrity of systems (OSP I#27; I#16).

### 6.2.2 Business funding

Business funding is a common option in Australia, and usually administered through a levy on CBD businesses. In some systems where funding is provided solely through general council revenue, there is indirect funding of CCTV through business contributions. In **Bendigo** for example there is an

additional fee charged for hotel licenses used to fund the Safety City Forum. A portion of funds from the Safe City Forum is then channelled into the ongoing operation of the camera system (OSP I#28). While some systems have resisted business-funding models on the grounds that the program would be comprised, they remain attractive as a means of ensuring the ongoing operation of the system. In **Ipswich** the introduction of a benefited levy on CBD businesses provided sufficient funds for the system to be monitored 24 hours a day seven days a week, with a corresponding increase in the system's efficiency (OSP I#07).

A business-funding model is in place in **Brisbane** and provides all funding for the ongoing operation and maintenance of the system.

## Case Study: Brisbane

The Brisbane program is entirely business funded. Funding is derived from a general levy raised on CBD businesses. This levy funds street cleaning, street improvement and other general CBD infrastructural improvements. The operation and maintenance of the City of Brisbane Safe Cameras Program is also funded by the levy. The fund is managed by a trust company over which the Council maintains full control. There are full account disclosures of the trust's financial position. The City of Brisbane maintains that this approach has been effective, as the structure of funding allows council to maintain full control and direction of policy matters relating to the program. While business can make suggestions on council policy through existing consultative arrangements, it has no control over subsequent distribution of the levy.

While the City of Brisbane suggests this funding model currently operates effectively, it acknowledged that it could become problematic should the system expand to encompass public space not related to retail trade, such as public parks and recreational areas.

A number of interrelated objections can be raised to a business-funding model for public surveillance systems. These are:

- local government policy is potentially compromised by financial interest;
- the demands of some sections of the community might be privileged over the safety and security of the broader public;
- the public may lose confidence in a crime prevention measure perceived to operate for sectional interests; and
- such funding may give rise to unrealistic expectations regarding police responses and crime prevention outcomes amongst participating businesses.

It should be noted that while there have been no problems eliciting contributions from business in Australia, the UK has seen some notable failures. In North Shields, in the Tyneside area, a system established with a Home Office grant was then to rely on payments from business to meet annual

running costs. Local businesses initially agreed to fund the running of the system. To operate effectively, payments from two thirds of businesses in the area were required. Only 120 contributed while 280 did not. The business-funding model collapsed, and the North Tyneside District Council now funds the full running costs of the system (Graham, Brooks & Herry 1996).

Obviously, the viability of business funding depends on a belief among local businesses that they are receiving ongoing tangible benefits. In **Lismore**, where the Chamber of Commerce campaigned to have CCTV installed, local businesses actually approached the Lismore City Council with the suggestion that they would contribute towards ongoing costs (OSP I#33). Accurate assessment of whether business-funding models unduly influence the actual operation of CCTV systems would require more detailed research.

In some UK locations the insurance industry is reported to have offered a thirty per cent reduction in premiums to local retailers contributing towards CCTV (Davies 1996: 330). In Australia there has been no such direct incentive from the insurance industry. However it is reported that in **Bendigo** insurance premiums did fall following the introduction of security cameras (OPS I#28)

## 6.2.3 State/Local Government partnership

In locations where the police perform monitoring, State governments effectively make an in-kind contribution to ongoing operational costs. However **Adelaide** differs in that the cost of monitoring conducted by the Police Security Services Branch (\$210,000 pa) is funded through SAPOL, while maintenance and upgrade are financed by the City of Adelaide. This is the only example of direct State government funding currently operating in an Australian capital city (with the exception of Canberra funded entirely by the ACT Government). This funding model reflects the close relationship between the City of Adelaide system and SAPOL.

Potential drawbacks to such a model include:

- loss of local government control over policy direction;
- potential use of system for general police intelligence gathering; and
- public perception that a system is police owned and operated rather than a local government crime prevention measure.

Such potential drawbacks apply equally to those systems where police make an in-kind contribution through monitoring and housing the control room. This potential can be minimised by the drafting of memorandums of understanding between police and councils, as is the case in Adelaide. The Adelaide memorandum of understanding sets out the responsibilities of SAPOL and the City of Adelaide – thus reducing the risk of confusion over roles and responsibilities.

However State government contributions to the ongoing funding of CCTV in Australia remain minimal. SIP grants in Queensland are directed towards installation cost, and this has also been the case with State government contributions in other jurisdictions.

# 6.3 Accountability

Clear accountability for the operation of CCTV systems is encouraged as it increases public confidence. As the UK Data Protection Commissioner suggests 'public confidence has to be earned and maintained' (2000: 3). In Australia mechanisms of accountability remain voluntary, as there is no direct legislation covering public CCTV surveillance. The main mechanisms of self-regulation currently in place are codes of practice.

# 6.3.1 Codes of Practice

As noted, CCTV systems monitoring public space are currently subject to no direct regulation. This differs from the UK, where a mandatory code of practice issued by the Data Protection Commissioner is now in place (2000). Voluntary codes of practice govern the operation of CCTV in most Australian locations. Of the twenty-two councils who participated in in-depth interviews for this study, only two did not have a formal code of practice. The adoption of voluntary codes of practice has been encouraged by the security industry, which has concerns about the impact of statutory regulation (Adams 1996; 1997). 'Operating Procedures' are also widely used to provide detailed instructions to control room staff and regulate program operation and the release of visual material from programs.

The 1996 UK model code recommended that codes of practice be available to the public (Kitchen 1996: 32). Both the City of **Sydney** (2001a) and **Lismore** City Council (2001) have publicly available codes of practice, and it would be a positive development if this practice became more widespread. The community has a right to know how a system is being operated, not merely that it exists or how many cameras it consists of. There would seem to be no compelling argument for a code to be confidential, and indeed it would appear rather suspicious if it were.

Comparison of five codes of practice (Sydney, Lismore, Canberra, Bendigo and Perth) indicates that the following general areas are covered by all codes:

- general rationale for the introduction of CCTV and background to the installation of the program;
- technical specifications of the cameras and their locations;
- ownership and management of the system;
- objectives of the system;
- accountability and complaints procedures;
- management of the control room; and
- retention of and access to recorded images.

There also were differences between the five locations. Lismore and Sydney included addresses and contact telephone numbers for complaints. This was not the case with the other three codes.

None of these codes of practice address what amounts to 'suspicious behaviour' or try to define legitimate grounds for extended surveillance. A similar situation was found by Norris and Armstrong in their English research (1999: 100). The **Sydney** and **Lismore** codes do specify that operators are not to look into buildings or private premises unless explicitly following participants in a crime (City of Sydney 2001a: 13; Lismore City Council 2001: 11). In addition, the **Sydney** Code of Practice stipulates that operators are to be informed they are subject to audit 'and may be required to justify their interest in a particular member of the public or premises' (2001a: 13). The **Perth** guidelines stipulate that individuals or groups may only be placed under surveillance if there is a 'reasonable belief' that 'a situation of concern either is taking or is likely to take place'. The Perth guidelines also state that 'members of the public going about their lawful business shall not be the subject of undue or illegal surveillance' (City of Perth 2000a). Ultimately however, as Norris and Armstrong (1999: 102) found, codes of practice do little to control who is watched.

# 6.3.2 Tape Storage, Release and Destruction

Developed procedures for the storage, release and destruction of video footage and still photographs from CCTV are vital to the ethical operation of any cameras program, and to the integrity of evidence for court proceedings. Recommendations included in the 1996 UK model Code of Practice included:

- storing tapes in a secure cabinet;
- tapes to be individually and uniquely identified and labelled;
- maintenance of a register of tapes giving exact date and time of the use of each tape, and also recording the removal and whereabouts of each tape, the reason for its removal, and the individual responsible for it (Kitchin 1996: 58)

Procedures for image storage, release and destruction are normally stipulated in codes of practice and in greater detail in standard operating procedures. The **Sydney** and **Lismore** codes include the following in relation to tapes, photographs and recorded material:

- access to and use of videotaped material and photographs only to take place: in compliance
  with needs of police in connection with investigation of crime; or if necessary for purposes of
  legal proceedings;
- videotaped material not to be sold for commercial purposes or for the purposes of entertainment;
- videotapes or photographs not to be shown to public unless in relation to investigation of crime;
- appropriate security measures to be taken against unauthorised access to, alteration, disclosure, accidental loss or destruction of recorded material; and

 recorded material to be treated according to defined procedures to ensure continuity of evidence (City of Sydney 2001b: 14; Lismore City Council 2002: 12).

All systems surveyed had procedures for record erasing and destruction, although the periods for retaining images varied. Where digital systems are in use, record retention tends dictated by the expense of hard-drive recording space. An advantage of digital systems is that images are automatically recorded over once space capacity is reached. Examples of the differing periods of image retention are given below in table 6.2.

Table 6.2 Period of retaining images

Location	Period Images Retained
Bendigo	60 days
Gold Coast	30 days
Hobart	13 weeks
Sydney	21 days
Perth	7 days
Rockhampton	7 days
Melbourne	30 days
Canberra	8 weeks

## 6.3.3 Audit Committees

Audit committees have been established in Sydney, Melbourne, Canberra, Fairfield and Dubbo. The objective of audit committees is to provide a mechanism of accountability and external review. In theory this should provide reassurance to the public that a system is operated transparently and ethically and that self-regulatory codes and protocols are being adhered to. The January 2002 City of Melbourne Safe City Cameras Program Audit Committee Report states the Committee's functions are to:

- provide an independent review and checking mechanism for the Safe City Cameras Program (SCCP) that ensures it meets the requirements of its protocols and operating procedures;
- promote public confidence in the SCCP by ensuring its operations are transparent to the public and under ongoing independent scrutiny and review; and
- recommend action that will safeguard the SCCP against any abuse (2002: 6)

These general functions are common to all five audit committees. Nevertheless there are differences in the composition of the committees, their frequency of meeting and their audit procedures.

**Table 6.3 CCTV Audit Committees** 

Location	Composition	Frequency of Meetings
Sydney	• 1 Legal	Fortnightly
	1 Rep Council of Civil	
	Liberties	
	• 2 Auditors	
Fairfield	1 Council Rep	Monthly
	1 Independent Security	
	Consultant	
	• 1 Police Rep	
	1 Community Rep	
Melbourne	• 2 Legal	Every six weeks
	1 Community Representative	
Canberra	1 Deputy Chair ACT Crime	Every four months
	Prevention Committee	
	• 1 Rep young people's interests	
	1 Rep Civic leaseholders	
	interests	
	• 1 Rep women's safety interests	
Dubbo	Chairman, Chamber of	Every two months
	Commerce	
	Mayor (DCC)	
	General Manager Social	
	Services (DCC)	
	Rep Community Safety	
	Committee	

The **Sydney** and **Melbourne** audit committees exhibit the most similarity, although there are some differences worthy of comment. In Sydney (see table above) one committee member is drawn from the NSW Council for Civil Liberties. There are also two professional auditors, one drawn from a private sector accountancy firm and another from the NSW Audit Office. In **Melbourne** the committee consists of two members with legal expertise and one community ratepayer. Both committees examine system documentation to check compliance with codes of practice and protocols. Both the Sydney and Melbourne audit committees produce reports - Sydney every six months and Melbourne annually - that are presented to respective councils and made available to the public.

The Audit Committee composition of **Fairfield** and **Dubbo** City Councils differs from that of the two capital city authorities. Emphasis in both **Fairfield** and **Dubbo** is more on stakeholder representation than on legal and audit expertise. Both committees also contain council representatives, and while forming part of the system of audit they are not completely external to their respective councils. Dubbo City Council has established a Safety Camera Committee, comprised of the chairman of the chamber of commerce, the mayor, the general manager of Dubbo City Council and the chairman of the Dubbo

Community Safety Committee. The Committee will randomly audit both operators' journals and footage from the cameras to ensure 'proper use is being made of the safety cameras' (2002: 4-5). In Fairfield the audit committee consists of a council representative, an independent security consultant, a police representative and a community representative. The community representative is chosen through a public nomination process, with the nomination then being endorsed by Fairfield City Council. The committee chooses twelve videotapes at random that are then viewed, with any irregularities noted reported to council. The committee does not produce a public report. An independent security consultant separately audits the TownSafe system documentation.

The Canberra Audit Committee differs from the other four audit committees in its greater emphasis upon community representation. Business, youth and women's safety interests are represented. However the terms of reference are similar to those of the other committees and the Civic Safety Camera System Audit Committee reports are publicly available.

In Sydney, Melbourne, Fairfield and Canberra the existence of an audit committee can partially be explained by the high profile locations of the various CCTV systems. In Dubbo the establishment of an audit committee resulted more directly from following the NSW Guidelines. However not all councils were in favour of audit committees. The main reason for this was the demand of resourcing and coordinating yet another committee, particularly where this burden was likely to fall on one council employee. In Adelaide, Brisbane and Perth the establishment of an audit committee had not been considered, although all were aware of the existence of committees in Melbourne and Sydney.

With greater State Government interest it would be feasible that audits of systems might be carried out by a State government agency, either the various Privacy Commissioners or the Crime Prevention Divisions of various State Governments. Although some systems are auditing more frequently, annual audits would be sufficient to ensure that procedures and protocols were being adhered to. If subsequent reports were made available to the public this would ensure a level of transparency across open-street CCTV systems, and provide public assurance that the technology was subject to some oversight beyond the local level.

### **6.3.4** Complaints Processes

Complaints procedures are not currently common, and in many systems any private individual with a grievance related to the system really only has the option of contacting the council. It should be noted, however, that even for systems that did have a complaints process in place, this research did not disclose any record of a complaint being received. Nonetheless, a transparent complaints process is essential to system accountability. One reason why few if any complaints are currently received is that members of the public currently lack access to relevant information. Even where systems do have a well-defined complaints process, it is not clear how a member of the public would reasonably be expected to be aware of the process.

The NSW Guidelines list three important components for any complaints handling mechanism:

- providing all groups in the community with information about the procedure for making a complaint. The information should be made available in community languages;
- there should be a system for keeping the complainant informed of what is happening; and
- strategies should be put in place to place to prevent the recurrence of problems identified in the complaint (NSWAGD 2000: 21).

Where there is a published code of practice this has provided a useful document for publicising the existence of a complaints procedure. Both **Sydney** and **Lismore** codes of practice contain contact addresses and telephone numbers for registering complaints. Both also provide the contact details for Privacy NSW (City of Sydney 2001a: 16; Lismore City Council 2001: 14-15). In **Melbourne** and **Sydney** any complaints received are forwarded to their respective audit committees, and are thereby subject to external review.

As the **Canberra** system is operated by the Australian Federal Police, staff controlling the system are subject to existing complaints procedures prescribed under the *Complaints (Australian Federal Police) Act 1981* oversighted by the Ombudsman.

#### 6.4 Publicity

Several studies have demonstrated that well publicised launches of crime prevention initiatives can have impacts on crime rates (Berry & Carter 1992; Laycock 1985). However it has also been noted that initial positive effects of CCTV can wear off over time (Webb & Laycock 1992). Tilley's study of CCTV in car parks recommended that, to maintain program effectiveness, there be regular publicising of the role played by cameras in apprehending suspects (1993).

In Australia town centre CCTV systems have varying degrees of publicity when commissioned. In **Devonport** the Mayor had a regular column in the local newspaper that was used to publicise the system prior to commissioning. Public meetings were also held to inform members of the public about plans for the system. When the system was finally commissioned an open day was held where members of the public could come and view the control room (OSP I#06).

The importance of publicity for schemes is that it heightens public awareness that cameras are in place and thereby contributes both to the potential deterrent effect and to the reduction of fear of crime.

Ongoing publicity for CCTV systems has, however, been considerably more erratic. Publicity for CCTV can include the following:

- media releases;
- signage; and

• publicly available information.

This section looks at some of the means by which local authorities currently increase public awareness of their systems.

#### 6.4.1 Public Awareness

The level of public awareness is an important consideration for system administrators, as it will have a relationship both to the deterrent effect of the cameras and to their role in reducing the fear of crime. Admittedly this relationship is by no means straightforward. Nevertheless it would seem important enough to warrant regular research into the public's knowledge of the system. There has been some research on public awareness of CCTV systems, significantly more than the one known study of camera acceptability.

There are areas of consistency in the findings of research conducted on public awareness. In Fairfield, Sydney and Melbourne, where CCTV has been introduced along with other crime prevention initiatives, surveillance cameras have been the most recognised crime prevention measure (Swinbourne 2001: 11; Coumarelos 2001: 22; OSP I#27). In Fairfield and Sydney cameras were found to have a significant impact upon feelings of safety. An evaluation of the Sydney Safe City strategy found 85.4% of those aware of the safety cameras initiative reported it made them feel safer in the CBD (Coumarelos 2001: 22). In Fairfield 61% of those surveyed reported cameras made them safer (Swinbourne 2001: 12). Results were less conclusive in research conducted by KPMG for the City of Melbourne in 1998, which found cameras did not significantly impact upon public perceptions of safety (DCPC 2001: 55).

Results have tended to be less positive towards CCTV when respondents have been asked what initiatives they believe would enhance their feelings of safety. Both in Sydney and in Melbourne, research has disclosed that a more visible police presence and improved lighting are the most commonly suggested initiatives (Coumarelos 2001: 29; DCPC 2001: 55). Only 6.9% of respondents in the Sydney survey suggested additional surveillance cameras as a safety initiative (Coumarlos 2001: 29). A study in **Toowoomba** by researchers from the University of Southern Queensland found many respondents considered the installation of cameras would not make a significant difference to their use of the CBD (OSP I#26).

