Interconnections Between Technological and Policy Innovation: Re-evaluating the Evidence-Base Supporting the Provision of CCTV in the UK

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Abstract

This article critically examines developments in CCTV (Closed Circuit Television) policy and provision in the UK, with specific reference to the 'evidence-based' approach to policy-making and service provision. The main features of the CCTV revolutions are examined from a policy perspective, so that intertwined changes in purpose and technological configuration are illuminated. The underlying premise of evidence-based policy is that a robust and reliable evidence base exists and that this body of knowledge is used rationally to inform changes in policy and practice. However, in the case of CCTV, there are a range of issues associated with the evidence base which seem to contradict the logic of continued CCTV provision. In this article these issues are explored through what the author calls five CCTV fallacies. These fallacies raise important questions, not just about the ongoing provision of CCTV, but the nature of modern public policy making procedures.

1. Introduction

CCTV cameras are a key part of modern society, both in terms of their widespread presence in public places and also as a core part of community safety, policing and national security public policy. Despite the widespread use of such systems there are a number of issues central to the development of CCTV policy, which raise questions about the rationale of their continued provision and their perceived benefit to society. In this article the provision of CCTV is critically assessed in relation to the development of 'evidence-based' public policy and services under New Labour - which suggests that decisions about the allocation of scarce resources are determined by the existence of performance related measures and information, or 'evidence'. For CCTV, the evidence base is usually considered to be reductions in crime and the 'fear of crime', as measured by crime statistics. However, this evidence base is contested are there are doubts about the ability of CCTV to have the

impact on crime that many take for granted. Consequently, if CCTV cannot be justified in relation to its impact on crime then we have to ask important questions about the explanation for its introduction and continued use.

This article addresses these concerns by re-examining the emergence of CCTV policy and provision, and by reassessing the evidence base and the rationale behind the cameras. It is argued, that the emphasis on crime statistics can be considered a 'red herring', which does not fully explain the motivations behind, or the true beneficiaries of, CCTV. In the UK the evidence base is being debated, not in terms of the technologies effectiveness or impact, but because of the aging nature of existing CCTV systems, with many systems now in excess of ten years old, and the financial costs associated with their upkeep and replacement. The financial costs associated with upkeep is leading to many public agencies reassessing their provision and also the costs and benefits of their systems – especially when they are delivered by multiple agencies and where CCTV footage is used for multiple purposes. For public policy-makers and service providers it is apparent that the reassessment of the evidence base is as much about a redistribution of the costs of delivering CCTV as about its effectiveness and impact. This raises additional questions about the evidence base on which CCTV policy and practice is founded.

Central to the article is the assertion that a focus on *policy*, achieved by reassessing the evidence base surrounding CCTV policy and practice, highlights the interlinked nature of technological and policy innovation. In the case of CCTV, the provision of this innovative surveillance technology is dependant upon the development of innovative public policy, and policy processes which are supportive of this new technological 'application' despite, or regardless of, any concerns about the evidence base behind these systems. This represents a significant development for public policy as it suggests that for certain new technologies the evidence base can be shaped, manipulated or possibly even ignored, in order to realise technological implementation. This suggestion undermines our fundamental

assumptions about the importance of rationality in modern policy processes. Policy innovation in this scenario draws our attention to powerful forces in the policy-making process, forces that desire and ensure technological diffusion despite limited knowledge about their impact or consequences.

The remainder of the article is split into 7 main parts. Part 2 outlines some of the key features of CCTV provision in the UK. Parts 3 and 4 set out an explicit 'policy' approach to comprehending the emergence of CCTV. Part 3 presents a review of the emergence of a discreet CCTV policy in the UK and highlights linkages with changes in the pattern of CCTV diffusion. Part 4 explores the emergence of 'evidence-based policy', a key approach to policy-making in the UK following the election of New Labour in 1997. Part 5 critically examines the evidence-base surrounding CCTV through the exploration of a number of CCTV 'fallacies'. These fallacies raise significant questions about the evidence based supporting CCTV provision in the UK and about the rationality of modern public policy-making processes. Part 6 reassesses the usefulness of the CCTV evidence-base in the UK. Part 7 offers some concluding comments.

The article is based on the author's longstanding research in the area of CCTV policy processes. The analysis discussed in this article derives from ongoing policy and document collection and review. The empirical evidence which guides the commentary presented in the latter part of the article derives from interviews with CCTV policy-makers and service providers in Scotland, undertaken in autumn 2007. This research explored the development of CCTV policy and systems in public places and the key issues surrounding CCTV provision.

