FINDINGS OF PUBLIC SPACE CCTV REVIEW

Version 2.3

Executive Summary

This report presents the findings of a National Review of Public Space CCTV in Scotland. With the inception of Police Scotland the Chief Constable commissioned a short term review of Public Space CCTV in Scotland to accurately capture the relationship between the 8 legacy Forces and 32 Local Authorities in respect of;

- funding arrangements
- management and governance
- information sharing including image capture and storage
- sustainability
- future development and coordination

Public Space CCTV has been identified as high risk on the Police Scotland Risk Register.

CCTV has developed as a Community Safety tool to offer far more than simply the prevention and detection of crime. It provides public reassurance, protects the most vulnerable members of the community and "keeps people safe". CCTV contributes towards the Police and Local Authorities meeting National outcomes in particular outcomes 9, 11 and 15[1], ensuring that members of the community live their lives free from crime, disorder and danger. It also supports Local objectives around tackling antisocial behaviour, violence and drug / alcohol related incidents. It is a critical tool in Scotland's infrastructure used to counter Terrorism. Video links to the police control facilities assist with the effective deployment of resources, ensuring both police officer and public safety at all times. The review comprised eight elements:

- Detailed questionnaire completed jointly by the Police and Local Authorities
- Visits and consultation with 14 Divisional Commanders
- Visits and consultation with 32 Local Authority Chief Executives or their identified representatives
- Consultation with Scottish Government and the Scottish Community Safety Network representatives
- Consultation with Crown Office & Procurator Fiscal Service (COPFS) and Police Scotland Digital Forensics Unit
- National Public Space CCTV Steering Group used as a reference Group
- Feedback obtained from Public Space CCTV Practitioners Groups

[1] Outcome 9 We live our lives safe from crime, disorder and danger
Outcome 11 We have strong resilient and supportive communities where people take responsibility for their own actions and how they affect others.
Outcome 15 Our public services are high quality, continually improving efficient and responsive to local people's needs.

- Benchmarking of best practice throughout Scotland

Detailed Questionnaire

The questionnaire was sent to all 32 Local Authority areas and was completed in conjunction with Local Authority Liaison Officers. The responses varied with regards to the level of completion, [redacted]

Management & Governance

The management and governance of Public Space CCTV has evolved in an incongruent fashion throughout Scotland over the last 25 years to suit local needs and relationships between 32 Local Authorities and 8 legacy Police Forces. [redacted]

[redacted]

Funding (Police and Local Authority)

The funding models throughout the country are disparate and lack strategic direction. In relation to Capital funding there has been no significant Capital spend in recent years and no future capital spend identified for the next five years other than two significant spends this year (2013/14) covering 18% of the Public Space CCTV systems in Scotland. Glasgow Community & Safety Services has obtained [redacted] from Central Government to fully digitalise their systems prior to the Commonwealth Games. Renfrewshire Council is about to invest [redacted] in a Community Safety Hub which will subsume the local Public CCTV trust who are in financial difficulties.

The revenue funding support for Public Space CCTV from the 8 legacy Force areas varied substantially from no funding in legacy Lothian and Borders Police area to fully funded in legacy Grampian Police area. The other Force areas provided a partial contribution either in a grant format towards maintenance costs or employing and paying for the salaries for monitoring staff. [redacted]

Sustainability

The Public Space CCTV infrastructure is ageing with no significant capital spends in recent years. 85% of the matrices which control the camera systems are analogue which is no longer supported as advances in technology have moved to digitalised systems. This is a high risk as should a matrix fail all the cameras linked to the matrix would be inoperable. Spare

parts are now second hand and charged at a premium as demand outstrips supply. The estimated capital spend to upgrade these systems is approximately [redacted].

80% of cameras are analogue and are still able to be connected to a digital system using a coder and decoder. The estimated cost to convert the number of outstanding analogue cameras to digital cameras is approximately [redacted].