Research into levels of public awareness has been considered less important in some smaller centres because of a general belief that 'everyone knows about it'. There may be some validity in this claim. Ditton & Short's comparison of two Scottish CCTV schemes noted the difference between the small town of Airdrie where the system was well publicised in the local media and the metropolitan centre of Glasgow where one year after installation only between a quarter and a third of pedestrians were aware of the cameras (1999: 216). The same observation could also be made in Australia, where higher levels of public awareness are likely to be more easily achieved through the local press in a regional location

such as Devonport than in a major metropolitan CBD such as Melbourne, where the proportion of visitors to the area is far higher.

Some findings from research into public awareness are presented in the table 6.2. However an important caveat is that the methods of collecting data in the various surveys may have varied, and therefore this could account for some difference in the figures.

**Table 6.4 Public Awareness of CCTV** 

Location	Awareness of CCTV <sup>8</sup>
Adelaide	58%
Fairfield	72%
Sydney	77%
Logan	57%

# 6.4.2 Media Policy

While the initial phase of CCTV installation has attracted media attention in all locations, very few systems have maintained a proactive policy for promoting their system. In 1994 UK Home Office advice to local authorities stressed the importance of 'managing the media', and even went as far as suggesting a representative of the media be included on a multi-agency working party to promote the concept of CCTV (Norris & Armstrong: 74-75). In Australia guidelines prepared in NSW and Queensland both stress the importance of utilising the media as a means of publicising CCTV schemes. The Queensland Guidelines state 'to maintain the effectiveness of CCTV over time, constant and ongoing media coverage of the successes of surveillance in the form of arrests and conviction is required' (2002).

System administrators tend to be wary about media exposure, feeling that publicising a crime prevention measure such as CCTV may have the unwanted side effect of drawing attention to real or perceived crime problems in an area. In the words of one administrator 'by going out and promoting the successes of CCTV you are actually promoting crime'. It was also suggested that the promotion of successes might encourage demands for CCTV in other locations where it was neither necessary nor financially possible (OSP I#24).

Where it exists, media policy is primarily aimed at reducing the possibility of negative publicity leaking out, rather than at proactively using the media to promote positive benefits. Standard Operating Procedures commonly contain provisions prohibiting control room operators from directly

<sup>&</sup>lt;sup>8</sup> Percentages obtained from the following sources: Adelaide (Research conducted by McGregor Tan provided to author); Fairfield (K. Swinbourne 2001, *Research Report: Five year review of closed circuit television cameras in Cabramatta & Canley Vale*, Sutherland: Sutherland Shire Council, p. 11); Sydney (C. Coumarelos 2001, *An Evaluation of the Safe City Strategy in Central Sydney*, Sydney: New South Wales Bureau of Crime Statistics and Research, 22); Logan (OSP I#08).

communicating with the media, or any third party, in relation to the operation of the program. Procedures also tend to stipulate that enquiries must be directed to, and information released by media units with the approval of the CEO or Mayor. Operators also sign confidentiality agreements. These policies are principally directed at preserving the integrity of the various systems by guarding against the leaking of personal data from the program.

There is considerable unease about the release of material to television media and with good reason. Several systems reported considerable pressure from television networks for footage from the cameras. The demand from television networks for 'Hollywood video footage', as one system administrator phrased it, can be persistent. As Norris and Armstrong (1999: 67) note:

Television is a visual medium. CCTV is a visual medium. They were made for each other. Add one other ingredient, crime, and you have the perfect marriage. A marriage that can blur the distinction between entertainment and news; between documentary and spectacle and between voyeurism and current affairs

There is provision in all systems for video footage to be released by police in circumstances where it might aid in an ongoing police investigation. Nevertheless the release of video footage to promote the system is inadvisable and would at best damage the credibility of the cameras and at worst, provide file footage to television networks which, when repeatedly broadcast, would be likely to amplify fear of crime. In Glasgow, Scotland, the most intensively broadcast CCTV footage was that of two young men attacking, and eventually jumping up and down on the head of, a third man. As Ditton and Short (1999: 215) suggest, this may have demonstrated the effectiveness of CCTV in capturing incidents, but it is likely to have done little to enhance the reputation of Glasgow as a safe place to visit. In Perth this is counteracted to some degree by the policy of supplying footage of the Control Room (with images from monitors obscured) to television networks that can then be aired in any stories regarding surveillance cameras. The footage is updated every three years (OPS I#24)

The City of Sydney code of practice explicitly prohibits the use of video footage from the system. The code states that 'images from the tapes shall not, under any circumstances, be used to publicise the existence or success of City of Sydney's Street Safety Camera Program' (City of Sydney 2001a: 14). This would seem a sensible policy, given the potential for television footage to undermine the credibility of a CCTV scheme.

However print media does offer considerable publicity opportunities for local authorities. In all locations there had been considerable media interest in schemes at their initiation. In regional centres it is common for the local press to assist in the promotion of CCTV. In **Lismore** the editor of the local newspaper was a keen advocate of the cameras program, and it has received extensive positive coverage (OPS I#33). The recent commissioning of cameras in **Dubbo** has also been followed by substantial press coverage. The camera was front page news for two days following commissioning,

<sup>&</sup>lt;sup>9</sup> Similar procedures were outlined in Standard Operating Procedures for Brisbane, Bendigo and Melbourne as witnessed by one of the authors.

and there were two additional front-page stories in the following week: one dealing with an incident of vandalism caught on camera and another dealing with the reactions of the local business community (*Daily Liberal* 11/07/02; 12/07/02; 17/07/02; 20/07/02). It was widely reported that systems had received positive coverage in their first year of operation. However press interest has tended to evaporate after the first year of operation, and few schemes have actively publicity after the initial phase.

Local media outlets have displayed a far greater interest in CCTV than the metropolitan and national press. Although this requires detailed analysis, this would suggest the pattern identified in Norris and Armstrong's analysis of media reporting in the UK is similar in Australia (1999: 75-88). While major metropolitan newspapers such as the *Age* and *Sydney Morning Herald* both carried positive stories about CCTV, they were also more inclined to adopt critical perspectives. Feature articles dealing with the emergence of the 'surveillance society' and privacy issues are common. Such articles usually cover surveillance generally and are not specifically about open-street CCTV.<sup>10</sup>

Although there was no evidence of coordinated and proactive media policies, several councils were formulating a clearer approach. In **Adelaide** one of the functions of the CCTV Management Group is to 'develop proactive strategies to promote and report the successes or otherwise of the CCTV system', although it has not yet developed such strategies (City of Adelaide 2001: 12; OSP I#01). The recent review of the **Fairfield** City Council TownSafe program recommended the development of a communication strategy to counteract negative images of Cabramatta (2001: 70). The **Newcastle** CCTV system intends formulating a media policy to be handled by the PR officer of the Newcastle Alliance (OSP I#14).

The difficulty councils face is that promotion of CCTV can draw attention to crime in the area. The City of Melbourne is conscious of this difficulty. Melbourne is currently developing a communications plan for the Safe City Cameras Program that will also include a risk management strategy. The risk management strategy will be designed to ensure articles will positively impact on the city's image (OSP I#27).

In summary, councils have been more concerned to prevent 'bad' news getting out rather than proactively working to get 'good' news in. The risk of some negative coverage should not outweigh the important role the print media can play in increasing public awareness, and thereby the effectiveness, of CCTV schemes.

#### 6.4.3 System Title

While the title of a system may appear to be a minor consideration, it can have a significant impact on public perceptions of a CCTV scheme. Media publicity critical of CCTV frequently refers to 'spy

<sup>&</sup>lt;sup>10</sup> See for example S. Dow 2001, 'Forget Big Brother this is reality TV', *Age*, 12 August, p. 3; P. Murphy 2002, 'How we learnt to live with Big Brother', *Age*, 8 March; P. Michael, 'How Big Brother puts us all in the frame', *Sunday Mail*, 22 April, p. 42.

cameras' or 'crime cameras', terms that invoke the spectre of invasion of privacy or disorder respectively. Even the less evocative 'surveillance cameras' still runs the risk of animating the image of Big Brother in the public imagination, as, it should be added, does the explicit use of the abbreviation 'CCTV'.

The naming of the system has been a subtle change in the marketing of some systems. In Townsville for example, cameras were initially known as 'the CCTV system'. A suggestion that the cameras be referred to as 'the surveillance camera system' was rejected on the grounds that it might invoke hostility, and the Townsville system is now referred to in all council documentation as 'the safety camera system' (OSP I#13).

It is common practice for councils to refer to 'safety' or 'security' cameras. However as can be seen in the table below, Adelaide refers to 'CCTV' cameras. Larger systems such as Sydney, Fairfield, Brisbane and Melbourne use the same title for cameras as broader crime prevention strategies. A selection of system titles is given below.

**Table 6.5 CCTV System Titles** 

Location	CCTV System Title
Sydney	Street Safety Camera Program
Fairfield	TownSafe Program
Brisbane	CitySafe Program
Gold Coast	Gold Coast Safety Camera Network
Perth	City Watch
Melbourne	Safe City Cameras Program
Adelaide	CCTV System
Canberra	Civic Safety Camera System

The advantage in publicity terms of the titles given to systems in Sydney, Fairfield, Brisbane and Melbourne is that cameras are clearly linked to a broader crime prevention program.

# 6.4.4 Signage

Signage alerting the public to the presence of video surveillance is widely recommended for public space CCTV systems. The model Code of Practice issued by the UK Home Office in 1996 recommended that:

- signs that CCTV cameras are operating be displayed in the perimeter of the area covered by the scheme and at other key points,
- signs should inform the public that cameras are in operation and help people entering the area make a reasonable approximation of the area covered by the scheme, and

• signs should identify the owner of the scheme by name and give an official address (Kitchin 1996: 35)

These recommendations have now been included in the legally enforceable code of practice issued by the UK Data Protection Commissioner in 2000. However the new code goes somewhat further, stating that signs should inform the public of the purpose of the scheme, and include contact telephone numbers for the agency responsible (Data Protection Commissioner UK 2000: 8). It should be noted however that the UK Code of Practice also permits cameras to operate without signage in 'exceptional and limited cases'. This is defined as being cases where video evidence is required of specific criminal activity, and it is considered the use of signs would prejudice the obtaining of such evidence (Data Protection Commissioner UK 2000: 8).

In Australia, CCTV Guidelines issued by the NSW Attorney General's Department also recommend that local authorities undertaking video surveillance alert the public to the presence of cameras through signage. The NSW Guidelines provide detailed instructions on the erection of signs and recommend that councils consult the Australian Standard 'Development, testing and implementation of information and safety symbols and symbolic signs' (AS 2342-1992). Consistent with the UK Code of Practice, recommendations the NSW Guidelines also stipulate signs should include the ownership of the scheme and provide a contact telephone for the system. They go further than the UK Code of Practice however, in that they also recommend councils include the hours of monitoring on the signage. If not monitored or recording continuously they also suggest this be reflected in the signage (NSW Attorney General's Department 2000: 19-20).

There are two main reasons to erect signage alerting the public to the presence of town centre video surveillance. These are:

- a belief that the public has a right to know they are under video surveillance and who is responsible for that surveillance; and
- a belief that signage will increase public awareness of the system thus contributing to feelings
  of public safety and deterring offenders.

To this it might be added that it is reasonable to argue the public also has a right to know *why* they are under surveillance. The UK Code of Practice gives the following example: 'images are being monitored for the purposes of crime prevention and public safety' (Data Protection Commissioner UK 2000: 8).

Signage is common in Australian town centre CCTV schemes although by no means ubiquitous. Of the 33 systems 21 had some form of signage while 12 had none at all (see Table 2). It is notable that all NSW systems have signage, as do the 3 Victorian systems. However signage is considerably less

common in Queensland (only 3 out of 9 systems have signs), and none of the 4 Western Australian systems use signs to alert the public to camera surveillance.

Among those systems to have erected signage, the standard and distribution of signage varies markedly. During a field visit to Logan, it was only possible to locate one sign advertising that the area was under video surveillance, and this was in a street behind the main shopping area in the range of the cameras. In the City of Sydney and Fairfield however signage is prominent and distributed in such a way that it is easily discernable. The City of Sydney is estimated to have as many as 400 signs in the area of camera coverage (OSP I#16).

Amidst the visual confusion of busy retail locations, however, it can be difficult to devise signs capable of attracting public attention. As a representative of the City of Sydney remarked 'the city's so full of clutter that it's difficult to have a sign that is prominent' (OSP I#16). A similar problem was identified in the City of Brisbane where it was noted that camera signage competed with a vast array of public information notices in the CBD and struggled to be visible. For this reason pavement-based signage was considered in Brisbane (OSP I#10).

The visibility of signs will become an issue of increasing importance as cameras reduce in size and are situated in ever-smaller dome housings. Recent model CCTV cameras are difficult to discern in a busy streetscape, and the majority of pedestrians would be unaware that cameras are present. The earlier generation of cameras was readily visible to members of the public and were themselves a method of raising public awareness. For this reason an older large dome housing in King George Square, Brisbane, has been left in place despite the decommissioning of camera equipment in order to alert the public to the presence of video surveillance (OSP I#10).

Willoughby decided against erecting signage as it was considered this might leave authorities open to legal action. However the recommendation of the NSW guidelines that signs should not imply that CCTV is enhancing public safety or security would seem to mitigate against this possibility (NSWAGD 2000: 20). Note, however, that this NSW recommendation seems inconsistent with the UK Code's recommendation about informing the public about the purpose of CCTV. On balance, however, signage is a means of ethical operation as the public has a right to know they are being observed. It also has the positive benefit of increasing public awareness of the system.

# 6.4.5 Public Information

Few systems in Australia have publicly available information on their CCTV schemes. There does however seem to be a trend towards more material being made available. In 2001 the City of **Sydney** published its code of practice, and the code is also available from the City of Sydney website. In addition a booklet on the overall Safe City Strategy is available. Reports from the Cameras Program Audit Committee are also publicly available. **Lismore**'s Code of Practice is also publicly available.

**Fairfield** City Council has a document outlining its TownSafe programme and has publicly released a five-year review. **Perth** City Council also has CCTV Information Kit available outlining the history of the system and its key aims and objectives. In **Melbourne** a public information sheet is available as are audit committee reports. The City of **Adelaide** released a document called 'Keeping Adelaide a Safer City' containing information about the city's CCTV system. **Sutherland** Shire Council has also has an information sheet on the Cronulla camera system publicly available.

Greater availability of public information in relation to open-street CCTV systems is a necessary development. Public information potentially increases awareness of the initiative, thereby enhancing its potential effectiveness. Importantly, however, public information increases public confidence by making the measure transparent and accountable.

TABLE 6.6: OPEN-STREET CCTV – ONGOING FUNDING

LOCATION	State/Territory	Ongoing Funding Source
Blacktown	NSW	Council
Bourke	NSW	Council
Dubbo	NSW	Council
Fairfield	NSW	Council/Business Levy
Lake Macquarie	NSW	Council
Lismore	NSW	Council/Business Levy
Lithgow	NSW	Council
Sydney	NSW	Council
Sutherland	NSW	Council
Walgett	NSW	Council
Willoughby	NSW	Council
Brisbane	QLD	Business Levy
Cairns	QLD	Council
Gatton	QLD	Council
Gold Coast	QLD	Business Levy
Ipswich	QLD	Council/Business Levy
Logan	QLD	Business Levy
Rockhampton	QLD	Council
Toowoomba	QLD	Council/Business Levy
Townsville	QLD	Council
Warwick	QLD	Council
Bunbury	WA	Council/Levy
Claremont	WA	Council
Perth	WA	Council
Rockingham	WA	Council
Bendigo	VIC	Council
Box Hill	VIC	Council
Melbourne	VIC	Council
Devonport	TAS	Council
Hobart	TAS	Council/Bus Corp/City Heart/TCCI
Launceston	TAS	Council
Adelaide	SA	Council/State Govt.
Canberra	ACT	ACT Govt

TABLE 6.7: CCTV SIGNAGE DISPLAY IN PUBLIC SPACE (OCTOBER 2002)

LOCATION	State/Territory	Signage
Blacktown	NSW	Yes
Bourke	NSW	Yes
Dubbo	NSW	Yes
Fairfield	NSW	Yes
Lake Macquarie	NSW	Yes
Lismore	NSW	Yes
Lithgow	NSW	Yes
Sydney	NSW	Yes
Sutherland	NSW	Yes
Walgett	NSW	Yes
Willoughby	NSW	No
Brisbane	QLD	Yes
Cairns	QLD	No
Gatton	QLD	No
Gold Coast	QLD	No
Ipswich	QLD	No
Logan	QLD	Yes
Rockhampton	QLD	No
Toowoomba	QLD	Yes
Townsville	QLD	Yes
Warwick	QLD	No
Bunbury	WA	No
Claremont	WA	No
Perth	WA	No
Rockingham	WA	No
Bendigo	VIC	Yes
Box Hill	VIC	Yes
Melbourne	VIC	Yes
Devonport	TAS	No
Hobart	TAS	Yes
Launceston	TAS	No
Adelaide	SA	Yes
Canberra	ACT	Yes

COUNCILS DISPLAYING SIGNAGE	=	20
COUNCILS <u>NOT</u> DISPLAYING SIGNAGE	=	<u>13</u>
TOTAL COUNCILS	=	33

# **7** Open-Street CCTV in Practice

This chapter details a number of aspects of the daily operation of public CCTV systems in Australia, and then addresses several key questions relating to their perceived impacts. It deals with the issues of CCTV monitoring, operator selection and training, monitoring hours, communications between camera operators and police and private security, policing and open-street CCTV, the displacement of offending, offender perceptions of CCTV and system managers' perceptions of effectiveness.