2. The CCTV Revolution

The rapid diffusion of CCTV in the UK has been recognised by many (see for example, the special issue on 'The politics of CCTV in Europe and beyond' of *Surveillance and Society*[1] [36]). Since the early 1990's CCTV has proliferated, especially in town and city centres [11, 13, 17, 30, 42], but also in residential and other public settings [39, 42]. They have been introduced for public safety, to assist in 'the fight against crime', and to deter and detect crime, disorder and antisocial behaviour, and help reduce the 'fear of crime'. In this respect CCTV has been very popular and has been supported by politicians, policy-makers and citizens. Consequently, and as a result of their popularity and perceived effectiveness CCTV provision has been further supported by political rhetoric and financial assistance from central government. The extent of the proliferation has led some commentators to argue that the UK is now the most surveyed country in the world [30] with an estimated five million CCTV cameras in operation [29]. Although the precise number of cameras can be debated the existence of the CCTV 'revolution' cannot, and the surveillance practices and relationships embedded in CCTV technology are today a key feature of modern society. CCTV is now ubiquitous, a normal part of everyday life, citizens willingly acquiesce as surveillance subjects, and seem quite happy to forgo some personal privacy in return for greater levels of personal safety and security.

One notable aspect of the way CCTV has diffused across society is the way in which CCTV systems have rapidly spread despite concerns about their impact on individuals and society. Issues that have arisen, include the perceived: effect on civil liberties and individuals privacy, individuals 'rights' freedom of movement and anonymity, changes in behaviour arising from intense levels of visual monitoring, citizen-state relations, and the effectiveness of new and untried technological systems. Together, these concerns raise significant questions about the rationale for widespread use of CCTV and the extent of rationality in the public policy-making process [42]. Nevertheless, the unequivocal support for CCTV, evidenced by the

[1] Surveillance and Society, URL: http://www.surveillance-and-society.org/ojs/index.php/journal

results of public satisfaction surveys [2, 8] and the overwhelming belief in the capabilities of the technology have remained intact and have overridden concerns about the extension of surveillance bases technologies.

The CCTV revolution can be understood from a number of different perspectives. Perhaps the simplest is as a technological revolution, where advances in new ICTs have enabled a configuration of camera, information and communication technologies into a useful surveillance tool. This perspective emphasises the technical specification and capabilities of systems and the actual number of systems in use. Linked to this perspective is the criminological perspective which sees CCTV as a crime prevention tool and part of the criminal justice and policing system. This perspective focuses on the effectiveness of CCTV in reducing and deterring crime and disorder, for making citizens feel safer, and for ensuring safety and security. Sociological perspectives tend to focus on aspects of control and power, and highlight changes in human behaviour and the nature of society arising from new surveillance based relationships, and the social construction of surveillance. These three perspectives, the technical, the criminological, and the sociological, dominate our thinking about CCTV. Yet there are other less prominent, but important, perspectives which offer interesting insights into the CCTV revolution. Lawyers focus on the evolution of legal constructs, such as data protection and privacy, and their relevance to new technological domains, whilst political scientists focus on the political setting of the revolution and government activity. Although all perspectives are valid they do not necessarily offer a comprehensive explanation for the CCTV revolution or the continuing support for CCTV technologies. An alternative is to take a *policy* perspective, this is illuminating because it highlights the complex interactions between government, policy-makers, the media, service providers and users, and technological and policy developments. Such an approach highlights the intertwined power relations and social interactions between different actors and institutions in the governance and public policy process and points to CCTV as an important social and policy construct and not just a technological artefact. Elsewhere, I have

described the development of CCTV policy and practice as a 'techno-policy diffusion process', where the diffusion of technological systems and policy have fused and evolved together [40]. This is pertinent for a new technology like CCTV as very little is known about its impacts or the consequences of its use. As a result, policy development and implementation evolve around a belief in what the technology 'will' achieve and not what it already has achieved. This article takes the policy perspective further by reconsidering the CCTV revolution in relation to the evolution of both CCTV policy and CCTV diffusion. This is achieved by assessing the emergence and development of CCTV policy and reconsidering CCTV policy and provision in light of 'evidenced-based' approaches to policy-making and service delivery that have dominated the public policy environment since the mid 1990's.