It is clear that there requires to be a significant capital spend within the infrastructure of Public Space CCTV to ensure that the systems are capable of delivering a quality service that the public expects and demands.

Partnership Data Sharing (including image capture and storage)

Currently images from Public Space CCTV required for the Court process are burned to discs and then are involved in different process throughout the Country to ensure that the format is playable within the Court system. The desire from COPFS is to have the images along with the case so that this information can be disclosed to the defence to obtain early pleas and achieve savings for a number of partner agencies. I6 would appear to be a vehicle to achieve the desired result but is still a number of years away. In the interim there is the possibility to pilot a reviewing station within one of the Court buildings to ingather data of the benefits and cost saving that could be made by Police Scotland by transferring the information electronically and not using discs and the inefficiencies surrounding that.

Future Development and Coordination

[redacted] Public Space CCTV requires to be represented as a national single body at the development of the Scottish Wide Area Network (SWAN) in order to be included in the building of the National digital public services communication platform.

A number of Police Scotland Divisions have purchased a small number of body worn camera devices to be issued to Police Officers and a corporate approach for the service in respect of policy and operating procedures requires to be addressed.

Recommendations

- For the purpose of future development the definition of Public Space CCTV should be widened to incorporate all aspects of Public Space CCTV facilities funded in the public domain, through both Police Scotland and Local Authorities.

- Restructuring of Contact Command and Control C3 project has to consider the current situation with video links and what would be required in the future.

- Statutory Responsibility for the Operation and Maintenance of Public Space CCTV in Scotland is allocated to a Public Body.

- Current Police Scotland projects looking at rationalisation of opening hours (Public Counter Service Review) and rationalisation of Police Offices are aware of implications in relation to monitoring and housing of CCTV facilities.

- All analogue matrices are upgraded to an agreed digital specification within the next five years when the current contract with their suppliers expires.

- Once preferred bidder is identified for SWAN project early negotiations are required to elicit possible benefits for Public Space CCTV throughout Scotland utilising this system.

- Police Scotland provides direction on the corporate approach to the capital purchase of body worn cameras and associated revenue costs which requires to be supported by a relevant Standard Operating Procedure and Training provision.

- A project is established to implement the electronic transfer of Public Space CCTV images to Court utilising i6 and Project Core. Collaboration is required between Crown Office and Procurator Fiscal Service (COPFS), Scottish Court Service, Police Scotland and Public Space CCTV Operatives.

- A pilot project is established in an identified Court location in Scotland to provide a viewing suite for the Procurator and defence agents and thereafter if required as evidence within the court is transmitted to a plasma screen. This would allow empirical data to be obtained of the benefits of CCTV footage in the legal system in relation to cost savings.

- An internal review of the role of the Technical Support Unit and the Digital Forensics Unit to be carried out to identify best practice and develop a corporate model for Police Scotland.

DEFINITION OF PUBLIC SPACE CCTV

The remit of this review was to look at Public Space Close Circuit Television which are those systems utilised on the public streets across Scotland and include fixed sites, rapid deployable, CCTV vehicles and body worn cameras. They are the systems with which Police Scotland has closest involvement in respect of day to day business. There are other large CCTV systems owned and managed by housing associations, NHS Scotland, British Transport Police, other transport authorities, schools etc, which in simple camera numbers exceed the Public Space cameras considerably and it is acknowledged that the Police make use of footage from these systems as and when the situation dictates, but they are out with the scope of this review, although the majority of these systems still fall under the control of Local Authorities in respect of governance and funding.

Recommendation 1: For the purpose of future development the definition of Public Space CCTV should be widened to incorporate all aspects of Public Space CCTV facilities funded in the public domain, through both Police Scotland and Local Authorities.

HISTORY OF PUBLIC SPACE CCTV

CCTV started to appear in the late 80's and was seen as a tool to deter and detect crime within private space commercial premises. After the high profile murder of Jamie Bulger in 1993 where images captured on the shopping centre CCTV were utilised and led to the identification and conviction of the persons responsible, there was a drive for Public Space CCTV.