## 7.1 Operators & Monitoring

Monitoring is arguably the most crucial element of a public CCTV system. Nevertheless 6 Australian locations currently only record incidents. These systems are reactive only – in the event of an incident video footage might be retrieved to identify potential suspects and other evidence. By definition, record only systems cannot support active intervention. Moreover even if an incident has occurred it is unlikely that a camera functioning automatically will provide the same quality of evidence as that provided by an operator actively following an incident. It seems therefore that record only systems rely heavily on the idea that the very presence of surveillance cameras has a deterrent effect.

Twenty-seven Australian systems have some level of camera monitoring. The following sub-sections discuss the various models of monitoring CCTV in greater detail.

#### 7.1.1 Monitoring

There are two broad modes of monitoring: – 'active' (or 'dedicated') and 'passive' (or 'casual'). Precise definitions of what constitutes 'active' monitoring vary, but broadly this refers to operators systematically using the camera system to conduct dedicated 'patrols'. In the context of such active patrols, operators remain alert to potential incidents and/or respond to incidents following information received (usually from police). 'Passive' monitoring is where monitors are in view and are casually observed by operators (or other appointed staff), who may react if an alert is received or an incident is observed in progress. Those responsible for monitoring in a passive situation will normally carry out administrative or other duties while the screens display a preset camera 'tour'.

In the researcher's view continuous active monitoring is only possible if there is more than one operator on duty. Only in **Perth and Sydney** where two operators are on duty at all times (three in Perth during peak periods), is continuous active monitoring a reality. **Gold Coast** City Council has also recently begun placing two operators on duty during peak hours on Friday and Saturday, and there has been an increase in incidents picked up by the cameras (OSP I#12). In other locations, operators must balance administrative tasks with active monitoring. In practice, therefore, monitoring is a combination of active and passive in most locations.

Another practical question related to monitoring is the number of screens an operator can reasonably be expected to observe. At what point does the volume of images on the monitors become too great for an operator to process? This issue was of particular interest in Adelaide, Brisbane, Melbourne and Perth

where systems have expanded since installation. In **Adelaide** one operator observes images from 33 cameras fed through ten screens: two full size screens (one being a 'spot' or 'target' monitor) and eight 'quad' screens. In **Brisbane** 40 cameras are fed through ten screens: one spot monitor, five full size screens and four smaller screens. Three of the full size screens are usually viewed in quad format.

In both locations there are concerns about the increased workload for operators caused by the expansion of the system. Brisbane has recently engaged a consultant whose brief includes recommending the maximum number of monitors it would be acceptable for an operator to observe, and for how long. Brisbane is also considering engaging a second operator during peak periods (OSP I#11) The City of Melbourne has sought information on the optimum number of cameras for an operator, but has been informed there is no current benchmark (OSP I#27).

The absence of an unequivocal operator-cameras-monitor ratio benchmark is not surprising. Clearly these issues are location specific. Any conclusion about optimal ratios first would require a concentrated study of operator activity. It would also require consideration of factors such as:

- fluctuations in activity by time of day and day of week;
- different levels of activity captured by different cameras in the system;
- size of monitors and number displayed as quad screens;
- physical layout of workstation; and
- hours worked by operators.

The intensity of activity captured by cameras in a street-based public CCTV system will vary markedly at different times and days of the week (and according to weather conditions and location). Therefore no general benchmark for the optimum number of cameras and monitors to be observed by operators can be applied across all locations.

What existing studies do show is that it would be unrealistic to expect any operator to carry out active monitoring continuously over an eight or twelve hour shift. One recent English study found that the attention of camera operators began to drift after fifteen minutes (Security Park 2001). In Norris and Armstrong's study of three English CCTV systems, researchers spent a total of 592 hours in control rooms. From observations in one inner city control room they concluded that:

'no operator ever spent a full shift engrossed in the task of surveillance. The discomfort of watching so many monitors combined with the mind-numbing monotony the job offered meant that operators 'drifted' in their concentration. Moments of intense scrutiny competed with minutes of doing nothing with the mind miles away' (1999: 136)

<sup>&</sup>lt;sup>11</sup> A 'spot' or 'target' monitor displays images from the camera in use by the operator and records the full image in real time. 'Quad' screens display four quarter-size images from different cameras on one monitor.

# 7.1.2 Monitoring models

Of those locations where cameras are actively monitored, work can be undertaken by one or more of four types of personnel. These are:

- council staff;
- private security personnel;
- police; and
- volunteers

Table 7.1 below gives a breakdown of the most common operational models.

Table 7.1 Modes of Monitoring in Australia public CCTV systems (as at October 2002)

Monitoring Staff	Number of Locations
No Monitoring/ Record Only	6
Council Staff	4
Private Security Personnel/Council Staff	1
Private Security Personnel Only	12
Police Only	7
Police/Volunteer	3

# 7.1.3 No monitoring/Record Only

Record only systems are in place in six locations, although as noted there are some concerns about their effectiveness. Many CCTV systems utilising pan-tilt-zoom cameras have the capability for preset tours, but these will still not yield video evidence of the same quality as can be obtained with active operation. Record only systems may be useful where a problem is geographically contained. For example one camera utilised at a Frankston taxi rank is claimed to have been of use as evidence to police. Security guards employed in the area can defuse potential conflicts by informing perpetrators they are under video surveillance (Policy Officer, Frankston City Council: 5/09/02)

Nevertheless a record only system is unlikely to have a significant impact upon more generalised problems of disorder. Furthermore it will not facilitate improved police responses and will only provide evidence after an incident has occurred.

## 7.1.4 Council Employees

Council employees monitor cameras in four locations, **Perth**, **Sydney**, **Sutherland** and **Toowoomba**. Perth City Council also has a contractual agreement with Claremont City Council to monitor the nine cameras installed there.

One advantage claimed for the use of council employees is that the relevant local authority can maintain greater control over the actual monitoring of the system, and the recruitment, training and management of control room staff. The **City of Sydney** expressed the view that it would not engage

private contractors due to the need to maintain control over the system and monitor the application of policy (OSP I#16).

In **Toowoomba**, Council staff monitor cameras during day hours while private security is engaged after 6pm. During day hours staff are multitasked and function as car park attendants in addition to monitoring cameras. The Council has chosen this model because of the significant savings gained in operating costs (OSP I#26).

Council employees have been considered in other locations. In the **Gold Coast** however it was considered that use of contractors would remove the Council from direct risk and liability (OSP I#12). Similar considerations influenced Rockhampton City Council not to engage Council employees as operators (OSP I#23).

In summary, the advantages to local authorities of using Council employees as operators can be summarised as follows:

- council able to select staff; and
- direct control by Council over training and work practices;

The disadvantages are:

- the cost and liability of hiring and staff;
- council resources required to train staff to adequate standard; and
- ongoing Council resources are required to manage staff.

### 7.1.5 Private Security Personnel

14 systems use private security personnel as camera operators making this the most common model of camera operation in Australia. Two systems use government enterprises to monitor their cameras. In Adelaide the Police Security Services Branch (PSSB), a privatised arm of SAPOL that tenders for government security contracts, monitors cameras. Adelaide operators are non-sworn SAPOL personnel. In Rockhampton the contract to monitor the cameras is held by Regional Security Services, whose operators are mostly serving correctional officers (OSP I#23).

In other locations private security firms such as Group 4 and Chubb Security hold monitoring contracts. Depending on the hours required, such contracts can involve major expenditure by the local authority concerned. The City of Melbourne contract for 24 hour seven day monitoring is currently \$245,000 per annum (OSP I#27). In Lismore, where cameras are monitored Thursday, Friday and Saturday evenings, the cost of monitoring is \$50,000 per annum (OSP I#33).

Some local authorities have experienced difficulties with private contract security operators. The most significant has been the selection of inappropriate staff by security companies. A further problem has been high staff turnover when employment conditions offered by private security contractors have been inadequate to retain personnel. Appropriate disciplining of contract staff also can be an issue. Discipline for minor matters mostly remains the responsibility of the contractor. For serious breaches, contracts stipulate the removal of staff. However it can more difficult for Councils to ensure that minor breaches of Codes of Practice and poor record keeping are dealt with appropriately. Improvement or alteration of operator work practices relies on negotiation with the contractor and is therefore dependent upon the contractor's goodwill and efficiency in managing staff development and training.

Contracts can be drafted to address concerns about staff selection and employment conditions. **Toowoomba** City Council has addressed these issues through its monitoring contract. In an attempt to reduce staff turnover, the contract now specifies a minimum rate of pay in the monitoring contract. It was also considered important in Toowoomba that operators be drawn from the local area and have a good knowledge of the CBD, as operators from other centres were found to take far longer to train. The contract now stipulates potential operators are to be interviewed by the Council and local knowledge can be assessed during the interview process. (OSP I#26). In **Brisbane** the Council does not interview individual potential operators, but the Council can have operators removed for unsatisfactory performance. This has happened on one occasion (OSP I#11).

The following case study is of **Fairfield** City Council. It provides a model for a monitoring contract in that it maintains control over who is appointed as an operator and how they are trained.

# Case Study: Fairfield City Council

In Fairfield a panel of three Council representatives interviews potential operators. Potential applicants are sent to the panel by the security contractor. If the applicant's interview is successful, they sit a written test and undergo a medical examination. If the test and examination are satisfactory, the operator commences an 80-hour probationary training period. The monitoring contract also stipulates that if the Council is dissatisfied with any operator they are to be removed from the TownSafe project immediately. The contract is also monitored on an ongoing basis through monthly meetings with the security contractor.

From a local authority's point of view, advantages of the private security model of monitoring are that:

- council is not responsible for day to day management and supervision of operators;
- training is usually provided by security contractor; and
- staff hold security licences and have security background

Potential disadvantages are,

- cost; and
- lack of control over operators

## 7.1.6 Police operators

Police monitor cameras in ten locations. In seven of these, the police role is exclusive. In the three Tasmanian locations police undertake casual monitoring in addition to active monitoring during peak times by volunteer operators. In addition to these ten locations there are also 'hybrid' police/private security monitoring models in **Adelaide** and **Perth**. In Adelaide active private security monitoring in the main control room finishes at 2pm. Sworn South Australian police (SAPOL) officers at the Hindley Street Station then carry out monitoring. The Station has one monitoring and recording facility. In Perth a sworn WA Police officer is permanently present in the control room with the capacity to actively monitor the cameras.

The New South Wales Police Service (NSWPS) has recently issued a policy statement stipulating that police are neither to 'fund nor operate equipment' (NSWPS 2002). However police do operate cameras in Bourke, Walgett and Dubbo as arrangements between police and local authorities were entered into prior to the issuing of the NSWPS policy statement.

Policy makers have generally discouraged the use of police personnel to monitor CCTV cameras. It is worth considering why this is the case: if the purpose of a CCTV system is to assist policing, then perhaps police are the best people both to operate and respond to cameras. The arguments against police monitoring may be summarised as follows:

- engaging police operators will lead the public to believe that the system is a police rather than local government one;
- monitoring cameras is not a proper task of sworn police personnel and will divert police resources from core policing duties;
- using police operators will lead to 'function creep', as police will utilise the cameras for general intelligence gathering; and
- police will view the system as 'their property' with Councils meeting costs but having little control over ways the system is utilised.

These problems are not insurmountable. However locations where police monitor cameras do confront several difficulties. Firstly, in all locations with the exception of Canberra, police do not undertake dedicated or 'active' monitoring. Relevant screens and control panels are located in a local police station. Generally this is the front desk area (for example Devonport, Launceston, Walgett and Bourke), with 'passive' monitoring undertaken in conjunction with routine station duties including

administration and dealing with general inquiries.<sup>12</sup> Monitoring is likely to be a low work priority for station staff in relation to other general duties, and this will impact upon the effectiveness of the system. In Launceston, for example, when police alone initially monitored cameras, the system was used only in a reactive way (OSP I#31). A second difficulty is that local authorities often have little or no control over how police are trained to use the cameras. With no staff specifically allocated to this task, numerous operators with varying degrees of skill can carry out monitoring. This can impact on the quality of evidence, both in directing cameras appropriately during an incident and ensuring appropriate recording.

Local government administrators also report that the level of cooperation from police can change with the movement of senior personnel. The enthusiasm for CCTV exhibited by one local area commander may not necessarily be shared by their successor. Police may undertake monitoring on a 'no responsibility' basis. In Bendigo for example police only monitor cameras and do not collect statistics for the program (OSP I#28). This can have detrimental impact upon subsequent efforts to evaluate a system.

These reservations highlight a number of key areas for consideration if police are to be engaged in monitoring cameras. These are:

- a memorandum of understanding clearly outlining the responsibilities of both Council and Police is vital where police are to act as operators. The MOU should outline the exact nature of police training, expected level of monitoring and levels of responsibility in regard to the CCTV system;
- at least one member of the police service must be assigned direct responsibility for the monitoring and operation of the camera system and for regular liaison with Council;
- relevant police personnel should receive a specific program of training agreed to and devised
  jointly between by Police and Council. Only police who have received this training should
  monitor the cameras; and
- there should be a mechanism for auditing how the cameras are being utilised and adherence to Codes of Practice and Operating Procedures.

Having highlighted some of the potential pitfalls that can be encountered in engaging police as camera operators, it is also be noted that that there can also be significant advantages. The major one is that problems of communications between police and operators can be minimised. Direct contact between police monitoring cameras and police at an incident can be maintained. In theory this enhances the efficiency of the CCTV system, as response to incidents is more effectively directed. Operational police should be more attuned to the needs of colleagues attending an incident, and therefore should be

<sup>&</sup>lt;sup>12</sup> It should be noted however that monitors in Devonport are positioned so as they cannot be viewed by members of the general public entering the station (OSP I#06). This is apparently the case in most locations where monitors are in police service areas.

able to position cameras and record video evidence more effectively. However this has not always been the case (OSP I#28) and private security operators have also proven effective at these tasks.

The major advantage for local authorities however is cost. It has already been mentioned that active monitoring by private security personnel forms the most significant ongoing expense in those systems where it is the practice. Police monitoring – even where it is casual or 'passive' as it mostly is – will be more effective than a record only system. The degree of efficiency will depend largely on the strength of the relationship between Police and Council. It also requires clear negotiation prior to the commissioning of the system as to what the expectations and roles of both parties to the camera system are to be. These expectations and roles should be laid out in a formal memorandum of understanding. It is also useful to establish a regular forum where the operation and monitoring of the system can be regularly assessed and discussed and changes made where needed. This can avoid a worst-case scenario where a monitor sits in a police station unobserved and unutilised, while a Council continues to expend funds on a system over which it has little active control.

Situations so far discussed relate to systems where police 'passively' monitor cameras. The Canberra model differs in that the Australian Federal Police (AFP) have entered into an agreement with the ACT Government to 'actively' monitor the cameras at certain times. The following case study outlines the Canberra model in more detail.

### **Case Study: Canberra Monitoring**

In Canberra the AFP monitors the Civic Safety Camera System. The system manager is a senior AFP officer appointed by the ACT Government. On Thursday, Friday and Saturday evenings there is dedicated monitoring of the cameras by AFP personnel. AFP personnel staffing a shopfront location passively monitor cameras at other times. Three AFP officers always are present in the shopfront. It has also been noticed that officers on patrol duty will come into the shopfront during breaks and actively monitor the cameras (OSP I#29).

Approximately 60 AFP officers are trained in operating cameras and recording incidents. Six police personnel have been trained as 'super users' meaning they are authorised to download information and burn CDs for later use as evidence in court. The 'super users' also act as trainers for other AFP personnel in the operation of the system.

Police monitoring was favoured in Canberra because there were concerns over privacy. As the AFP are subject to the *Complaints (Australian Federal Police) Act 1981* it was reasoned that greater accountability would be applied to police operators than was possible with private security staff.

A recent report prepared by the Safety Camera System Audit Committee for Civic notes that in Melbourne there have been consistent problems with communications between civilian operators and police. The Audit Committee report concludes police operators are a strength of the Canberra system as

'the potential for conflict or breakdown in communication between civilians monitoring incidents and police responding to incidents has not been an issue as both responsibilities rest with police in the ACT' (Civic Safety Camera System Audit Committee Report 2001: 2)

The Canberra experience suggests police can successfully monitor CCTV systems. However the police operator model requires an unambiguous commitment in terms of time and resources from police.

From the point of view of local government, the main advantages of police operators can be summarised as:

- cost effectiveness; and
- clear communications between police and operators.

Some potential disadvantages of the model are:

- police assuming 'ownership' of the system;
- confusion amongst public as to whether CCTV a police or local authority initiative; and
- diminished Council control over operator work practices

## 7.1.7 Volunteers

The volunteer model of monitoring is unique to the three Tasmanian locations – Hobart, Launceston and Devonport. In Devonport several operators were recruited during a control room open day, held when the system was commissioned. In all centres operators are drawn from local Neighbourhood Watch Groups. All volunteer operators receive a basic training in camera operation from police. In Devonport, volunteers must sign a document pledging confidentiality in relation to incidents observed during shifts (OSP I#06). In Hobart they must adhere to a Code of Practice that has recently been revised (OSP I#05). Volunteer operators in Launceston are not subject to a Code of Practice (OSP I#31).