3. The Emergence of CCTV Policy in the UK

It is generally understood that policy can take a number of forms and does not necessarily rely on the existence of a formal written policy document. Policy can be a concerted direction of action, the coordinated deployment of resources, or just a statement of intended action [19, 20]. For CCTV, it is evident that the central Government funding programmes set up in the 1990's, allied to the publication of guidance documents and political rhetoric in favour of CCTV, signalled the emergence of CCTV as a distinct policy area. For some, the emergence of CCTV as a discreet policy field dominated the crime prevention policy environment to such an extent that in the late 1990's it was not part of a broader crime prevention policy, it was 'the' policy [18]. The growth of CCTV as a policy area culminated recently in the publication of a formal written document entitled the 'National CCTV Strategy' in 2007 [12].

Initially the emphasis of CCTV policy was crime prevention and detection, reducing citizens' perceived fear of crime, and protecting commercial interests. Over time, the policy has shifted, so that CCTV policy was also about reducing antisocial and undesirable behaviour. This has encouraged the provision of CCTV beyond town and city centres and into

residential and other public places. Most recently, following 9/11 and 7/7, the policy has shifted again, so that the emphasis is now also on national security and deterring terrorism. Allied to these policy shifts have been a series of technical changes which have altered the capabilities of CCTV systems. Advances in computerisation have enabled number plate, movement and facial recognition systems to be used alongside human operatives, and advances in communications have led to the integration and networking of previously separate systems. Recognising this policy shift is important as it demonstrates how a technology introduced for one purpose can actually shift and be used for another. This shift is often referred to as 'policy creep' and by surveillance theorists as 'surveillance creep' [27]. For CCTV the result is greater levels and intensities of surveillance as different surveillance purposes and activities have accumulated around and are embedded in technological systems. Cynics could argue the intention was always to have an integrated nationwide network of surveillance cameras, but that this initially would have been very unpopular, so the solution has been to carefully manage the policy process in a way that maintained public support at the same time as ensuring technological diffusion.

Interestingly, developments in CCTV policy can be mapped alongside developments in CCTV provision to show a co-evolution where policy and technology has evolve together over time. This demonstrates that policy and diffusion are closely intertwined processes. Perhaps this is not surprising, as it would be hard to imagine the diffusion of such a powerful surveillance technology without some form of national policy. Table 1 outlines three CCTV policy eras, chronologically they are: policy 'innovation and experimentation', policy 'acceptance and expansion' and 'retrenchment and centralisation'. The table shows that in each era the policy environment evolved, with a shift in policy focus and a shift in the emphasis of CCTV diffusion.

In the earliest era, the era of policy 'innovation and experimentation', the CCTV policy environment can be characterised by a desire by central Government to establish CCTV as

a viable policy option for crime prevention, and for the formation of a policy environment and society malleable to the provision of public surveillance. In this era small scale systems, operated by police forces or local authorities in town centres and car parks were established. At this stage it was not clear that the technology would be effective or whether public support would be forthcoming. The focus was therefore on testing potential systems, spreading the message about their benefits, and asserting the message that CCTV was an effective tool in the 'fight against crime'. Policy-makers in this era were experimenting, developing a new policy focus based completely on the perceived benefits of a new technology.

+++ Insert Table 1 here +++

In the following era, from the mid 1990's to the mid 2000's, CCTV proliferated into a wide range of public places. By now the dominant perception of CCTV was that it worked. This view was reinforced at every opportunity allowing the policy focus to extend from crime prevention to include the deterrence of antisocial and undesirable behaviour. Features of this era include extensive central Government funding and guidance, and local service provision and operation. Most public space CCTV is now owned, monitored and managed by local authorities, often in partnership with police forces and other key public agencies. A notable result of local provision is the emergence of multiple systems which are technically different and independent. In this era, CCTV became a local policy initiative and influential policy networks emerged around the technology as the policy area expanded and achieved national and local recognition.

From mid 2000 onwards, in the era of 'retrenchment and centralisation', CCTV policy and practice is well established, yet concerns start to emerge about the maintenance costs associated with CCTV. Typically, local authorises fund the operation and maintenance of CCTV and by mid 2000 many cameras were in need of replacement. Also, in this era there is a policy shift where the focus of provision shifts to address concerns with national security