The growth of Public Space CCTV in Scotland was funded through independent capital projects both from Westminster and Scottish Government predominantly in the early 1990's to 2005. From inception, this has encouraged the systems to grow independently both in procedural and technical aspects, thus causing disparity across the variant systems in Scotland. This non strategic development saw funding streams made available without any defined response strategies, outcomes/deliverables or evaluation measures.

This saw the development of a varied landscape of Public Space CCTV in Scotland. It has been difficult to obtain an accurate picture as to the constitution and legal standing of all the groups within the Local Authority areas. These are known to include trusts, limited companies with charitable status, Police owned, Local Authority owned with no Police Involvement, Local Authority owned and managed in police premises and Local Authority and Police in partnership together.

In 2001 the Westminster Government introduced the Security Industry Authority to regulate the Independent Security Companies within the United Kingdom. This was seen as a regulatory method to encourage standards in both training and certifications for employees responsible for CCTV from operator through to manager levels. The initial intent was to have Public Space CCTV managed under this platform but most trusts were unable to support the scheme due to a lack of revenue monies and the Local Authorities took over the failing trusts.

It is clear that there is strong public support for Public Space CCTV with 81% of the public in Scotland agreeing that there is the right amount/ too few cameras monitoring public areas. 89% disagreed with the removal of Public Space CCTV to meet budget cuts and 76% disagree that monitoring should be restricted to meet budget cuts.[2]

CCTV has developed as a Community Safety tool to offer far more than simply the prevention and detection of crime. It provides the public reassurance, protects the most vulnerable members of the community and "keeps people safe". CCTV can provide the eyes of the community to inform activity for the Police and Local Authorities to meet the National outcomes in particular outcomes 9, 11 and 15[3] to ensure that members of the community live their lives free from crime, disorder and danger and Local objectives of tackling antisocial behaviour, violence and drug/alcohol related incidents. It is a critical tool in the infrastructure of Scotland in relation to counter terrorism measures. Established video links to the Police assist them with the deployment of resources effectively, ensure officer and public safety at all times.

Recommendation 2: Restructuring of Contact Command and Control C3 project has to consider the current situation with video links and what would be required in the future.

FUNDING, MANAGEMENT & GOVERNANCE

Clearly identify Capital and Revenue expenditure for Public Space CCTV including fixed site, mobile, deployable, body worn, monitoring facilities, review facilities, data sharing arrangements and related staffing costs. To include full details of existing contractual agreements, including equipment maintenance and vehicle lease arrangements[4]

[2] An Independent Public Opinion Survey on the Use of CCTV in Public Areas by RNS Research International.

[3] Outcome 9 We live our lives safe from crime, disorder and danger
Outcome 11 We have strong resilient and supportive communities where people take responsibility for their own actions and how they affect others.
Outcome 15 Our public services are high quality, continually improving efficient and responsive to local people's needs.

[4] Police Scotland Public Space CCTV Review, Terms of Reference - Funding

Identify the differences in operational management and governance models that currently exist throughout Police Scotland and the 32 Local Authorities.[5]

Public Space CCTV funding and governance structures in Scotland have evolved in a disparate fashion over the years to suit local needs and the relationship between the 8 legacy Forces and 32 Local Authorities.

An important point to note is that there is currently no statutory responsibility on any public body to operate and maintain Public Space CCTV in Scotland. In the main that responsibility has evolved to sit with Local Authorities, either directly or through a partnership or arms length company structure.

In recent years Public Space CCTV has been subject of a number of Scottish Government reviews[6] one in particular resulted in the 2011 implementation of the current National Strategy for Public Space CCTV in Scotland. The stated purpose of the national strategy is to provide advice, guidance and assistance to local partners on the development of their Public Space CCTV systems and encourages the use of an evaluation tool to achieve best value from current and future CCTV deployments. The strategy also encourages the use of shared services and recognises the cost savings to be achieved through co-location of multi skilled staff and services.