There have been some problems with volunteer operators. In Launceston it has been found that volunteer operators tend to focus too closely on individuals during incidents thus missing surrounding activity and diminishing the value of footage as evidence (OSP I#31). However this problem is not unique to volunteers - it is also encountered on occasion with private security operators. In Devonport it was suggested that over zealous volunteers tend to focus on minor misdemeanours not necessarily considered significant by police (OSP I#06).

There are several issues of concern with the use of volunteers to monitor cameras. The most important perhaps is the degree of control that can be maintained over operators performing the task without financial reward. The method of selecting volunteers also should be actively debated and closely

monitored. There should also be concerns about the power of surveillance cameras to attract 'nosy parkers' as volunteers. In smaller centres where those caught on camera could quite feasibly be personally known by the volunteer operator, discretion and confidentiality need to be enforced with the utmost strictness.

The concept of volunteer operators is unlikely to be favoured by groups concerned with the preservation of civil liberties. If inadequately controlled, volunteer operators could undermine public confidence in CCTV. However volunteer operators should not be dismissed out of hand. Use of this model, has ensured active monitoring at peak times for minimal cost. Arguably, volunteer involvement also helps engender a greater sense of community ownership of the system. While unsuitable for larger systems, volunteers have performed the task of monitoring cameras reasonably efficiently in Tasmania. Provided volunteers are appropriately trained and managed, Councils may be able to achieve active monitoring at minimal cost without endangering the privacy of the wider community.

To summarise, the main advantage of using volunteer operators is:

active monitoring at minimal cost;

The main disadvantages are:

- potential for privacy to be endangered; and
- lack of control over operators.

### 7.1.8 Operator Selection

Given the significance of operator skill to the efficiency of a CCTV system, selection of operators must be an important consideration for any local authority. Moreover it is the most substantial expense in the ongoing funding of any scheme. It has already been mentioned that many Councils contracting private security operators have stipulated in contracts that they participate in the selection process (see 6.1.3) The minimum skills required of an operator can be summarised as the following:

- communication skills;
- administrative skills;
- basic computer literacy; and
- capacity to work in a sensitive environment.

Norris and Armstrong (1999: 102-03), in their study of CCTV systems in the UK, discovered camera operators were relatively poorly paid and had seldom chosen the position as a vocation. They noted many operators entered the security industry following a period of unemployment due to redundancy, ill health or disability (1999: 103). There is as yet no Australian research on CCTV operator backgrounds. However where private security contractors provide monitoring services, operators seem

to have been drawn predominantly from military, policing or security backgrounds. Four operators discussed this specific issue with the researcher during field visits. Two had prior experience in the Australian Defence Forces, another had served in the military police, and another had worked as a university security guard. In locations with Council or private security monitoring, operators are required to hold security licences. This has the advantage of providing a criminal background check, an important consideration given the sensitive environments in which they are employed.

However it must be acknowledged that open-street CCTV surveillance operation differs considerably from many other forms of security work. As one system manager commented 'public safety surveillance is totally different to standing out in front of a bank with a radio looking for an armed robber' (OSP I#07). It follows from this observation that it should be possible to recruit competent and efficient operators from backgrounds other than the security industry. In Perth for example, where operators are Council employees, some control room staff are drawn from security areas of Council, but others are not. Perth's senior operator was previously employed in the Council's food catering area, while others are former parking inspectors. As one manager of the Perth system remarked,

People who come out of security companies aren't necessarily the right people for the job. Because some of the people who've got CCTV experience are very one-dimensional. All they've done is looked at one screen or static screens looking at the entrance to somewhere. These guys have got to be active in the screen process, and they've got to be multifaceted. You know they've got to be watching this, answering the emergency phone, listening to the radio and they've got all these things going on in the background and they've got to be able to cue into whatever goes. So it's a lot different, and we've found that the skill base we look for is really people who are very good at multi-tasking and good communicators.(OSP I#24)

The opinion was also expressed that operators required a degree of 'street smarts' to be capable of identifying potential offenders and incidents likely to escalate. However it should also be considered that the ability to identify incidents likely to require police intervention can also be acquired through training, particularly where training involves input from police (see following sub-section).

In Scotland it is common for physically disabled persons to be recruited and trained as operators (Ditton & Short 1998: 157). A scheme of this type has not been initiated in Australia to date, although there is no reason why such an option would not be possible.

# 7.1.9 Operator Training

Operators presently learn monitoring and administration skills through 'on-the-job' training. An example of this is the training received by operators in Perth.

### Case Study: Perth

In Perth camera operators undertake training on the job for approximately four weeks. Operators initially work day shifts in conjunction with the operator team leader. The first two weeks are spent learning how to operate the cameras and track potential offenders through the camera system. In the

first few weeks of training the new operator will spend at least one day answering incoming calls and monitoring a particular area. After two weeks the trainee operator may move to night shifts, although they remain under the supervision of an experienced operator. Training during the second fortnight will also involve radio communications with police. Administrative and communications tasks are acquired incrementally over the four weeks.

Where private security is engaged, the training of operators has been the contractor's responsibility. Operators generally undertake a practical training similar to that described for Perth, and also become familiar with Codes of Practice and Standard Operating Procedures or similar operational documents. The NSW Guidelines suggest the training of operators should be a local government responsibility (2000: 12). However local governments have only taken active responsibility for the training of operators in locations where operators have been Council staff. Councils contracting camera monitoring do monitor the performance of contracted operators to ensure skill levels are adequate. In both **Brisbane** and **Melbourne** the performance of operators is monitored by responsible Council Officers. In Brisbane operators are monitored through key performance indicators administered by the BCC Malls Management section (OSP I#11).

Some systems also require operators to serve a probationary period. **Fairfield** has an 80-hour probationary period before operators are considered fully trained (OSP I#18). In **Ipswich** operators are engaged for an initial trial period of three months (OSP I#07). Some Councils have also had active input into the design of training for operators. This has been the case in both Townsville and Rockhampton.

Overall however operator training remains ad hoc and is dominated by the technical aspects of the job. In **Toowoomba** staff are trained by the Operations Manager of Toowoomba City Council. An interesting innovation in Toowoomba has been to get local police to give operators some training in police observation techniques (OSP I#26).

The number of people employed in such systems is now reaching sufficient size for serious consideration to be given to the setting of minimum training standards across Australia. This could potentially be achieved through a TAFE course or approved certificate covering the following areas:

- technical competency in monitoring panel operation, camera movement and recording;
- basic computer database training;
- police observational techniques and the requirements of police evidence;
- ethical standards in the use of open-street surveillance equipment; and
- relevant legislation.

# 7.1.10 'Working Rules' & Monitoring

Norris and Armstrong's (1999) detailed ethnographic study of control room operators raised some issues of concern. Part of their larger project involved a detailed study of the 'social construction of suspicion' by camera operators – what they term the 'working rules' used by camera operators to sort through the myriad of images transmitted and to select targets for surveillance. They noted that women accounted for only 7% of those placed under surveillance, and suggest this may reinforce the argument of Brown (1998) that CCTV may undermine the security of women in public areas by providing the rhetoric of public safety without the reality. Moreover they noted that 15% of operator initiated surveillance on women was for voyeuristic reasons: a finding that would seem to support the argument of those who object to CCTV as 'a honey pot for perverts' (Davies 1998: 248).

Norris and Armstrong also revealed surveillance was disproportionately targeted towards black and working-class youth. They argue that rather than making public spaces free from the risk of criminal victimisation, CCTV can act to amplify unjust and discriminatory policing. Additionally they noted that guarantees that individuals would not be monitored without reason were mostly hollow rhetoric (1999: 151). Detailed observation study in control rooms was beyond the scope of the present study, although the concern that similar monitoring practices are conducted in Australia has already been raised (Crane & Dee 2001).

Discriminatory use of CCTV might be minimised by operator training that includes instruction as to when individuals should *not* be targeted, and what behaviour forms sufficient justification for targeting. The current reliance on fuzzy notions such as 'street smarts' and 'intuition' tends to lead towards the undesirable targeting revealed by Norris and Armstrong (1999).

# 7.1.11 Monitoring Hours

24-hour-seven-day active monitoring would self-evidently provide the greatest efficiency in terms of detecting incidents. However this is only the practice in six systems: Fairfield, Sydney, Brisbane, Ipswich, Claremont, Perth and Melbourne. Of the 33 open-street CCTV systems, 27 have some form of monitoring. Six systems have casual monitoring only, carried out by police (see table 7.2). Fifteen systems have specific hours of dedicated or 'active' monitoring. In all cases where the hours were made available, dedicated monitoring covered Friday and Saturday evenings in addition to other specified times.

Given that monitoring is the most significant expense in the ongoing operation of systems there is clearly a financial logic to limiting monitoring hours to specific periods of high activity. However limited monitoring hours can also be a sensible option depending upon the main objective of the system, and what existing crime statistics reveal about the peak times of offending. For example, systems established primarily to deal with incidents of alcohol-related violence around licensed premises are likely to experience heaviest activity during Thursday, Friday and Saturday evenings –

particularly when premises close. In smaller centres also, the cost of having an operator observing empty streets on a Monday morning is likely to outweigh the potential public safety benefit.

#### 7.2 Communications

Communications between police and control room operators are vital to any actively monitored system. The common practice is for there to be some form of direct telephone link between control room operators and police, allowing operators to inform police of incidents and vice versa. In addition operators commonly have a radio tuned into the police frequency in the control room, to enable them to focus on relevant incidents and provide video evidence that may later be required in prosecutions. It was noted in Adelaide for example, where operators are listening to the police band XRAY 100, that it was often unnecessary for police to contact the control room as operators were often already following incidents (OSP I#04).

Where a control room is separate from police, law enforcement authorities have found invaluable to have a screen in a police facility which is capable of displaying incidents being tracked by operators. In **Townsville** and **Adelaide** police have monitors with keyboards, and can assume active control of the cameras (OSP I#34; I#13). In the absence of clear rules, however, police assuming control of the cameras can result in friction with civilian operators. This can damage a relationship crucial to the efficient operation of a system. **Townsville** has therefore introduced a hierarchy of control stipulating who has the final system override (OSP I#13).

In **Brisbane**, **Melbourne**, **Sydney**, **Fairfield** and the **Gold Coast** vision can be transferred to monitors located in police posts. In Brisbane and the Gold Coast police cannot assume control of the cameras. In **Melbourne** vision can be transferred to two police locations, and protocols are in place to regulate this. One police location has the facility to control the cameras but is reported to have never done so (OSP I#27). In **Sydney** the switching of vision is tightly controlled under the Standard Operating Procedures. Vision can be switched to City Central and the Rocks stations, and in both locations police can assume control of the cameras upon request. Police must request vision be transferred and operators cannot proactively transfer vision (City of Sydney 2002: 6.4) However vision can only be transferred for an incident *in progress*, not when an activity is judged as likely to lead to an incident. There is some dissatisfaction from police with this arrangement as it is thought to reduce the preventive capacity of the cameras (OSP I#20).

In most locations where there is active monitoring, operators maintain telephone communications with Police Communications Centres or the police station during an incident. The advantage of a monitor located in police facilities is that police personnel can then direct police on the street. In the **Perth** Control Room however the communication is more direct as the officer directing police on the street in the Control Room.

Case Study: Perth

The Perth Control Room is located on a railway concourse and is co-located with a Perth City Police Station. Control Room operators have the WA Police VK-1 frequency tuned in while they are monitoring. There is also a WA Police Officer always present in the Control Room. In addition operators are in direct two-way radio contact with a local indigenous patrol (Noongar Patrol), Council Parks and Gardens Officers, the Council maintenance and refuse collection services, and Council security and Rangers. The Control Room also operates movable bollards in the City, designed to control the access of delivery vehicles into pedestrian areas. This reflects the wide objectives of the system.

The police officer stationed in the control room has a keyboard and can monitor cameras while in the control room. During an incident the officer both interacts with the camera operator and can communicate directly with police on the street. In an incident observed during a field visit: two individuals thought to have committed an offence were observed on camera after information was received from police. Vision from the main monitor automatically fed through to the monitor in front of the police officer. The suspect was located by the camera operator and the officer directed police in the area to her location. The second suspect was observed shortly afterwards. When the second suspect attempted to evade police, the camera operator and officer tracked his movements using different cameras: the officer in the control remained in constant contact with police on the street, directing them to the suspect's location.

Camera operators see it as important that they be capable of providing assistance to on-street police during an incident. Any breakdown or delay in communications is likely to severely hamper this objective. It is for this reason that **Canberra** opted for police camera operators who can communicate directly with police at an incident. Following a recommendation from an evaluation KPMG, the City of **Melbourne** made two mobile phones available to police working on the street to facilitate direct communications with camera operators (City of Melbourne 2000b).

# 7.3 Policing & Open-Street CCTV

Police interviewed for this project were overwhelming positive about the role of CCTV as an aid to policing. One NSWPS senior officer remarked CCTV was 'one of the best policing tools I've seen in many a long year' (OSP I#20), while a senior SAPOL officer claimed that 'we would be absolutely lost without it' (OSP I#04). The general view of police was expressed by one Queensland Police Service officer who stated 'the more cameras we've got to cover the city the better' (OSP I#09).

CCTV is perceived to assist policing in a number of ways. These are:

- co-ordinating police responses to incidents;
- improving detection and clear up rates; and
- providing evidence for prosecution.

The advantage of CCTV for co-ordinating police responses was seen to be that it allowed the targeting of police resources. Where police could view incidents or potential incidents on a monitor the number of police required, and the speed of response required, could be assessed from camera vision. As one SAPOL Senior Officer noted:

...as soon as a job comes over that camera is monitored, and we can see 'well it's all finished so we'll get there when we get there' or 'she's on for young and old so let's get there quickly'. So it's made a big difference in us monitoring and controlling our workload. (OSP I#04)

CCTV was also seen as an aid in locating a wide range of incidents that might require police intervention. This related not only to criminal conduct but also to public safety issues. Camera vision was used to locate lost children, missing persons and to initiate ambulance responses for people collapsed in public places (OSP I#04; I#20).

In addition to assisting in the deployment of officers to incident scenes, CCTV is also applauded by police for assisting in the tracking and location of offenders, and for providing an independent witness once an offender is located. The major perceived advantage of footage is that it encourages suspects to plead guilty, thereby reducing the administrative workload of police and saving time spent in prosecuting offences. As one NSWPS Officer remarked:

If we can get ninety per cent increase in guilty rates then I'm sure the community would rather have their cops not outside the court but back up the street. (OSP I#19)

Police also claimed CCTV provided a useful post-incident function in identifying suspects who could later by arrested once identified in video footage. Video footage can also be used to identify potential witnesses.

It should also be noted CCTV footage monitors not only the behaviour of offenders but also the behaviour of police. Operators generally recorded any police interactions with suspects, and this was seen to offer some protection against vexatious complaints of police misconduct (OSP I#04).

One of the major purposes of systems is to provide appropriate evidence to arrest and convict offenders. Police in all locations visited spoke highly of the value of video evidence, and viewed this as one of the most tangible benefits CCTV offered to policing. As already mentioned, one of the most significant reasons is that video evidence is considered to encourage defendants to plead guilty, thereby eliminating the time required in preparing prosecutions and attending court proceedings. The point is succinctly made in the City of Perth *CCTV Information Kit*, which states 'videos have been well received by Magistrates in that not only do they give graphic evidence of the offence but they often stop protracted trails and influence defendants to change their pleas when they have viewed the evidence that is against them' (City of Perth 2000: 2).

In all jurisdictions video evidence is readily accepted in court. Video footage is a form of real evidence — it is not the videotape itself that is evidence but the images recorded on the tape. Video evidence must be authenticated in court (Palmer 1998: 61), and authentication is usually provided either by the camera operator or a system manager responsible for releasing the tape to the police as evidence. Some legal scholars have argued video images are potentially overly persuasive, leading jurors to ignore contradictory evidence (Elliot 1998). Perhaps understandably, this possibility has not dimmed police enthusiasm about the utility of video evidence. Even where not directly tendered as evidence in court, it was argued video footage provided invaluable background information for prosecutors, allowing them to ask pertinent questions and assess the validity of various witnesses. Although there were occasionally problems with image clarity in videotape evidence, police generally believed CCTV footage was invaluable and that 'a picture speaks a thousand words' (OPS I#04).

# 7.3 Displacement

Displacement is an often-discussed issue in relation to CCTV, as with many other crime prevention measures. Displacement is the response of offenders to the blocking of criminal opportunities (Barr and Pease 1990; Eck 1993: 527). Six types of displacement are commonly recognised (Repetto 1976; Gabor 1990; Barr & Pease 1990). These are:

- **temporal** displacement offenders change the time a criminal act is committed;
- spatial displacement offenders move the location of offending as a result of a crime prevention initiative;
- **target** displacement offenders shift from one target to another;
- **method** displacement offenders alter there method of attacking particular targets;
- **crime type** displacement offenders shift to committing different categories of offence; and
- perpetrator displacement new offenders replace old offenders who have been removed by an initiative.

Discussion of displacement in relation to CCTV is primarily concerned with spatial displacement. Critics of CCTV have argued spatial displacement undermines any potential gains surveillance cameras may achieve within specific areas (Davies 1996: 329-330). Although no convincing measurement of displacement has yet been undertaken in relation to an Australian CCTV system, anecdotal reports suggest that it is common. Nevertheless there are two important considerations that need to be taken into account when considering CCTV and spatial displacement. These are:

- displacement is not necessarily considered a negative outcome by system managers and police; and
- while there is widespread evidence of displacement it is unclear whether there is 100% displacement of offending.