and terrorism. So, not only is CCTV intended to meet crime prevention and community safety objectives, but also policy objectives associated with the prevention of terrorism, intelligence gathering and national security. This has led to a desire by central government for CCTV policy and practice to be standardised, with integrated and centrally controlled systems, so that intelligence collected via CCTV and so that images can reliably used as evidence in a court of law. By autumn 2007, the Home Office had published the 'National CCTV Strategy' [12] which outlines the role of CCTV in crime prevention, criminal justice and for the prevention of terrorism. It stresses the role played by CCTV in serious crime and terrorist incidents and argues that a more coordinated standardised approach to CCTV would make it 'more effective'. The main focus is to consolidate technical aspects of systems, to standardise procedures and technologies, and to create coordination. The core underlying theme of the strategy is a reflection of the piecemeal provision of CCTV up until this point and a desire by central government to use the technology for new anti-terrorism purposes. This has led to a reassessment of the technical capabilities and efficacy of systems and also the introduction new innovative computerised surveillance practices, such as facial and number plate recognition.

Deconstructing CCTV provision into three policy eras is interesting because as it illuminates the importance of the evolving policy environment for the ongoing provision of CCTV. It shows the motivation for CCTV emanated from central government, but that its provision could not be achieved without local service delivery, and that recent efforts to standardise and centralise technological provision are also to meet policy objectives emanating from central Government. It is clear then that the CCTV policy arena has been dominated by central Government. Throughout the eras CCTV has been a high profile policy. This may be because of shifts in policy and use, especially the new focus on national security and terrorism, which has dominated the political agenda, it may be because CCTV is simply a high profile technology and policy, or it may be because the continuing presence of the technology requires constant moral justification and support. Regardless of which

explanation is most robust it is unusual for a single policy to retain such a high profile over such a lengthy period. Traditional approaches to the study of policy suggest policy-making is a cyclical process, where policy's 'come and go', and that they are contentious and debated for relatively short periods of time as they are eventually replaced on the policy agenda by other unrelated issues and policies. Down's 'Issue Attention Cycle' [10] and Kingdon's 'Policy Streams' [25] are good examples of this approach.

4. Evidence-Based Policy

The period in which CCTV has diffused has coincided with the emergence of an approach to policy-making which has become known as 'evidence-based' policy. The basic premise is that public policy and services should be based on, and influenced by, robust evidence. This approach to policy-making has gown in significance since the election of New Labour in 1997. The 'Modernising Government' White Paper published in 1999 stated that Government; "*must produce policies that really deal with problems, that are forward-looking and shaped by evidence rather than a response to short-term pressures; that tackle causes not symptoms*" [4]. Modernising Government heralded New Labour's intention to ensure policy was based on sound and comprehensive understandings of the evidence available and to develop a strategy to maintain and update the evidence base for future strategy, policy and service delivery. This approach has become important to all levels of government and all service areas [6]. It can be seen as a response to the need to improve the quality of decision-making and to ensure decisions are not motivated by political pressures. The perceived benefit of evidence-based policy-making is better policy and consequently better and more effective public services.

There are different approaches to evidence-based policy-making, usually it is conceived to be a perspective to policy development which utilises rigorous analytical techniques to develop and maintain a robust evidence base from which to develop policy options [6]. It is not new to suggest that policy and practice should be informed by evidence and there is a

general belief that the public policy process should always strive to be 'rational'. However, the key to the evidence-based approach to policy is the issue of whether the evidence itself and the processes through which the evidence is translated into public services are sufficiently robust and valid, and consequently useful, when making decisions about the deployment of resources [5]. According to Nutley *et al* policy orientated evidence is usually considered to have three elements; hard data, analytical reasoning, and stakeholder opinion [31]. The benefit of this tripartite approach is that if there is any weakness in the hard data, then policy-makers can fall back on the analysis that underpins the data. If there is any weakness in the analysis, then the policy-makers can go back to the stakeholder base in order to understand different interpretations of the data/analysis. In line with this view the Cabinet Office's 'Better Policy-Making' report [3] identified an evidence-based perspective to policy as one which; reviews existing research, commissions new research, consults experts (or consultants), and considers a wide range of properly appraised options.

By taking an evidence-based approach to policy-making and service development the Government has adopted a pragmatic non-ideological stance which has resulted in the adoption of policies that previously would have been unacceptable to a 'socialist' Government. Additionally, the approach also provides new sources of information beyond that traditionally available from civil servants. In practice the evidence-based approach has led to a proliferation of performance measures, *ex post* evaluations of policy and services, and action based experiments to test new initiatives. These practices have become popular for evaluating the effectiveness of new technologies, where little prior evidence exists, and where there is a need to create a knowledge base from which policy can be assessed.