Under the current structure within Scotland the majority of CCTV organisations are a partnership group, which are not formally constituted. This poses a significant risk in moving forward to identify both capital and revenue budgets. None of these organisations can procure equipment without utilising the services of the Local Authority or the Police. Procurement has always taken place in isolation.

[redacted]

Whilst the strategy has been in place for two years the implementation has been piece meal throughout the Country. The lack of a Statutory Body with a clear strategic vision to drive the implementation has been a barrier.

CURRENT STRUCTURES WITHIN SCOTLAND

Having reviewed the setup throughout Scotland it has been established that CCTV falls broadly into the following categories.

[5] Police Scotland Public Space CCTV Review, Terms of Reference – Management & Governance

[6] Strategic Report on Improving the Efficiency & Effectiveness of Public Space CCTV in Scotland – Scottish Government Justice Analytical Services, November 2009

a) There is one trust remaining that has observer support from the Police and Local Authority but has had to find funding from local businesses and apply for grants from various sources. It is currently struggling financially to deliver the service from all the cameras. The cameras are monitored within the Local Police Office on an *ad hoc* basis.

b) There are two where the Police own and manage the system with little or no involvement from the Local Authority.

c) There are eight where the Local Authority owns the system and it is recorded in Police Offices/Local Authority buildings and the footage is used retrospectively with no proactive monitoring of the cameras.

d) There are thirteen which are a partnership approach between Police and Local Authorities/Arms length charitable trusts into dedicated monitoring stations which proactively monitor the cameras. The monitoring stations are either located in purpose built buildings owned by the local authority or within Police Offices. The monitoring can be on a full time basis or on a restricted basis, but only monitoring CCTV. The facilities are seen as a vital tool and can be utilised by the Chief Executive/Police Commanders as a control centre allowing real time images for major incidents or civil contingencies.

e) There is one which is a Local Authority which is a multi function facility which proactively monitors CCTV along with Local Authority call centre, out of hours services, council property alarms, personal alarms for the most vulnerable within the community,

f) There are seven which are a partnership approach between Police Local Authorities which are a multi function facility which proactively monitors CCTV along with Local Authority call centre, out of hours services, council property alarms, personal alarms for the most vulnerable within the community, and possible introduction of District Nursing Services. They also co-ordinate the Anti Social Behaviour Warden Services run by the Local Authorities. These facilities are provided 24/7 and 365 days of the year. This partnership approach provides for the best use of the appropriate resources to meet the needs of the demands placed upon the partners from the public. The facilities are seen as a vital tool and can be utilised by the Chief Executive/Police Commanders as a control centre allowing real time images for major incidents or civil contingencies.

Recommendation 3: [redacted]

FUNDING FRAMEWORK

CAPITAL

[redacted]

[redacted]

There is a very limited number of Local Authorities who allocate a capital budget to Public Space CCTV, although the current financial years level of investment is significant based mainly on the funds allocated to Glasgow [redacted] as the result of a bid to the Westminster Government Technology Strategy Board to upgrade their systems [redacted]. Renfrewshire Council is also investing [redacted] in a new Community Safety Hub to include an upgrade of their CCTV systems. There is no Police contribution to this project.

Other smaller capital investments have been identified by the relevant local authorities within their budgets.

[redacted]

With the exception of Greater Glasgow and Renfrewshire & Inverclyde, there is very limited capital expenditure on the Public Space CCTV infrastructure in Scotland. Police Scotland is not contributing to any of this capital expenditure.

REVENUE

31 of the 32 Local Authorities have provided details of their Public Space CCTV revenue expenditure (2013/14) [redacted]

Police Scotland contributes approximately £3 million as part of these total revenue costs. Police Scotland also provides services in kind as a number of Public Space CCTV systems which are not monitored full time are fed into 32 Police Offices throughout the country. Members of Police Staff and or Police Officers utilise these systems as and when required and in some occasions manoeuvre the cameras.