The most commonly reported offence to be spatially displaced was street-level drug dealing. Drug offences in particular are susceptible to displacement as they require only that a vendor and purchaser know when to contact each other (Dixon & Maher 2002: 95). Cabramatta Police deliberately

encouraged displacement in the belief that smaller, dispersed drug markets would be easier to control (Dixon & Maher 2002: 95). Dixon and Maher argue that in the context of Cabramatta this policy potentially jeopardized the public health and community safety of surrounding areas previously unaffected by the drug trade (2002: 95-96).

Although academic literature regards displacement as a negative outcome, this was not necessarily the position of police or system managers. Generally some level of displacement was tolerated particularly where offending was moved to areas less frequently used by the public. The following quotation has been made anonymously but provides a reasonable indication of how displacement is viewed by some practitioners:

If for example you put cameras up and people go 'let's not go to \_\_\_\_\_\_\_\_ because chances are we'll get arrested by the cameras' and they say 'let's go to \_\_\_\_\_\_' our attitude is basically it's not our problem. I know that's a very selfish attitude but it's an attitude that I suppose realistically we have to take. Because our role is to make this community safe, and then I suppose it's about that community advocating to get the same crime prevention strategy in place too. But if this community or any community is prepared to pay for it or see it as a positive thing I think they should reap the benefits of it. So I don't really see it [displacement] as a major problem.

While the evidence for the spatial displacement of drug dealing is relatively convincing, it is less clear that minor incivilities such as vandalism, graffiti and public drunkenness are displaced. No informant suggested that where CCTV has been used to monitor violence around licensed venues, incidents of alcohol related violence have shifted to other locations. Measuring displacement is complicated by the fact that where there has been displacement it is not always clear to what degree this is due to CCTV or accompanying changes in policing. Even in Cabramatta, it was police crackdowns aided by CCTV that were responsible for displacing drug dealing. To assume that CCTV alone can cause major displacement may be to over estimate the impact of the technology.

There has been less interest in the possibility that CCTV may result in a dispersal of positive benefits. Most likely this reflects the relative lack of attention paid to this possibility for situational crime prevention measures generally (Clarke & Weisburd 1994). Nevertheless dispersal of positive benefits from CCTV was reported in one location. In **Ipswich** it is claimed that offences have been reduced both in the camera area and outside, as a number of offenders were apprehended who were responsible for multiple offences in a wider area (OSP I#07). An overview of CCTV evaluations compiled by Welsh and Farrington found more schemes showed evidence of diffusion of benefits than displacement (2002: 42). Future research should therefore pay more attention to this potential outcome.

In summary anecdotal evidence suggests that CCTV may result in the displacement of drug dealing but the picture in relation to other offences is even less clear. More detailed research on displacement in specific locations is required. However this will need to assess the impact of police practice and other crime prevention measures in relation to CCTV.

# 7.4 Offender Awareness

One potential method of assessing displacement has aroused considerable interest. In 1998 Short and Ditton published a pilot study based upon interviews with thirty offenders arrested as a result of CCTV footage. Short and Ditton argued this was a necessary step towards greater understanding of the displacement phenomenon (406). A recent Home Office report prepared by Welsh and Farrington recommends interviews with offenders should form part of overall CCTV evaluation (2002: 45).

Although no study of this kind has yet been undertaken in Australia, there is some evidence that offenders in some locations are aware of CCTV. In 123 interviews with Indo-Chinese youth involved in street-level heroin distribution and/or use in Cabramatta, Dixon and Maher (2002) found the introduction of CCTV was the most frequently commented upon change in policing the area. Two-thirds (78%) of their participants mentioned the installation of cameras (2002: 95).

While interviews with offenders were beyond the scope of this study, police and local government officers working with CCTV were asked what level of awareness they believed offenders had of the cameras. Although there were minor differences in responses from different locations, there was a surprising degree of uniformity overall. In all locations street-level drug dealers were perceived to have the greatest knowledge of the cameras. Where cameras have been in place for a short period of time, drug dealers were often unaware of the range of the cameras. In Canberra for example drug dealers initially moved around corners in the belief that the cameras were fixed and would be unable to follow them (OSP I#29). In Melbourne it was suggested that cameras have altered the behaviour of drug dealers, who turn their back to cameras during a transaction or move to locations beyond camera range (OSP I#30).

There was an overall view that 'the general crook' was aware of the cameras. Offenders were also observed to modify their behaviour. This included examples of offenders concealing their identity from the cameras, and examples of offenders observing cameras to ascertain the direction they were panning. Nevertheless it was also suggested that while a small group of street-level drug dealers might have a more detailed knowledge of the cameras, most offenders had only a vague awareness. As one former operator remarked:

If they have an awareness of the camera, I think that's all it is. I don't think they have an awareness of the scope behind the camera. The background, the locations of individual cameras, what we can actually do with them and what resources are available to us (OSP I#24)

Police in several locations actually had a deliberate policy of not revealing the capacity of cameras to suspects.

The most interesting observation however was that many police suggested that the deterrent effect of CCTV on offenders diminished over time. It was widely suggested that while CCTV initially modified

offender behaviour, offenders subsequently became complacent – even though they were aware cameras were monitoring the area. As one SAPOL Senior Officer commented:

They know the cameras are there. There's no doubt about it. We've even had them brown-eye the camera, we have them do dances in front of the cameras. The cameras are very obvious. But it's like all things, they become oblivious to it and it doesn't become important (OSP I#04).

Offender studies might provide more conclusive evidence for individual locations. However the broad observations of police (who are regularly in contact with suspects arrested via CCTV footage) are worth summarising. It was widely believed that a small group of offenders, mostly street-level drug dealers, had a detailed knowledge of camera surveillance. A wider group of 'regular offenders' had an awareness of CCTV but an imperfect knowledge of system capacity. However it was suggested offenders became complacent about the presence of cameras over time, and while initially modifying their behaviour frequently returned to familiar locations even with the knowledge that the area was under surveillance.

#### 7.5 Is CCTV effective? The anecdotal evidence

There are as yet few, if indeed any, reliable Australian evaluations on which to base generalisations about the effectiveness of CCTV in open-street settings. Two recent reviews of CCTV evaluations (Phillips 1999; Welsh and Farrington 2002) only serve to highlight the oft-repeated wisdom that research to date has produced mixed findings. The pitfalls and possibilities of evaluating CCTV are discussed in depth in the following chapter. However this sub-section examines what system managers believe CCTV has and is achieving. Many system managers remained uncommitted on this question, acknowledging the difficulties of evaluation, and also that other factors may have impacted upon changes in offending.

No system managers held the belief that CCTV is a panacea for crime. It was generally acknowledged that to be successful a public CCTV system should be initiated with other crime prevention measures. The cooperation of police was also regarded as crucial. As one system manager commented:

They're a useful tool but they're useless without proper policing backup. Because you can capture something on camera and say ok that's nice but if there's no one there to go and arrest the person ...(OSP I#18)

# Case Study: Townsville

In Townsville cameras are reported to have reduced vandalism in the Mall. They are reported to have had less impact on general anti-social behaviour in the Mall. The greatest success with the cameras is reported to be in relation to incidents of alcohol-related violence in the nightclub area. Surveillance cameras in combination with more active policing are thought to have contributed to a decrease in crowd disturbances around licensed venues.

#### Case Study: Toowoomba

Statistics collected by the Toowoomba City Council suggest offences overall have declined since the introduction of cameras. In Toowoomba CCTV is claimed to have been successful in curbing vandalism, particularly the breaking of shop windows. Graffiti also is said to have decreased in areas under camera coverage. Break-ins are also reported to have decreased since the installation of cameras. There is also reported to have been a marked impact on robberies from ATMs. Cameras have also proved useful in preventing a suicide, assisting in homicide investigations and in one case of criminal compensation.

The self-reported outcomes of CCTV surveillance suggest that it can have an impact upon some petty offences, particularly minor property damage and graffiti. The relationship of CCTV surveillance to alcohol-related violence around licensed venues is more complex and worthy of future detailed investigation. In Surfers Paradise, CCTV may have contributed towards a reduction in alcohol-related violence (OSP I#12) However it should be noted that other initiatives have also proved successful in producing a reduction in alcohol-related violence (Homel et al 1997). In Townsville also a reduction in alcohol-related violence has involved CCTV operators working in combination with more intensive policing of the nightclub area (OSP I#13). Despite the seemingly commonsense notion that alcohol affected persons will not alter their behaviour due to the presence of surveillance cameras, there is anecdotal evidence that CCTV combined with rapid police response can, over time, have a deterrent impact on alcohol-related violence in specific locations. More empirical research is required to establish if this is the case.

The relationship of CCTV to reductions in general incivility also appears to be reliant on the interaction between policing or private security strategies and response and CCTV operators. Once again this is an issue requiring detailed investigation in specific sites. One recent evaluation conducted in Cincinnati, USA, demonstrates a methodology for measuring changes in anti-social behaviour that might be applied in an Australian context (Mazerolle, Hurley & Chamlin 2002). As has already been noted, the impact of CCTV on street-level drug dealing appears to be one of displacement. Nevertheless, this too is largely dependent on how CCTV interacts with police operations and requires more detailed investigation in specific contexts. If it is unclear that CCTV produces reductions in offending, system managers were overall more confident in asserting that CCTV provided valuable assistance to police. This perspective was confirmed by police themselves (see 7.3).

While several locations reported overall declines in reported offences, it is clear that at present we know very little about how CCTV actually works in specific locations. Additionally we know very little about how CCTV might deter specific categories of offences. What is apparent, however, is that CCTV must be evaluated in relation to the policing and private security initiatives with which it interacts.

Table 7.2: Operators & Monitoring (October 2002)

LOCATION	State/Territory	Monitoring	Monitoring Hours*
Blacktown	NSW	Record Only	
Bourke	NSW	Police	Casual
Dubbo	NSW	Police	Casual
Fairfield	NSW	Private Security	24 hr 7 day
Lake Macquarie	NSW	Record Only	
Lismore	NSW	Private Security	Thu/Fri/Sat pm-am
Lithgow	NSW	Record Only	
Sydney	NSW	Council Staff	24 hr 7 day
Sutherland	NSW	Council Staff	Thu/Fri/Sat 6pm-6am
Walgett	NSW	Police	Casual
Willoughby	NSW	Record Only	
Brisbane	QLD	Private Security	24 hr 7 day
Cairns	QLD	Private Security	Wed-Sun pm-am
Gatton	QLD	Record Only	
Gold Coast	QLD	Private Security	Mon-Fri 12pm-6am/24 hr Sat/Sun
Ipswich	QLD	Private Security	24 hr 7 day
Logan	QLD	Private Security	NOT DISCLOSED
Rockhampton	QLD	Private Security	Fri/Sat 10pm-6am
Toowoomba	QLD	Council Staff/Private Security	Mon/Tue/Wed 10am- 12pm Thu 10am-4pm/Fri /Sat 10am-6pm
Townsville	QLD	Private Security	10pm-6am 5 nights per week
Warwick	QLD	Private Security	Fri/Sat Nights
Bunbury	WA	Record Only	
Claremont	WA	Council Staff**	24 hr 7 day**
Perth	WA	Council Staff	24 hr 7 day
Rockingham	WA	Police	Casual
Bendigo	VIC	Police	Casual
Box Hill	VIC	Police	Casual
Melbourne	VIC	Private Security	24 Hr 7 Day
Devonport	TAS	Police/Volunteer	Fri/Sat 8pm-3am
Hobart	TAS	Police/Volunteer	Fri/Sat 6pm-2am
Launceston	TAS	Police/Volunteer	Thu/Fri/Sat 10pm-4am
Adelaide	SA	Private Security	7 days 10am-2am
Canberra	ACT	Police	Thu/Fri/Sat pm-am

<sup>\*&#</sup>x27;Monitoring Hours' refers to hours of dedicated monitoring. However cameras may be casually monitored at other times

<sup>\*\*</sup> Claremont's camera system is monitored by the City of Perth under contract.

#### **8** CCTV Evaluation

There has as yet been very little evaluation of CCTV systems in Australia. Where systems have been evaluated this has tended to be in-house. This relative lack of independent evaluations is matched by an absence of published data. Therefore it is not possible to provide any detailed comparison of the evaluation methodologies used in Australia. Fairfield City Council recently made publicly available a five-year review of CCTV operation in Canley Vale and Cabramatta (Fairfield City Council 2002). Other local government authorities have also indicated a willingness to commission independent evaluations and make results publicly available.

Location	Year	Internal/External	Publicly Available
Adelaide	1998	Internal/External	No
Melbourne	1998	External	No
Melbourne	2000	Internal	No
Sydney	2000	Internal	No
Lake	2001	External	Yes
Macquarie			
Fairfield	2002	External	Yes

Table 8.1 Evaluations of Australian open-street CCTV (as at October 2002)

In addition to these formal evaluations there have been a wide variety of reviews, audits and report cards for various systems. Brisbane has had three system reviews in five years, all of which have contributed towards adjustments in system operations and procedures (OSP I#10).

It has been an issue of concern in the UK for some time that CCTV systems have been subject to inadequate evaluation. Short and Ditton (1995) noted five problems with evaluations of CCTV that often claimed significant system success. These were:

- Time periods examined pre- and post-installation have been too short for adequate testing of the effects of the CCTV system, and they have frequently ignored seasonal variations in crime;
- 2. "Crime" is frequently treated as unitary phenomenon, thus masking variations between different types of offences;
- 3. In some instances there have been no control areas;
- 4. There was little discussion of displacement and its attendant problems; and
- 5. The presentation of percentages only without reference to the numbers from which they derive, or inaccuracies in their calculation, can lead to spurious claims of success

The major weaknesses of the limited system evaluations conducted in Australia can be summarised as follows, and bear close similarity to those identified by Short and Ditton (1995) in the UK context. These are:

- 1. There has been little, and in most cases no, collection of data prior to system installation against which to measure effects;
- 2. System aims are often poorly defined. This creates difficulties in establishing measures for evaluation;
- 3. There has been a reliance on general police data that frequently does not correspond to the geographic locations under camera coverage;
- 4. There is great disparity in the quality and categories of data collected from different systems;
- Many 'evaluations' have had a narrow technical focus and would more appropriately be termed infrastructure reviews; and,
- Evaluations have been conducted for the most part in-house or by contractors already associated with the system. There is a disturbing absence of legitimately independent evaluations.

This situation also prevailed in the UK in the mid 1990s (Bulos and Sarno 1996; Phillips 1999: 124) However as part of its 1997/98 funding round, the UK Home Office stipulated that provision for an independent evaluation of scheme effectiveness must be part of the bid process (Tilley 1998: 139). This has stimulated a greater number of CCTV evaluations. The Home Office has recently released a review of CCTV evaluations (Welsh & Farrington 2002). The Home Office is also undertaking a major evaluation, jointly funded with the Department of Transport, Local Government and the Regions, and due to be published 2004. This evaluation incorporates recommendations from the Home Office evaluation review (Home Office 2002).

Although CCTV evaluation in Australia has to date been minimal, recently released CCTV guidelines in NSW (2000) and Queensland (2002) both recommend system evaluation. The NSW Attorney-General's Department guidelines recommend that local councils develop a monitoring and evaluation plan. Formal evaluation should be undertaken after the first six months of system operation. If the system is to be retained, formal evaluations should then occur annually. The *Guidelines* outline a broad evaluation methodology including the collection of:

- Crime statistics from 12 months prior to commencement of system to act as a benchmark;
- Crime statistics covering the period of operation; and
- Statistics on responses to incidents captured on camera.

In addition to these statistics the Guidelines also suggest Councils consider collecting the following data:

Statistics from areas not covered by CCTV that might be sites of displacement;

- Statistics from LGAs with comparable crime rates but without CCTV; and
- Research into public perceptions of crime.

The *Guidelines* recommend evaluation results be made available to the public and that for systems in a trial period the community should then be consulted as to whether the system should continue (NSW Attorney General's Department 2000: 21-22).

The NSW *Guidelines* may lead to more extensive evaluation in that State than has hitherto been the case. It is quite possible, however, that most evaluations will continue to be in-house. Furthermore, there is no suggestion that the Crime Prevention Division of the NSW Attorney-General's Department will assist with the funding of reviews.

CCTV evaluation would appear to be a self-evident good. However local authorities have limited access to the resources and the data required to undertake such work. In practical terms it may be necessary for local Councils to target evaluations at a particular aspects of systems. State or Federal Government crime prevention bodies should consider assisting in the funding of CCTV evaluation, as rigorous independent evaluations may be beyond the budgets of many Councils.

#### 8.1 Evaluation methodologies

The evaluation framework to be adopted for any given system will be dependent upon the aims of the study. However Tilley's (1988) general framework does suggest appropriate questions. He argues that evaluation research should focus on assessing how CCTV works in particular contexts to generate specific outcomes (1998: 145). Using the framework of 'realistic evaluation' developed with Pawson (1994), Tilley suggests that three interlinked questions, relating to the context, mechanisms and outcomes of CCTV, should be posed. These are:

- *Mechanism* What is it about CCTV that may produce a particular outcome in a particular context?
- Context What conditions are needed for CCTV to activate mechanisms to produce particular outcome patterns?
- Outcome pattern What are the practical effects produced by activating a given mechanism in a particular context? (1998: 145-46).