Critics of this approach to policy argue that the term 'evidence-based' is misleading as it downgrades the subtle and pervasive influence of politics on the policy process, and instead argue that terms like 'evidence influenced' or 'evidence aware' are more appropriate [31]. Clarence [5] goes so far as to argue that it is inappropriate to assume that evidence can

provide objective answers to inherently political policy issues and that it is too simplistic to assume that policy-making can be a more rational decision-making process if it is influenced primarily by the weight of evidence. Instead, politics and policy-making reflect the art of 'muddling through' [26], and often it is politics and not evidence which is the driving force for policy development [7]. There are also disputes about what constitutes evidence or whether certain items of evidence are more important than others. Some authors stress that it is unwise to assume that evidence is value free as it embodies the values of vested interests in the policy-making process and society more generally - evidence then can never be objective as all knowledge is relative and developed in social contexts [32]. Nutely *et al* [31] argue that there are four requirements for improving evidence use in government and public services. Firstly, an agreement as to what counts as evidence and in what circumstances, secondly, the strategic creation of evidence in priority areas and the systematic accumulation of evidence in the form of robust bodies of knowledge, thirdly, the effective dissemination of evidence to where it is most needed, and fourthly, initiatives to ensure the integration of evidence into policy and to encourage the utilisation of evidence in practice.

The evidenced-based approach suggests that the diffusion of CCTV is supported by a robust evidence base which shows service improvements resulting from the deployment of the technology. For CCTV, this approach points to a general agreement about the validity of evidence supporting CCTV, the widespread diffusion of this evidence, and that within the CCTV policy environment the evidence is used to support ongoing service evaluation and provision. Here the evidence base consists of performance measures, crime statistics, public perception surveys and cost-benefit analysis, all of which are used to support provision. It is not unreasonable to assume that the widespread adoption of CCTV implies and demonstrates the reliability of the evidence base, as in the modern era of non-political, ultra-rational policy and services, this can be the only possible explanation for the dramatic emergence of such a new high profile policy/technology. However, a careful reassessment of this evidence brings the nature of evidence-based policy-making into question. This is

achieved in the next part of the article by exploring five elements of CCTV policy, which I have labelled five CCTV 'fallacies'. A summary of the five fallacies is presented in Table 2. These fallacies raise questions about the evidence base supporting CCTV provision in the UK and concerns about the rationality of modern public policy-making processes.

5. Five CCTV Fallacies

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Fallacy Number One. CCTV cameras work

The first fallacy relates to whether CCTV cameras work in delivering their primary policy objective – reductions in crime and disorder. Here, the evidence is inconclusive and disputed. Anecdotal evidence and provider analysis of crime statistics in the era of innovation and experimentation pointed to CCTV being a very effective tool. However, even in this era criminologists were raising questions about the perceived link between CCTV and crime reduction [9, 33, 34]. More recent and comprehensive studies continue to doubt the effectiveness of CCTV. Systematic reviews suggest that CCTV 'work' in certain circumstances and that the effectiveness of the cameras has consistently been overplayed [1, 43]. Gill *et al* [14] undertook fourteen in-depth case studies of a variety of CCTV systems in a variety of locations. Of the schemes studied only one showed a decrease in crime that was statistically significant and which might be related to CCTV. Gill and Spriggs [15] consolidate this research into an overall assessment of CCTV, *"It would be easy to conclude…that CCTV is not effective: the majority of the schemes evaluated did not reduce crime and even where there was a reduction this was mostly not due to CCTV*" [15: 36]. This view is further reinforced by the most recent research published in America [24]. Groombridge [18] takes the argument further by suggesting there is no rigorously consistent evidence to suggest CCTV cameras work and consequently they cannot offer value-for-money. He goes on to argue that if we are to judge CCTV on its impact on crime, then; "*the*

Home Office, and therefore the Treasury, has wasted enormous sums of tax payer's money on the deployment of CCTV" [18: 74]. In relation to crime prevention there is an assumption that CCTV works, however, the reality is that it may make a useful contribution to crime control in certain circumstances, but in general it is fallacy to assume CCTV reduces crime.

Fallacy Number Two. CCTV is everywhere

The second established fallacy is that CCTV cameras are everywhere and that we are constantly under the surveillance of CCTV. At the start of the article I argued that the diffusion of CCTV into public places across the UK was generally recognised and accepted. However, although public agencies have invested heavily in CCTV, the vast majority are privately owned and operated by the commercial sector and are located in shopping centres and other privately owned facilities. Publicly owned and operated systems are far fewer in number. The first 'national survey' of existing and planned local authority CCTV systems discovered that 86% of UK local authorities had installed a CCTV system and that in total there were approximately 1,300 systems with 21,000 cameras [40, 41]). These figures are a lot lower than the five million cameras estimated by Norris [29]. Today, in Scotland, there is still one local authority that does not operate a public space CCTV system. So, although CCTV cameras have proliferated in number it is actually a fallacy to assume that there are large numbers of public space, publicly owned and operated systems.

Fallacy Number Three. Citizens want CCTV

The third fallacy is that citizens want CCTV. This fallacy is more difficult to establish as there is clearly widespread support for CCTV. It is based on the proposition that fallacy number one is valid. Public perception surveys show unequivocal support for CCTV [2, 8] and anecdotal evidence shows citizens putting pressure on their elected representative to install systems [40]. It is also apparent that there is some resistance to the use of CCTV and the emergent surveillance society [37]. However, public support for CCTV is based on fallacy number one, a belief that the cameras work in reducing crime. Norris and Armstrong note,

"*there is a common assumption:* (that) *CCTV actually produces the effects claimed for it…an unquestioning belief in the power of the technology*" [30: 9]. The view that crime reduction follows CCTV provision has been successfully disseminated across society and has filtered down into the general consciousness of the population. Here, the myth is that citizens want CCTV, but in doing so they assume it is a technology that delivers a certain outcome. Presumably, if there was greater awareness about fallacy number one the limitations of CCTV would be more widely understood and support for CCTV would diminish, resting in fallacy number three being exposed.

Fallacy Number Four. Citizens understand the technological capabilities of CCTV

Related to fallacy number three is the fourth fallacy about our awareness of the technological capabilities of CCTV. This too is also clearly linked to the general belief that the cameras 'work' (fallacy number one). Although there is widespread public support for CCTV, recognition that cameras exist, and knowledge about what they are there to achieve, there is very little awareness about the extent to which systems differ in terms of their the technical capabilities and operation [40]. There is a general impression that CCTV systems are constantly manned and that following an incident an appropriate response will be forthcoming. However, in many cases this is unlikely to happen as most CCTV surveillance systems do not have this responsive capability and consequently the surveillance expectations of the surveyed are not being met. I have argued elsewhere, that although we use the generic label 'CCTV', schemes can broadly be categorised into three types of system, those that are proactive, reactive, and non-active [39], and that the type of system and its technological capabilities determine the levels of monitoring and the intensity of surveillance. The key differences between each of these types are explained in Table 3.

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This typology is a hierarchy of sophistication. The least sophisticated 'systems' are non-active systems that act as a visual deterrent through the physical presence of passive cameras. They are non-active because there is no monitoring or recording capability. Instead they create the illusion of surveillance because citizens feel like they are being watched when actually they are not. The reactive type links cameras to recording, storage and playback facilities allowing access to footage after an event or incident has occurred. With this type there is no live surveillance but they are seen as particularly useful for identifying the perpetrators of criminal acts and in providing evidence for prosecutions. The most sophisticated type of CCTV system include an integrated dedicated surveillance and communications control centre staffed by dedicated local authority or police operatives with direct communications links with the local police force, thereby allowing for real-time continuous surveillance. The divergence in the different types of system mean that it is almost impossible for the surveyed to have any idea about whether they are being surveyed or not even if they are aware of the presence of surveillance cameras. Central to this fallacy then is the assumption that the surveyed have a good understanding of the surveillance process, when in reality a multitude of different surveillance practices and technological capabilities exist.

Fallacy Number Five. CCTV is there to protect us and to reduce crime

Fallacy number five raises questions about the purpose behind the use of CCTV. CCTV is typically understood to be a crime prevention and detection tool - Tony McNulty, Minister of State for Security, recently stated "*I see CCTV as an important tool in the Government's crime-fighting strategy*" [12: 4]. However, CCTV also impacts upon lower level non-criminal activities often referred to as antisocial and undesirable behaviour. The evidence suggests that CCTV is more effective in deterring undesirable behaviour than reducing crime and disorder [15]. This points to CCTV having multiple purposes, not just crime prevention and detection, but also in delivering community safety and a better living environment. In part 3 I argued that the policy focus of CCTV has shifted as the technology has diffused, from crime