Table 8. 2 Tilley's Model of 'Realistic Evaluation' for CCTV (1998: 146-48)

Contexts	CCTV Mechanisms	Potential Outcomes
Spatial & temporal uses of area covered	<ul> <li>Enable more effective deployment of security guards/police</li> </ul>	Improved profitability of business
Physical layout of area covered	<ul> <li>Increase 'natural surveillance' through increased usage of area by people less fearful of crime</li> </ul>	<ul> <li>Increased detection of misdemeanours</li> </ul>
Types of concern within area covered	<ul> <li>Increase confidence of members of the public to intervene, if they believe a situation is being observed and police back-up will follow</li> </ul>	<ul> <li>Increased detection of more serious crimes</li> </ul>
Cultural traditions of the users of the area	<ul> <li>Increase potential offenders' fears they will be seen, caught and shamed or punished, or moved on for misbehaviour or unwanted behaviour</li> </ul>	Decreased usage of area by some youths
<ul> <li>Presence or availability of security guards for deployment</li> </ul>	Help catch offenders, who may then be removed	<ul> <li>Increased usage of area by some youths</li> </ul>
<ul> <li>The attitudes and use of the system by police</li> </ul>	<ul> <li>Remind people to be cautious in areas covered</li> </ul>	<ul> <li>Increased usage of area by some women</li> </ul>
The presence of other (complimentary) crime prevention measures	<ul> <li>Deter people from using area because they deem it to be dangerous if CCTV is needed</li> </ul>	Decreased usage of area by some women
The degree of public acceptance of CCTV	<ul> <li>Provoke offenders to search for an alternative area/situation where risks are lessened</li> </ul>	<ul> <li>Reductions in crimes in some times and places</li> </ul>
The way the system is managed and operated		<ul> <li>Changed distribution of crimes by type, time and place</li> </ul>
		<ul> <li>Changed distribution of incivilities by place</li> </ul>
		<ul> <li>Some decreases in aspects of satisfaction with the area</li> </ul>
		<ul> <li>Some increases in aspects of satisfaction with the area</li> </ul>

Tilley's general model of context-mechanism-outcome interactions can prove useful in framing appropriate questions for evaluation. The CMO model also suggests that a wider range of strategies and evidence can prove useful. This can free evaluation from a slavish reliance on reported crime figures. Framing more meaningful research questions can also result in evaluations that are more effective in recommending how the triggering of 'mechanisms' might better achieve desired 'outcomes'.

## 8.1.1 Evaluation Aims

It is often assumed that the aim of CCTV evaluation should be to assess whether crime has been reduced as a result of installation. This may be a realistic goal where a system is recently installed and where pre-installation figures have been gathered in anticipation of evaluation. However pre-

installation figures have not generally been collected in Australia. Therefore it is extremely difficult to derive meaningful statistical measures of the effects of CCTV on crime. Other problems in relation to crime statistics are discussed in 8.1.2. Briefly however, it would be mistaken to conclude that because there has not been a decline in crime statistics that a system has failed.

As Tilley (1998) suggests the evaluation issues in relation to CCTV are similar to those for any other crime prevention measure. It is important that clear reasons be established as to why an evaluation is being carried out – and Tilley (1998) lists eight possible purposes why evaluations might be conducted on CCTV systems. These are:

- 1 To find out whether CCTV works;
- 2 To find out whether CCTV can work;
- 3 To find out what works in what circumstances and how, when CCTV is introduced;
- 4 To be able to boast about the scheme and the town in which it has been installed;
- 5 To assess the value for money;
- 6 To modify and improve the scheme in the light of experience;
- 7 To assess whether the problem has been solved; and
- 8 To find out what effects CCTV is having.

It is to be hoped that councils will not undertake evaluations purely in order to publicise (or in Tilley's words 'boast about') their schemes. However any combination of the aims outlined by Tilley might be appropriate. The combination of aims for the evaluation will influence the range of quantitative and qualitative measures chosen.

It should be noted however that there is some controversy over the possibility of assessing the value for money provided by CCTV (6). Tilley argues cost-benefit analysis of CCTV is not possible, due to difficulties in assessing what to include as a cost and what to include as a benefit (1998: 149). However Welsh and Farrington recommend that cost-benefit analysis be undertaken (2002: 44). It is yet to be established whether pure cost-benefit analysis will prove to be a meaningful exercise. Nonetheless, one of the most crucial aims for an evaluation would be to assess how an existing system might operate more efficiently.

Evaluation aims will most likely assess the degree to which the stated aims of a CCTV scheme are being achieved. This highlights the need for clearly defined aims at the commencement of any program. The more specific an evaluation can be at the outset about exactly what it is that is being measured or assessed, the less likely it will be to return inconclusive or contradictory findings. Moreover, Tilley's CMO evaluation framework suggests that evaluation should be concerned with the measurement of multiple outcomes, and the mechanisms that have been triggered to produce these outcomes.

### 8.1.2 Issues with Reported Crime Statistics

The quality and detail of statistical data currently collected by Australian CCTV systems is extremely variable. Some systems, such as the City of Melbourne and the City of Sydney, use software programs and detailed categories for incident recording. In addition these capital city systems also collect data on related aspects of the system such as police response times and the use of video evidence in court proceedings. Other systems such as **Bendigo**, **Box Hill**, **Hobart** and **Launceston** keep no statistics at all. In between are many different methods of keeping statistics with varying levels of detail.

Most evaluations to date have relied heavily on statistical data – either that generated by the system itself or wider reported crime statistics supplied by other agencies. Unfortunately underlying the widespread use of quantitative data is the assumption that for a CCTV program to be demonstrably successful requires a drop in crime rates. As Tilley poignantly remarks 'the mistake is to presume that there is some fixed invariant relationship between the introduction of a crime prevention measure (such as CCTV) and change in crime levels, if only we could find it. This is not the case' (1998: 144).

There are a number of problems with quantitative measures that may result in mixed findings (Tilley 1998: 142), these are:

- Pseudo-random fluctuations in rates of reported crime there are wide fluctuations in local
  crime rates, particularly in small areas during a limited time period, irrespective of whether a
  crime prevention measure has been introduced. This creates difficulties in assessing what
  changes result from a crime prevention initiative and what changes are merely the result of
  pseudo-random fluctuation;
- Regression to the mean Where the period of measurement commences with an abnormally high crime rate, it will probably revert to a more normal rate regardless of crime prevention initiatives. This can create the impression of successful reductions in crime rates where the crime prevention initiative has in fact had a minimal or nil impact;
- Floor Effects Where the initial crime rate is low is will be difficult to discern any downward trend in figures;
- Changes in background crime rates It is important to measure changes in background crime rates to ascertain whether localised changes are merely reflecting wider trends;
- Changes to the area under surveillance The complexity of open-street environments means statistical measures are subject to a multiplicity of influences that may change over time.
   Changes in commercial and housing mix, traffic and pedestrian flow, urban infrastructure and policing strategy may all influence the pattern of activity within a given area. It is extremely difficult to control for all the possible variables that may also be influencing crime statistics within an urban area;
- Changes in crime reporting and recording CCTV may influence crime reporting where operators report incidents that would have previously remained unreported. This may have the impact of actually increasing the crime rate through reporting practices; and

• *CCTV and wider crime prevention strategies* – Where CCTV is introduced with a broader package of crime prevention measures it will prove difficult to calculate the relative contribution of each measure (Tilley 1998: 142-43).

### 8.2 Evaluation: A Model Framework

The following framework provides evaluation measures that might be usefully engaged to assess the impact of CCTV in particular contexts. It is not intended that this list should be proscriptive, but it provides measures that might be selected by local authorities or independent researchers. The exact measures selected will depend upon the precise aims of the evaluation.

- *Pre-installation reported crime statistics* Where a system is being planned, reported crime statistics should be collected for the area prior to installation.
- Reported crime statistics for area under coverage Where statistics are collected care should
  be taken that they are specific to the area under surveillance. Where possible such statistics
  should be as geographically and temporally specific as possible so as to avoid drawing in
  random patterns from areas beyond coverage.
- Reported crime statistics for adjoining areas Crime statistics from adjoining areas will
  provide some method of measuring potential displacement or dispersal of positive benefits.
  These statistics should also be collected for the period prior to installation to test against
  random fluctuations.
- Reported crime statistics for control areas Control areas should be established beyond adjoining areas but with similar characteristics to the area under surveillance. It can then be assessed if statistical fluctuations are the result of CCTV or other factors. It might also prove useful to delineate a control area where another crime prevention measure (such as improved lighting or intensified beat policing) is conducted in the absence of CCTV. This would prove particularly useful where, for example, CCTV was introduced in combination with another initiative. This can provide a measure of the degree to which changes in offending are specifically related to CCTV.
- Incidents captured on CCTV by camera, incident category, time and date CCTV system
  administrators should consider collecting statistical data of system operation, as this will
  provide valuable information on what incidents are being detected and for what periods. It is
  important that consistent categories be established at an early stage, to assist in longitudinal
  study of system operation.
- Incident initiation and response System documentation should also record whether incidents
  were initiated by operators or via another source (such as police). This will provide of some
  indication of the effectiveness of operator practice. Recording the response to the incident will
  also give an indication of the effectiveness of police/private security-operator
  communications, and the degree to which police or private security are interacting with the
  cameras.

- The use of CCTV evidence in police investigations, arrests, prosecutions and convictions Collecting data on CCTV footage used for police investigation, arrest and prosecution will provide a measure of the level of assistance the system is providing to police. A reporting system devised in consultation with police may assist in compiling such statistics.
- Control Room Observation Study Where an independent researcher has been engaged to
  carry out evaluation, control room observation study can provide the basis for assessing
  whether Codes of Practice are being adhered to, and the quality of communication and
  interaction with other stakeholders (such as beat police and private security guards). Control
  Room studies might also address other issues impacting upon the effective operation of the
  system such as control room layout.
- Interviews with camera operators and police Interviews with those actively involved in
  operations are essential to any evaluation that intends to provide recommendations on system
  modification. They may also provide information on system weaknesses not readily apparent
  from statistical data.
- Offender interviews Offender interviews have recently been recommended by Welsh and Farrington (2002) as an element of CCTV evaluation. Offender interviews are recommended to test potential displacement effects, and modifications and potential modifications in patterns of offending. There are a number of issues here however. Welsh and Farrington (2002) suggest interviews with 'potential offenders'. However identifying and interviewing individuals solely on the basis that they are likely to commit offences in a specific geographical region may well pose significant ethical and methodological problems. 'Offender' interviews are more likely to be with individuals who have been arrested for an offence as a result of CCTV intervention, or at least with those arrested within an area of camera coverage. Offender interviews are currently being touted as the holy grail of CCTV evaluation, but it should be remembered that the results of Short and Ditton's pilot study (1998) were inconclusive.
- Public awareness surveys Awareness surveys can be of considerable importance in assessing the degree of public recognition of CCTV. Low levels of public recognition are likely to seriously impede the potential of CCTV to have a positive impact on feeling of safety. Amongst respondents aware of the initiative, it is advisable to include additional questions in relation to their perception of CCTV effectiveness, the impact of CCTV upon their feelings of safety, and how they were informed of the initiative (print media, signage, Council information sheet etc.) In some contexts it might also prove useful to survey the awareness and perceptions of effectiveness amongst certain groups such as local businesses.
- Fear of Crime research There is clearly some overlap between public awareness and fear of crime research. Although most research conducted for CCTV evaluation has used a survey methodology, focus groups might provide a means of more clearly assessing the link between CCTV and fear of crime, particularly across ethnic, sex and age groups.
- Media analysis This report already has noted the lack of attention generally given to
  publicising CCTV. Including an analysis of the media reporting of CCTV can provide a

means for developing a coherent strategy for more effective communication about the system and its aims.

Using Tilley's framework of context-mechanism-outcome, other measures might be engaged for the purposes of evaluation. Crime victimisation surveys, for example, might prove useful in some contexts. These have been recommended by Coleman and Norris (2000: 154) to overcome the inadequacies of official crime statistics. Sivarajasingam and Shepherd (1999) in evaluating the impact of CCTV on violent offending, also have demonstrated the usefulness of hospital emergency statistics. Their results suggested that police statistics provided only a limited picture of the impact of CCTV on assaults in two Welsh locations. Additionally, where a system has aims such as reducing littering, the statistics of infringement notices issued would be a likely measure.

#### 8.3 Summary

Evaluation should be a crucial element in the development, planning and ongoing operation of any open-street CCTV program. For local councils it is important that an appropriate evaluation framework be established at an early stage, and that the relevant data collection begin prior to the installation of the system. It is also important that there be continuity of data collection, as this will assist longitudinal evaluation. It is also desirable that future evaluations be conducted independently and that results be readily available to the public. There are at least thirteen independently conducted and publicly available evaluations in the UK (Coleman & Norris 2000: 165). In Australia to date there are only two. Moreover, it should not be a requirement for public release that an evaluation be unreservedly positive.

However it must be acknowledged that independent evaluation can be an expensive undertaking for local governments. In the face of limited resources, local governments may need to specify particular aspects of CCTV for evaluation, such as public awareness or police response times. For more extensive evaluations, State governments might consider at least partial funding of open-street CCTV evaluation. The publishing of independent evaluations will result in a much needed accumulation of knowledge as to the relative effectiveness of CCTV in various Australian locations and the reasons why this is so.

## 9 CCTV: Future Trends & Research

Open-street CCTV systems have expanded remarkably in recent years, and there is little reason to assume that there will be any change in this trend. Relevant technology is decreasing in cost and improving in functionality, and CCTV continues to appeal to business and political interests as mechanism for improving local safety. As major systems already are established in capital cities in Australia (with the exception of Darwin) future expansion is likely to be in regional centres and suburban locations of major cities. Digital technology is also likely to become the industry standard within the foreseeable future. Two other trends are worthy of comment: the trend towards system integration and the potential use of pattern recognition software.

### 9.1 System Integration

System integration is likely to be a growing trend in Australian open-street CCTV. Possibilities include the integration of public and private CCTV systems, and the development of systems providing coverage of public and private space. Initially such developments are likely to involve integration of government surveillance systems – particularly of rail, roadway and public street cameras. There is already some move in this direction in a number of locations. Perth's CCTV system also includes vision from the Council's internal security cameras in car parks and in total incorporates some 250 cameras. The Adelaide Control Room receives vision from the rail system cameras of TransAdelaide in addition to those of the ACC camera system.

The attraction of system integration is that it produces economies of scale in terms of operating costs and facilitates communications between public and private systems. During interviews there was considerable enthusiasm for this possibility amongst system managers. This may signal a move towards what Norris and Armstrong term 'total panopticisation' (1999: 208).

## 9.2 Algorithmic Surveillance

The CCTV industry is increasingly developing and marketing automated systems for incident detection, number plate recognition and the recognition of individuals from pre-existing databases (Norris, Moran & Armstrong 1998: 257). With the convergence of telecommunications, photography and computing such systems are becoming feasible. The attractiveness of these developments is that they potentially allow for totally automated surveillance, thus reducing the presently substantial costs involved in human monitoring. Intelligent scene monitoring involves computer programs capable of monitoring a scene and detecting any changes to it. In Britain such technology is being developed for applications such as the monitoring of bank queues to detect likely hold-up scenarios and crowd situations to monitor for potential disorder (Norris, Moran & Armstrong 1998: 264).

Number plate recognition software is already developed and has proven effective in London's 'ring of steel' (Norris & Armstrong 1999: 215). Dedicated camera systems already are widely used to assess traffic flows on Australian roads, while several open-street CCTV systems in Australia also monitor

traffic. Linked with number plate recognition software such systems could potentially identify and track individual vehicles (Norris & Armstrong 1999: 216).

Facial recognition software is already in use in several Australian locations including Sydney Airport and Melbourne's Crown Casino. These programs use a facial image, measuring characteristics such as the distance between the eyes, length of nose, and shape of jaw to create a unique file. This file is then compared with other images held on file. The CSIRO has developed a facial recognition system, SQIS (System for Quick Image Search). Nevertheless it is generally agreed that the capacity of automated recognition systems to identify individuals in open-street environments is still some way from becoming feasible (Norris & Armstrong 1999: 216). The 'Mandrake' facial recognition system has been in place in Newham, London since November 1998. It is reported that 'reliable hits' are generated in 80% of cases, meaning that in the best-case scenario there is a one in five chance of false identification (Omega Foundation 2000: 58). The American Council for Civil Liberties reported even greater unreliability of Visionics Face-IT facial identification software used in the public space CCTV system in Tampa Florida (Stanley & Steinhardt 2002).

Nevertheless, while automated systems remain less than perfect, technological developments in this area are moving at a rapid pace and automated recognition systems are likely to be tested in open-street applications in Australia within the next five years.

## 9.3 Surveillance, Crime Control and Society

As noted, use of CCTV in open-street settings in Australia appears poised to expand. Increasingly also, CCTV systems will be integrated, with coverage ranging across public and private space. The ease of transmitting information may also facilitate centralised monitoring of systems across considerable distances. The precise impact upon CCTV has upon crime in particular locations requires more thorough research. Despite ambiguous findings, many local councils remain enthusiastic about CCTV, although few view it simplistically as a panacea. Future research in Australia may well prove that CCTV can be effective in reducing the incidence of some types of offending. However it remains to be established in what locations and under what conditions CCTV will prove most effective. Imperfect knowledge about the effects of CCTV does not justify jettisoning this approach altogether – particularly when one considers that in the absence of such systems ordinary consumers may be even more inclined to abandon street shopping in favour of the climate-controlled, totally surveilled 'security' of private shopping malls. Current evidence suggests that systems that undertake active monitoring and have been able to develop efficient cooperation between camera operators and local police have secured the most promising results. Rigorous independent evaluations and research will assist in clarifying the picture.