prevention, to community safety and on to national security. CCTV also fulfils a number of other purposes, it is a useful tool for: directing and controlling police resources, for gathering intelligence and monitoring suspect individuals, for making people 'feel' safer, and also for generating reliable evidence for use in prosecutions. This range of activity clearly demonstrates that the provision of CCTV is multi-purpose and intended to meet multiple policy objectives. This is an interesting point, because if CCTV is a multi-purpose policy then why to we rely one dimensional performance indicators, namely crime statistics, to make judgements about the effectiveness of CCTV? Groombridge [18] concurs with this proposition by claiming that the objectives of CCTV systems are often not clear and are reliant on unreliable crime statistics. Central to this fallacy is the assumption that the primary purpose of CCTV is to reduce crime, when actually this is only one of a range of policy objectives.

5. Reconsidering the CCTV Evidence-Base

The five CCTV fallacies discussed above raise important questions for the evidence-base on which CCTV policy and practice is based, although CCTV remains an important and popular policy. Questions about the purpose of CCTV, the effectiveness of systems, and the extent to which the general public comprehend and are aware of surveillance capabilities and practices, suggest that the evidence-base is ill-informed and unreliable. If this is the case, then not only is the evidence-base problematic, but it also is increasingly difficult to explain CCTV as a rational logic policy. If the CCTV fallacies presented in part 4 are accepted, then this could suggest that the evidence-base is misunderstood, misused or even ignored by policy-makers in the policy process. Reconsidering the evidence base in this way also leads us to ask why policy-makers, service providers, citizens and the media are not more questioning about the rationale behind CCTV provision, and why CCTV remains such a popular policy?

A number of local authorities and other CCTV service providers are reviewing their CCTV provision. This has not driven by concerns with the evidence-base, but by financial considerations arising from the financial costs associated with running and maintaining systems. Local authorities are finding it increasingly difficult to fund service delivery and are starting to question the use of these systems by other agencies and for non-local authority purposes. In general, most local authority (and partnership) schemes have been set up to improve the quality of life of local citizens and to regenerate local areas with a focus on community safety. The use of CCTV for policing [16], for national security and to provide images for investigations and prosecutions, provide additional alternative benefits to other public agencies who do not necessarily contribute financially to the maintenance of systems. This issue is heightened by operational agreements which allow police forces and other security services to assume operational control of local schemes. Financial concerns are also encouraging CCTV service providers to consider new and innovative ways of raising finance. For example, the use of CCTV to detect car parking and road tax offences and to issue fines is a good example of surveillance creep. From 31 March 2008 local authorities in England can use CCTV to issue postal fines for car parking offences in surveyed areas. Additionally, schemes with large centralised control rooms are starting to charge individual services and agencies for the monitoring carried out. The reassessment of provision around cost is leading to the integration of systems, to reduce manpower costs, and the introduction of computerised surveillance systems where the monitoring is automated and not done by human operatives [35], again leading to a reduction in the manpower costs associated with operating systems.

Interestingly, these developments compliment the Home Office's desire to develop local CCTV systems into a national surveillance infrastructure for national security. The National CCTV Strategy [12] argues that CCTV is currently delivered in a piecemeal fashion, that there is a need for integrated CCTV infrastructure and a convergence of systems. It calls for a concerted effort to reappraise the provision of CCTV and for the digitisation and

standardisation of technology so that integration and convergence is possible; "*the introduction of digital CCTV systems could provide opportunities for real benefits if the technology is harnessed correctly…improving the quality of CCTV images will support the development of current, complimentary technologies such as Automatic Number Plate Recognition (ANPR) and future technologies such as facial recognition*" [12: 8]. The reassessment of CCTV based on cost is likely to lead to the further digitisation and integration of systems, making them more like security surveillance systems than council community safety systems.

Beyond CCTV concerns are emerging about whether the Government's enthusiasm for evidence-based policy is now waning as the results of several programmes are published [31]. The review of the implementation of the Crime Reduction Programme in England and Wales, which was described as "*the biggest single investment in an evidence-based approach to crime reduction which has ever taken place in any country*" [21: 3] has documented many problems [22] and a number of commentators have noted overall failure of the programme [23, 28, 38]. For CCTV, the implementation of schemes seems to be at complete odds with the evidence base, on which it is supposed to be based, which in turn makes it difficult to provide a logical rational reason for installing CCTV surveillance systems so quickly and in so many public places.