CCTV remains a controversial crime prevention measure however, as it has considerable social ramifications. The assertion that CCTV can enhance 'public safety' is plausible enough. It is quite

<sup>&</sup>lt;sup>13</sup> www.tip.csir<u>o.au/Services/SmartSensing/FaceRecognition1.htm</u> (accessed 19 April 2002)

conceivable that many walking the city streets find this constant observation reassuring. But as sociologist David Lyon maintains, surveillance has two faces (2001: 3-4). If CCTV eliminates risk and danger it also interrogates, controls and marginalizes. CCTV can be a tool that sharpens social and economic divisions: one that disciplines and constrains. In this way CCTV is a microcosm of the cultural contradictions of late modernity. In societies that seem inherently risky and unstable – where social and economic relations are free floating and contingent – there is a corresponding impulse to control, segregate, fortify and exclude (Garland 2001: 194). Public surveillance is directed at one of the central dilemmas of our society: how to maintain the free-play of market forces while simultaneously governing and controlling social risk. CCTV is intertwined with the march of a global economy that has transformed our urban centres into 'brands' and sites of consumption (Bannister, Fyfe & Kearns 1998). The mission of CCTV is to ensure that streets remain comfortable, relatively risk-free environments.

The price to be payed for alleviation of risk can be that difference is erased, and sections of local communities are unfairly excluded from public spaces. If CCTV provides a sense of safety and security to some, it might also be amplifying the discrimination and exclusion experienced by others. One study in the UK found camera operators disproportionately focused on subjects who were young, black and working-class (Norris & Armstrong 1999: 150). More research is required in the Australian context to ascertain whether similar patterns are being replicated. There also needs to be greater discussion about how such negative overall outcomes might be avoided. It is important to consider how CCTV might be ethically, as well as efficiently, operated.

Objections to public surveillance have tended to rely on arguments based on the perceived need to protect individual privacy. Perhaps this is so, but privacy is a nebulous concept and arguments based upon it provide an inadequate language for discussing mass public surveillance. Privacy reduces a social phenomenon to the level of the individual (Stadler 2002). Any public discussions of public CCTV surveillance must therefore acknowledge that it is above all a social, rather than an individual, concern. To discuss the social consequences of CCTV is not to suggest that it should not form a part of community safety initiatives in Australian cities and towns. It is, however, to suggest that CCTV can impact not only on crime but on the social configuration of Australian public spaces. The benefits and drawbacks of CCTV should therefore be subject to close scrutiny and assessment, informing a broader community discussion as to its desirability.

If CCTV has attracted limited public discussion in Australia it has attracted the interest of law reformers. The detailed report prepared by the New South Wales Law Reform Commission (2001), and that prepared by the Victorian Law Reform Commission (2001), suggest that some form of legislative control over CCTV in public areas is likely in these jurisdictions.

#### 9.4 Future Research

This report has suggested a number of areas that may warrant further research. There is an obvious need for more independent and rigorous evaluations of CCTV systems. Included within these evaluations might be more research into public perceptions of CCTV's effectiveness in particular locations. There has been a dearth of research in Australia into public attitudes towards CCTV. Most studies have been concerned to assess levels of awareness and opinions of effectiveness. Less research has been conducted to ascertain what reservations or opinions communities may have about CCTV. Surveys and focus groups involving members of the public might also unlock another factor related to CCTV – the degree to which CCTV affects the behaviour of the public in relation to their preparedness to intervene in incidents and their propensity to report offences to the police. As well as members of the public, studies of offenders' perspectives would also provide valuable insights.

Norris and Armstrong's (1999) work also provides a model for future studies of the decision-making processes involved in CCTV and how the decision to target individuals is formed by operators. Detailed control room fieldwork in Australia would prove a valuable addition to existing scholarship. Comparative studies in this direction would be of particular interest.

Related to control room fieldwork is the need for more detailed research on the interaction between open-street CCTV and police practice. Research into how CCTV can impact upon the allocation of police resources and the response to incidents would be valuable. It would also be useful to conduct research on the impact of CCTV evidence on offenders' pleas and on the use of CCTV footage in court proceedings and its outcomes. There have been many anecdotal assertions in this area, but little empirical investigation.

It is to be hoped that a greater body of serious scholarship on CCTV in Australia will emerge as its significance as a development in crime prevention becomes more widely recognised by criminologists.

# **Interview Codes**

Interview Codes are prefixed OSP (Open Street Project). Recordings of interviews are held in the Department of Criminology, University of Melbourne.

OSP I#01	Senior Project Officer, Adelaide City Council
OSP I#04	Senior Officer, SAPOL
OSP I#05	System Manager, Hobart City Council
OSP I#06	Officer, Tasmania Police
OSP I#07	System Manager, Ipswich City Council
OSP I#08	System Manager, City of Logan
OSP I#09	Officers, Queensland Police Service
OSP I#10	Senior Program Officer, Brisbane City Council
OSP I#11	Manager, City Malls, Brisbane City Council
OSP I#12	CCTV System Manager, Gold Coast City Council
OSP I#13	CCTV Manager, Townsville City Council
OSP I#14	General Manager, Newcastle Alliance
OSP I#16	Section Manager, Safe City and Homelessness Strategy, City of Sydney
OSP I#17	System Manager, Sutherland Shire Council
OSP I#18	System Manager, Fairfield City Council
OSP I#19	Senior Officer, New South Wales Police Service
OSP I#20	Senior Officer, New South Wales Police Service
OSP I#21	Senior Officer, New South Wales Police Service
OSP I#23	System Manager, Rockhampton City Council
OSP I#24	Security Officer, System Manager & General Manager, Compliance Services, City of
	Perth
OSP I#25	Senior Officer/Officer, WA Police
OSP I#26	Security Camera System Technical Officer, Toowoomba City Council
OSP I#27	Senior Policy Officer, City of Melbourne
OSP I#28	System Manager, City of Greater Bendigo
OSP I#29	Senior Officer, Australian Federal Police
OSP I#30	Officer, Victoria Police
OSP I#31	Senior Officer, Tasmania Police
OSP I#32	System Manager, Cairns City Council
OSP I#33	System Manager, Lismore City Council
OSP I#34	Technology Projects Officer, SAPOL

## **Bibliography**

ACT Attorney General 2001, 'Stanhope's civil liberty approach will backfire on him: Stefaniak', Media Release, 28/03/01 <a href="http://www.act.gov.au/mediareleases/media/deleted/Privacy\_Bill.doc">http://www.act.gov.au/mediareleases/media/deleted/Privacy\_Bill.doc</a> (accessed 10 April 2002)

Adams, J. 1996, 'Privacy: Security surveillance versus civil rights', *Security Australia*, 16/4, May, pp. 24-28.

Adams, J. 1997, 'Video surveillance: Legislation or not?', Security Australia, 17/7, August, pp. 28-34.

Armitage, R., Smyth, G. & Pease, K. 1999, 'Burnley CCTV Evaluation', in K. Painter & N. Tilley (eds.), *Surveillance of Public Space: CCTV, Street Lighting and Crime Prevention*, Crime Prevention Studies vol. 10, Monsey, NY: Criminal Justice Press.

ARTD Management and Research Consultants 2001, Evaluation of the NSW Government Policy Statement and Guidelines for Closed Circuit Television (CCTV) in Public Places – Final Report, Crime Prevention Division, NSW Attorney-General's Department: Sydney <a href="http://www.agd.nsw.gov.au/cpd.nsf">http://www.agd.nsw.gov.au/cpd.nsf</a> (accessed 10 June 2002)

Ballarat City Council 2002, Council Meeting 22 May 2002 – Agenda Item C621/02 Security Cameras, 22 May.

Bannister, J., Fyfe, N and Kearns, A 1998, 'Closed circuit television and the city' in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Barr, R. and Pease, K. 1990, 'Crime Placement, Displacement and Deflection' in M. Tonry and N. Morris (eds.) *Crime and Justice: A Review of Research*, vol. 12, Chicago: University of Chicago.

Beck, U. 1992, Risk Society: Towards a New Modernity, London: Sage.

Berry, G. & Carter, M. 1992, *Assessing Crime Prevention Initiatives: The first steps*, Crime Prevention Unit Series Paper 31, London: Home Office.

Brooks, D. & Smith, C. 2002, 'Public Street Surveillance: A psychometric study on the perceived social risk', unpublished paper.

Brown, B. 1995, *CCTV in Town Centres: Three Case Studies*, Home Office Police Research Group Crime and Detection Series: Paper No. 68, London: Home Office.

Brown, S. 1998, 'What's the problem, girls? CCTV and the gendering of public safety', in C. Norris, J. Moran and G. Armstrong eds., *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Burrows, J. N. 1979, 'The Impact of Closed Circuit Television on crime in the London Underground', in P.Mayhew, R.G.V. Clarke, J.N. Burrows, J.M. Hough and S. W. C. Winchester, *Crime in Public View*, Home Office Research Study, No. 49, Ch. 3, London: Home Office.

Burrows, J.N. 1991, *Making Crime Prevention Pay: Initiatives from Business*, Crime Prevention Unit Paper 27, London: Home Office.

Burrows, Q. 1997, 'Scowl because you're on candid camera: Privacy and video surveillance', *Valparaiso University Law Review*, 31, Summer, pp. 1079-1139.

Clarke, R. (ed.) 1992, Situational Crime Prevention: Successful Case Studies, New York: Harrow and Heston.

Clarke, R & Weisburd, D. 1994, 'Diffusion of crime control benefits: Observations on the reverse of displacement' in R. Clarke (ed), *Crime Prevention Studies*, vol. 2, Monsey, NJ: Criminal Justice Press, pp. 165-83.

City of Adelaide 2001, The Principles and Operational Standards for the Closed-Circuit Television System in the City of Adelaide, Adelaide: City of Adelaide.

City of Melbourne 1996, Westend Project: An action plan for a vital area, Melbourne: City of Melbourne.

City of Melbourne 2000a, A Strategy for a Safe City 2000-2002, Melbourne: City of Melbourne.

City of Melbourne 2000b, Report on Safe City Cameras Program Evaluation to Environment, Community and Cultural Development Committee, 8 August, Agenda Item 5.7 www.aic.gov.au/research/localgovt/vic/melbourne/scc.evaluation.pdf (accessed 19 July 2002).

City of Melbourne Safe City Cameras Audit Committee 2002, Safe City Cameras Audit Report for the Period 1/12/2000-30/11/2001, Melbourne: City of Melbourne.

City of Sydney 2001a, Safe City 1998-2001, Sydney: City of Sydney.

City of Sydney 2001b, Street Safety Camera Program Code of Practice April 2001, Sydney: City of Sydney.

City of Perth 2000a, Closed Circuit TV Information Kit, Perth: City of Perth.

City of Perth 2000b, Safety and Security Action Plan 2000-2004, Perth: City of Perth.

Civic Safety Camera System Audit Committee 2001, Civic Safety Camera System Audit Committee Report (22 May 2001-30 November 2001), December, Canberra: CSCSAC.

Coleman, C. & Norris, C. 2000, Introducing criminology, Cullompton: Willan Publishing.

Coleman, R. & Sim, J. 1998, 'From the Dockyards to the Disney Store: Surveillance, Risk and Security in Liverpool City Centre', *International Review of Law, Computers and Technology*, 12/1, pp. 27-45.

Coleman, R. & Sim, J. 2000, 'You'll never walk alone': CCTV surveillance, order and neo-liberal rule in Liverpool city centre', *British Journal of Sociology*, 51/4, pp. 623-639.

Coumarelos, C. 2001, *An Evaluation of the Safe City Strategy in Central Sydney*, Sydney: New South Wales Bureau of Crime Statistics and Research.

Crane, P. & Dee, M. 2001, 'Young People, Public Space and New Urbanism', *Youth Studies Australia*, 20/1, pp. 11-18.

Crang, M. 1996, 'Watching the city: video, surveillance and resistance', *Environment and Planning A*, 28/12, pp. 2099-2104.

Crime Prevention Division, New South Wales Attorney General's Department 2000, NSW Government policy statement and guidelines for the establishment and implementation of closed circuit television (CCTV) in public places, Sydney: Attorney General's Department.

Crime Prevention News 2001, 'CCTV increasingly being used to prevent, detect crime', 28, July, Crime Prevention Unit, NZ Ministry of Justice, pp. 4-5

Data Protection Commissioner UK 2000, CCTV Code of Practice, London: The Stationary Office.

Davis, M 1990, City of Quartz: Excavating the Future in Los Angeles, London: Verso.

Davies, S.G. 1998, 'CCTV: a new battleground for privacy', in C. Norris, J. Moran and G. Armstrong eds., *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Davies, S. 1996a, 'The Case Against: CCTV Should Not be Introduced', *International Journal of Risk, Security and Crime Prevention*, 1/4, pp. 327-31.

Davies, S. 1996b, *Big Brother: Britain's Web of Surveillance and the New Technological Order*, London: Pan Books.

Davies, S. 1995, 'Surveillance on the streets', Privacy Law & Policy Reporter, 2/2, May, pp. 24-26.

Dees, M. 2000, 'The Use of CCTV to Police Young People in Public Spaces — A Case of Big Brother or Big Friend', Paper presented to the 27<sup>TH</sup> International Conference on Making Cities Livable, Vienna, Austria, July 2000 http://www.yspace.net

Ditton, J. 2000, 'Crime and the City: Public Attitudes towards Open-Street CCTV in Glasgow', *British Journal of Criminology*, 40/4, pp. 692-709.

Ditton, J., Short, E., Phillips, S., Norris, C. and Armstrong, G. 1999, *The effect of closed circuit television cameras on recorded crime rates and public concern about crime in Glasgow*, Edinburgh: The Scottish Office Central Research Unit.

Ditton, J. 1999, 'What do Glaswegians think of their city centre CCTV cameras?', *CCTV Today*, 6/6, pp. 15-19.

Ditton, J. 1998, 'Public Support for town centre CCTV schemes: myth or reality?' in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Ditton J. & Short E. 1999, 'Yes it works, No, it doesn't: Comparing the effects of open-street CCTV in two adjacent Scottish town centres', in K. Painter & N. Tilley (eds.), *Surveillance of Public Space: CCTV, Street Lighting and Crime Prevention*, Monsey, NY: Criminal Justice Press.

Ditton, J. & Short, E. 1998, 'Evaluating Scotland's first town centre CCTV scheme' in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Dixon, D. & Maher, L. 2002, 'Anh Hai: Policing, Culture and Social Exclusion in a Street Heroin Market', *Policing and Society*, 12/2, pp. 93-110.

Dolahenty, A. 1999, 'CCTV', Security Australia, 19/3, April, pp. 16-17.

Dubbo City Council 2002, Safety Camera Operations Manual, Dubbo: Dubbo City Council.

Eck, J. 1993, 'The Threat of Crime Displacement', Criminal Justice Abstracts, 25/3, pp. 527-46.

Elliott, D. 1998, 'Video Tape Evidence: The Risk of Over-Persuasion', *Criminal Law Review*, pp. 159-174

Fairfield City Council 2001, Fairfield City Council TownSafe Programme, November, Fairfield City Council: Fairfield.

Fairfield City Council 2002, Cabramatta TownSafe 5 Year Review, February, Fairfield City Council: Fairfield.

Fay, S. 1998, 'Tough on Crime, Tough on Civil Liberties: Some Negative Aspects of Britain's Wholesale Adoption of CCTV Surveillance During the 1990s', *International Review of Law, Computers and Technology*, 12/2, pp. 315-347.

Feely, M. & Simon, J. 1994, 'Actuarial Justice: The Emerging New Criminal Law', in D. Nelken (ed.), *The Futures of Criminology*, London: Sage.

Flaherty, D. 1998, Video surveillance by public bodies: a discussion, Victoria BC: Information and Privacy Commissioner.

French, P. 1996, 'Inside the Offenders Mind', CCTV Today, 3/3, pp. 16-19.

Fox, R. 2001, 'Someone to watch over us: Back to the panopticon?', *Criminal Justice*, 1/3, August, pp. 251-275...

Fyfe, N. and Bannister, J. 1996, 'City Watching: closed circuit television surveillance in public spaces', *Area*, 28/1, pp. 37-46.

Gabor, T. 1990, 'Crime Displacement and Situational Prevention: Towards the Development of Some Principles', *Canadian Journal of Criminology*, 32/1, January, pp. 41-73.

Garland, D. 2001, *The Culture of Control: Crime and Social Order in Contemporary Society*, Oxford: Oxford University Press.

Gauteng News 2001, 'CCTV chases criminals out of the inner city', December. <a href="http://www.gpg.gov.za/publications/2001/december/08.html">http://www.gpg.gov.za/publications/2001/december/08.html</a> accessed 4 April 2002.

Gallagher, H. 1997, '1984/1997', Australian Lawyer, 32/8, September, pp. 4-5.

Giddens, A. 1990, The Consequences of Modernity, Cambridge: Polity Press.

Gill, M. and Turbin, V. 1998, 'CCTV and shop theft: towards a realistic evaluation' in C. Norris, J. Moran and G. Armstrong eds., *Surveillance, Closed Circuit Television and Social Control*, Aldershot, Ashgate.

Gilling, D. 1997, Crime Prevention: Theory, policy and politics, London: UCL Press.

Glanz, L & Nacerodien, F 1997, *An assessment of closed circuit television surveillance with reference to the Benoni project*, Occasional Paper No. 1, Secretariat for Safety and Security: SA Government <a href="http://www.gcis.gov.za/sss/cctv.htm">http://www.gcis.gov.za/sss/cctv.htm</a> (accessed 19 April 2002)

Grabosky, P 1998, 'Technology and Crime Control', *Trends and Issues in Criminal Justice No.* 78, Canberra: Australian Institute of Criminology.