In the case of CCTV, it appears that policy-makers have used the evidence base selectively. To ensure provision crime statistics and anecdotal evidence supporting CCTV has been promoted alongside political rhetoric whilst contradictory evidence has been pushed aside, along with concerns about privacy and civil liberties. The newness of the technology has meant the evidence base has had to be created with the void willingly filled by proponents of the technology. In the absence of an established evidence base policy-makers have had to fall back on the advice of stakeholders and service providers, who are all naturally supportive of the technology.

6. Concluding Comments

In this article I have used a 'policy' based approach to review the ongoing provision of CCTV in public places across the UK. A focus on policy is useful because it alerts us to changes in the purposes and practices of CCTV surveillance and because it allows us to ask important questions about the rationale for ongoing provision. Initial concerns about CCTV provision remain unaddressed and CCTV provision is being extended despite a growing evidence-base which suggests that the cameras are not as effective as initially assumed. Ironically it is not effectiveness or civil liberties issues that have instigated a policy debate about CCTV, but the financial costs associated with running systems and their potential use for national security and anti-terrorism purposes. This demonstrates, that over time sophisticated surveillance technologies (in the form of CCTV systems) have become embedded in society, and that systems originally installed for one purpose, have evolved, with surveillance being normalised and accepted, to take on additional surveillance functions and activities. This surveillance creep has not been accompanied by public debate with low levels of awareness about the realities of technologically enhanced surveillance remaining. Up until now only fairly abstract civil liberties arguments have been raised against CCTV, however, if the general public were made more aware of the full costs of systems, and their overall lack of effectiveness, then attitudes may change and the policy may loose credibility, support and momentum.

Reconsidering the evidence base supporting CCTV raises more questions than answers. Questions which strike at the heart of modern policy-making procedures. For example, if the motivation for the continued provision of CCTV cannot be explained by the evidence-base then how do we account for a policy process that appears to be less than rational? How has the evidence-base been utilised by policy-makers? And, how are new policy initiatives evaluated and assessed? The latter is intriguing as independent agencies like the Audit Commission and Audit Scotland are responsible for assessing the quality and value-for-

money of public services. Such questions are likely to become more significant as awareness about the limitations of CCTV become more widely known and if there is a resistance to a centralised national infrastructure.

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Table 1. Three CCTV Policy Eras

Policy Era	Policy Characteristics	CCTV Diffusion
Innovation and Experimentation Early to mid 1990's	**Central government drive to establish policy** Recognition of potential policy area Pilot systems to test feasibility Evaluation of performance and technical assessment Secure public approval Allay civil liberties concerns Secure political and media support Focus on crime prevention No legislation or formal controls	**Initial CCTV systems** Established in town and city centres and car parks
Acceptance and Expansion Mid 1990's to early 2000's	**Extensive local service delivery** Policy unquestioned and use of cameras accepted Home Office funding and guidance Extensive pro CCTV discourse Formation of partnerships between police and local authorities Focus extends to antisocial and undesirable behaviour (community safety) Voluntary codes of conduct Non-specific legislation applies Emergence of policy networks around CCTV	**Widespread diffusion** In a variety of public places Varied technical specifications
Retrenchment and Centralisation Mid 2000's onwards	**Central government drive to standardise policy and practice** Desire to centralise disparate systems and practices Concerns about financial cost of running systems Extensive partnership working Focus shifts to national security and terrorism Pro CCTV discourse reinforced Reassessment of technical capabilities	**Continued uptake and sophistication** Computerisation of systems Integration of systems Expansion of existing systems Further technological innovation

Table 2. The Fallacies and Realities of CCTV Provision in the UK

CCTV Fallacy	CCTV Reality
1. CCTV cameras work	CCTV *may* reduce crime in certain circumstances
2. CCTV is everywhere	There are limited numbers of public space, publicly owned and operated CCTV systems
3. Citizens want CCTV	Public support for CTV is based on a misunderstanding about what CCTV can deliver
4. Citizens understand the technological capabilities of CCTV	There is a very limited awareness of the divergence in technological capability between different systems
5. CCTV is there to protect us and to reduce crime	CCTV fulfils a range of policy objectives, of which crime prevention is just one

Table 3. A Typology of CCTV Systems

Type	Features
Proactive	Live surveillance from a dedicated control room with recording, storage and playback facilities. Allows for an immediate response to incidents as they occur.
Reactive	Recording, storage and playback facilities. Provides access to footage of incidents after the event has occurred.
Non-active	No monitoring, storage or playback facilities. Acts as a visual deterrent by using fake 'cameras' to create the illusion of surveillance.

[source: adapted from 39]