Graham, S., Brooks, J. and Heery, D. 1996, 'Towns on Television: Closed circuit TV in British towns and cities', *Local Government Studies*, 22/3, pp. 3-27.

Graham, S. 1998, 'Toward the fifth utility? On the extension and normalisation of public CCTV' in C. Norris, J. Moran and G. Armstrong eds., *Surveillance, Closed Circuit Television and Social Control*, Aldershot, Ashgate.

Graham, S. 1999, 'The eyes have it: CCTV as the "fifth utility", *Environment and Planning B: Planning and Design*, 26/5, pp. 639-642.

Graham, S. 1999, 'The eyes have it — CCTV as the "fifth utility", *Town and Country Planning*, 68/10, October, pp. 312-314.

Granholm, J. 1987, 'Video Surveillance on Public Streets: The Constitutionality of Invisible Citizen Searches', *University of Detroit Law Review*, 64.

Hale, C. 1996, 'Fear of Crime: A Review of the Literature', *International Review of Victimology*, 4, pp. 79-150.

Hancox, P.D. and Morgan, J.B. 1975, 'The Use of CCTV for Police Control at Football Matches', *Police Research Bulletin*, 25, pp. 41-44.

Hempel, L. and Töpfer, E. 2002, *Inception Report*, Working Paper No.1, Urbaneye, Berlin, www.urbaneye.net

Hillier, J. 1997, 'See you in the City: Who is watching whom, and why?', *Arena Magazine*, 28, April/May, pp. 38-39.

Homel, R., Hauritz, M., Wortley, R., McIlwain, G. & Carvolth, R. 1997, 'Preventing Alcohol-Related Crime Through Community Action: The Surfers Paradise Safety Action Project', in R. Homel (ed), *Policing for prevention: reducing crime, public intoxication and injury*, Crime Prevention Studies, vol. 7, Monsey, NY: Criminal Justice Press.

Honess, T. and Charman, E. 1992, *Closed Circuit Television in Public Places: Its Acceptability and Perceived Effectiveness*, Home Office Police Research Group Crime Prevention Unit Series: Paper No. 35, London: Home Office.

House of Lords 1998, *Select Committee on Science and Technology: Fifth Report*, London: The Stationary Office.

Hsu, S. 2002, 'Police propose rules for video surveillance in the District', *Washington Post*, 10 April, p. B01, <a href="https://www.washingtonpost.com/wp-dyn/articles/A22588-2002Apr9.html">www.washingtonpost.com/wp-dyn/articles/A22588-2002Apr9.html</a> (accessed 12 April 2002).

Isnard, A. 2001, 'Can Surveillance Cameras Be Successful in Preventing Crime and Controlling Anti-Social Behaviour', International Youth & Public Space Network: <a href="http://www.yspace.net">http://www.yspace.net</a>

Johnston, D. 1999, 'Bracks eye on crime', Herald Sun, 7 April, p. 15.

Kitchin, H. 1996, *A Watching Brief: A Code of Practice for CCTV*, London: Local Government Information Unit.

La Forest, G. 2002, 'Opinion – Video Surveillance', 5 April. <a href="www.privcom.gc.ca/media/nr-c/opinion">www.privcom.gc.ca/media/nr-c/opinion</a> 020410 e.asp (accessed 7 August 2002).

Lash, S. & Urry, J. 1994, Economies of Signs and Space, London: Sage.

Laycock, G. 1985, *Property Marking: A deterrent to domestic burglary?*, Crime Prevention Unit Series Paper 3, London: Home Office.

Legislative Assembly of the Australian Capital Territory (LAACT) 1996, 'The Electronic Eye'- Inquiry into the Efficacy of Surveillance Cameras, Report No. 2, Standing Committee on Legal Affairs.

Lismore City Council 2001, City Safe Camera Program Code of Practice, Lismore: Lismore City Council.

Local Government Information Unit (LGIU) 1994, *Candid Cameras: A report on closed circuit television*, London: Local Government Information Unit.

Love, B. 2000, 'Has digital CCTV technology come into its own?', *Security Australia*, 20/9, October, pp. 21-22.

Lyon, D. 1994, The Electronic Eye: The Rise of the Surveillance Society, Cambridge: Polity Press.

Lyon, D and Zuriek, E. 1996, 'Surveillance, Privacy and the New Technology', in D. Lyon and E. Zuriek (eds.), *Computers, Surveillance and Privacy*, Minneapolis: University of Minnesota Press.

Lyon, D. 2001a, Surveillance Society: Monitoring Everyday Life, Milton Keynes: Open University Press.

Lyon, D. 2001b, 'Surveillance after September 11', *Sociological Research Online*, 6/3, www.socresonline.org.uk/6/3/lyon.html (accessed 11 August 2002).

McCahill, M. 2002, *The Surveillance Web: The rise of visual surveillance in an English city*, Cullompton: Willan.

McCahill, M. & Norris, C. 2002a, *Literature Review*, Working Paper No. 2, URBANEYE project, www.urbaneye.net

McCahill, M. & Norris, C. 2002b, *CCTV in Britain*, Working Paper No. 3, URBANEYE project, www.urbaneye.net

Maguire, M. 1998, 'Restraining Big Brother? The regulation of surveillance in England and Wales' in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Manly Council 2000, *Manly Crime Prevention Plan Part 1*, <a href="http://www.lawlink.nsw.gov.au/cpd.nsf/pages/cpplans\_manly1">http://www.lawlink.nsw.gov.au/cpd.nsf/pages/cpplans\_manly1</a> (accessed 17 June 2002).

Martin, C. 2000, 'Crime and Control in Australian Urban Space', *Current Issues in Criminal Justice*, 12/1, July, pp. 79-92.

Martin, C. & Stubbs, J. 2001, 'Neither Panopticon nor panacea: differing meanings of CCTV surveillance in Sydney', unpublished conference paper delivered at 15<sup>th</sup> Annual Conference of Australian and New Zealand Society of Criminology, University of Melbourne.

Mazerolle, L., Hurley, D. & Chamlin, M. 2002, 'Social Behaviour in Public Space: An Analysis of Behavioural Adaptations to CCTV', *Security Journal*, 15/3, pp. 59-75.

Meijer, B. 2000, *Cameratoezicht in het publieke domein in EU-landen*, Hague: Netherlands Department of Justice.

Miller, C. 1999, 'Facial Recognition Technology, Video Surveillance and Privacy', *Southern California Interdisciplinary Law Journal*, 9, Winter, pp. 295-333.

Murphy, T. 1999, 'The Admissibility of CCTV Evidence in Criminal Proceedings', *International Review of Law, Computers and Technology*, 13/3, pp. 383-404.

Musheno, M.C., Levine, J. P. and Palumbo, D.J. 1978, 'Television Surveillance and Crime Prevention: Evaluating an Attempt to Create Defensible Space in Public Housing', *Social Science Quarterly*, 58, 4, pp. 647-56.

Nelson, A. 1997, 'Public perceptions of the electronic eye', *Town and Country Planning*, 66/7&8, July/August, pp. 196-97.

New South Wales Law Reform Commission 1997, Surveillance: Issues Paper 12, Sydney: New South Wales Law Reform Commission

New South Wales Law Reform Commission 2001, *Surveillance: an interim report*, Report 98, Sydney: New South Wales Law Reform Commission.

New South Wales Police Service (NSWPS) 2002, NSW Police Service Policy on the Development and Use of CCTV, Sydney: NSWPS Policy and Development Branch.

New Zealand Police 2002, *Crime Prevention Cameras (CCTV) in Public Places*, Policy 2002/1, www.police.gov.nz (accessed 26 June 2002)

Nieto, M. 1997, *Public Video Surveillance: Is it an Effective Crime Prevention Tool?*, Sacramento: California Research Library.

Nieto, M., Johnston-Dodds, K., & Simmons, C. 2002, *Public and Private Applications of Video Surveillance and Biometric Technologies*, Sacramento: California Research Library. <a href="https://www.library.ca.gov/crb/02/06/02-006.pdf">www.library.ca.gov/crb/02/06/02-006.pdf</a> (accessed 7 August 2002)

Norris, C. and Armstrong, G. 1999, *The Maximum Surveillance Society: The Rise of CCTV*, Oxford: Berg.

Norris, C., Moran, J. and Armstrong G. 1998, 'Algorithmic surveillance: the future of automated surveillance' in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate

Northern Territory News 2001, 'Spy cameras to beat city crime: city "spy cam" plan', 11 May p. 1.

O'Malley, P. 1994, 'Neo-Liberal Crime Control—Political Agendas and the Future of Crime Prevention in Australia' in D. Chappell and P. Wilson (eds.), *The Australian Criminal Justice System: The Mid 1990s*, Sydney: Butterworths.

O'Malley, P. and Sutton, A. 1997, *Crime Prevention in Australia: Issues in Policy and Research*, Sydney: Federation Press.

Oc, T. & Tiesdell, S. 2000, 'Urban design approaches to safer city centres: the fortress, the panoptic, the regulatory and the animated', in J. Gold & G. Devill (eds.), *Landscapes of Defence*, Harlow: Prentice Hall.

Omega Foundation 2000, Crowd Control Technologies: An appraisal of technologies for political control, Final Study, PE 168.394/FinSt, Luxembourg: European Parliament.

Pacom no date, Guide to CCTV, Sydney: Pacom.

Palmary, I. 2001, *Social Crime Prevention in South Africa's Major Cities*, Johannesburg: Centre for the Study of Violence and Reconciliation <a href="http://www.csvr.org.za/papers/papalm2.htm">http://www.csvr.org.za/papers/papalm2.htm</a> Accessed 19 April 2002.

Palmer, A. 1998, Principles of Evidence, Sydney: Cavendish Publishing.

Parliament of Victoria Drugs and Crime Prevention Committee 2001, Reporting Crime in the Melbourne CBD, Melbourne: DCPC.

Pawson, R. & Tilley, N. 1994, 'What works in evaluation research?', *British Journal of Criminology*, 34/3, Summer, pp. 291-306.

Pawson, R. & Tilley, N. 1997, Realistic Evaluation, London: Sage.

Pease, K. 1997, 'Crime Prevention', in M. Maguire, R. Morgan & R. Reiner (eds.), *The Oxford Handbook of Criminology*, Oxford: Oxford University Press.

Phillips, C. 1999, 'A review of CCTV evaluations: crime reduction effects and attitudes towards its use' in K. Painter & N. Tilley (eds.), *Surveillance of Public Space: CCTV, Street Lighting and Crime Prevention*, Crime Prevention Studies vol. 10, Monsey, NY: Criminal Justice Press.

Poyner, B. 1988, 'Video Cameras and Bus Vandalism', *Journal of Security Administration*, 11, pp. 44-51

Poyner, B. 1991, 'Situational Crime Prevention in Two Parking Facilities', *Security Journal*, 2, pp. 96-101.

Privacy International 1999, 'Privacy International Report on Singapore 1999', <a href="https://www.sfdonline.org/Link%20/Link%20Folders/Human%20Rights/privacy.html">www.sfdonline.org/Link%20/Link%20Folders/Human%20Rights/privacy.html</a> (accessed 31 August 2002).

Queensland Department of Local Government and Planning (QDLGP) 2002, *Security Improvement Program (SIP) Operational Guidelines*, Department of Local Government and Planning: Brisbane.

Queens University Surveillance Project 2002, 'Surveillance and Social Ordering in Global Information Societies, Progress Report May',

http://qsilver.queensu.ca/sociology/Surveillance/surveillance report.htm (accessed 11 August 2002).

Reeve, A. 1998, 'The Panopticisation of Shopping: CCTV and Leisure Consumption', in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Repetto, T. 1976, 'Crime Prevention and the Displacement Phenomenon', *Crime and Delinquency*, 22, pp. 166-177.

Security Park 2001, 'Space-age surveillance comes to Newham', 1 November, <a href="https://www.securitypark.co.uk/pfv.asp?articleid=1832">www.securitypark.co.uk/pfv.asp?articleid=1832</a> (accessed 16 September 2002).

Skinns, D. 1998, 'Crime reduction, diffusion and displacement: evaluating the effectiveness of CCTV' in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Sher, S. 1996, 'Continuous Video Surveillance and its Legal Consequences', *Public Law Research Institute (University of California, Hastings) Working Papers Series*, Fall 1996-01. <a href="https://www.uchastings.edu/plri/96-97tex/video.htm">www.uchastings.edu/plri/96-97tex/video.htm</a> (accessed 14 April 2002).

Short, E. and Ditton, J. 1998, 'Seen and Now Heard: Talking to the Targets of Open Street CCTV', *British Journal of Criminology*, 38/3, Summer, pp. 404-428.

Short, E. and Ditton, J. 1996, *Does Closed Circuit Television Prevent Crime? An evaluation of the use of CCTV surveillance cameras in Airdrie Town Centre*, Edinburgh: The Scottish Central Research Unit.

Sivarajasingam, V. & Shepherd, J. 1999, 'Effects of closed circuit television on urban violence', *Journal of Accident and Emergency Medicine*, 16, pp. 255-257.

Spooner, P. 2001, 'Moving in the wrong direction: an analysis of police move-on powers in Queensland', *Youth Studies Australia*, 20/1, 27-31.

Swinbourne, K. 2001, Research Report: Five year review of closed circuit television cameras in Cabramatta & Canley Vale, Sutherland: Sutherland Shire Council.

Stalder, F. 2002, 'Privacy is not the antidote to surveillance', *Surveillance and Society*, 1/1: 120-124, <a href="https://www.surveillance-and-society.org">www.surveillance-and-society.org</a>

Stanley, J. & Steinhardt, B. 2002, *Drawing a Blank: The failure of facial recognition technology in Tampa, Florida*, Washington DC: ACLU.

STOA 1998, *An appraisal of the technologies of political control – Interim Study Executive Summary*, Luxembourg: European Parliament, <a href="www.europarl.eu.int/stoa/publi/166499/execsum\_en.htm">www.europarl.eu.int/stoa/publi/166499/execsum\_en.htm</a> (accessed 18June 2002).

Sutherland Shire Council 2001, Closed Circuit Television in Cronulla: Information Sheet.

Sutton, A. 1994, 'Crime Prevention: Promise or Threat?', *Australian and New Zealand Journal of Criminology*, 27, pp. 5-20.

Tilley, N. 1993, *Understanding Car Parks, Crime and CCTV: Evaluation Lessons from Safer Cities*, Crime Prevention Unit Paper No. 42, London: Home Office.

Tilley, N. 1997, 'Whys and wherefores in evaluating the effectiveness of CCTV', *International Journal of Risk, Security and Crime Prevention*, 2/3.

Tilley, N. 1998, 'Evaluating the effectiveness of CCTV schemes' in C. Norris, J. Moran and G. Armstrong (eds.), *Surveillance, Closed Circuit Television and Social Control*, Aldershot: Ashgate.

Van Straelen, F. 1978, 'Prevention and Technology', in J. Brown (ed.), *Cranfield Papers*, London: Peel Press.

Victorian Law Reform Commission 2001, *Privacy Law: Options for Reform*, Melbourne: Victorian Law Reform Commission.

Walton, G. 2001, *China's Golden Shield: Corporations and the Development of Surveillance Technology in the People's Republic of China*, International Centre for Human Rights and Democratic Development, <a href="www.ichrdd.ca/english/commdoc/publications/goldenShieldEng.html">www.ichrdd.ca/english/commdoc/publications/goldenShieldEng.html</a> (accessed 17 August 2002).

Waverly City Council 2001, 'Closed Circuit Television Surveillance Camera – Bondi Junction Report 812-5', 10 July.

www.waverly.nsw.gov.au/council/meetings/2001Minutes/0107/CouncilReports/13\_1.htm (accessed 3 April 2002)

Waters, N. 1996, 'Street surveillance and privacy', *Privacy Law & Policy Reporter*, 3/3, July, pp. 48-51

Waters, N. 1996a, 'Visual surveillance update', Privacy Law & Policy Reporter, 3/5, August, p. 95.

Webb, B. & Laycock, G. 1991, *Reducing Crime on the London Underground: An evaluation of three pilot projects*, Crime Prevention Unit Series Paper 30, London: Home Office.

Weekend Liberal 2002, 'Coalition yet to decide on camera cash', 20 July, p. 3.

Welsh, B. & Farrington, D. 2002, *Crime Prevention effects of closed circuit television: a systematic review*, Home Office Research Study 252, London: Home Office Research, Development and Statistics Directorate.

White, R. & Sutton, A. 1995, 'Crime prevention, urban space and social exclusion', *Australian and New Zealand Journal of Sociology*, 31, 1, pp. 82-99.

Wiecek, C. & Saetnan, A. 2002, Restrictive? Permissive? The Contradictory framing of Video Surveillance in Norway and Denmark, Working Paper No. 4,URBANEYE project, <a href="https://www.urbaneye.net">www.urbaneye.net</a>

Williams, P. & Dickinson, J. 1993, 'Fear of Crime: Read all about it? The relationship between Newspaper Crime Reporting and Fear of Crime', *British Journal of Criminology*, 33/1, Winter, pp. 33-56.

Williams, K. & Johnstone, C. 2000, 'The politics of the selective gaze: Closed Circuit Television and the policing of public space', *Crime, Law and Social Change*, 34, pp. 183-210.

Wilson, J. & Kelling, G. 1982, 'Broken Windows: The police and neighbourhood safety', *Atlantic Monthly*, March, pp. 29-38.