Recommendation 4: Current Police Scotland projects looking at rationalisation of opening hours (Public Counter Service Review) and rationalisation of Police Offices are aware of implications in relation to monitoring and housing of CCTV facilities.

[redacted]

[redacted] Police Scotland contributes a total of £70,218 to the revenue costs which pays for a Police Officer and member of Police Staff within the setup.

Police Scotland is currently in an advanced stage of negotiations with Aberdeen City Council to address the current funding situation. Aberdeen City Council have agreed to lead on Public Space CCTV and submitted an options paper to the City Council to agree funding mechanisms for the future which should significantly reduce or negate the current Police Scotland revenue contributions.

Police Scotland does not make any financial contribution to Public Space CCTV in the Lothian and Scottish Borders Division.

[redacted]

[redacted]

[redacted]

[redacted]

The total Police contribution to revenue budgets not including Police CCTV liaison officers is £2.3 million.

There have been significant instances where CCTV managers have found themselves in "crisis" with little continued revenue funding in place to pay for staff, equipment, maintenance etc. A wide range of business growth and diversification strategies to source funding have therefore been developed. [redacted] *This financial need to source alternative revenue may well act to dilute the volume and quality of pro-active CCTV monitoring as CCTV staff become diverted to undertake these other fee earning functions*[8].

Within the current climate the position regarding identifying the revenue funding has still not changed and is a challenge for CCTV managers continually having to compete against statutory obligations and reducing budgets. A number of Local Authorities have indicated that as it is not their statutory obligation to provide CCTV and that they see the main benefactor to be the Police, COPFS and Scottish Court Service. In the next round of budgetary cuts CCTV will be looked at and the possibility remains that funding could be withdrawn in the next round of negotiations.

All the Local Authorities who received revenue funding from legacy Force areas have intimated that a financial contribution from the Police is critical to maintain CCTV services.

Prior to Police Scotland "*there has been no national policy on funding and each police force made a local decision as to whether to provide CCTV funding. Many offered support "in kind" by providing police officers to operate CCTV and/or to act as liaison/evidence officers*[9]. This current review will inform a decision as to the corporate approach to be adopted by Police Scotland.

One of the recommendations from the Strategic Report on Improving the Efficiency & Effectiveness of Public Space CCTV in Scotland – Scottish Government Justice Analytical Services, November 2009 *was that funding for existing CCTV systems across Scotland should be urgently reviewed. Aside from advancing digital technology, across Scotland several CCTV systems are becoming technologically obsolete or beyond economical repair. Due to funding restrictions not all cameras are*

[8] Strategic Report on Improving the Efficiency & Effectiveness of Public Space CCTV in Scotland – Scottish Government Justice Analytical Services, November 2009
[9] Strategic Report on Improving the Efficiency & Effectiveness of Public Space CCTV in Scotland – Scottish Government Justice Analytical Services, November 2009

continually displayed to a monitor and / or fully monitored or maintained to a "fit for purpose" standard particularly in the smaller Public Space systems where budgets are particularly constrained.

No action was taken on this recommendation and 4 years have elapsed with the Public Space CCTV estate across Scotland continuing to age and no clearly identified Strategy and direction as to how this will be funded in the future. There continues to be no long term funding strategies in place at central or local government level to sustain the existing Public Space CCTV infrastructure.

SUSTAINABILITY

Assess the current differing levels of technical infrastructure and shelf life of Public Space CCTV throughout the 32 Local Authority areas in Scotland[10].

CCTV equipment has historically been designed to be robust and reliable. The age of certain parts of the current infrastructure is testament to this fact with some constituent parts well over 10 years in continuous operation. In terms of sustainability it is probably the move to digital which is the major factor to alter this current situation. As CCTV is technologically driven there are factors described elsewhere in this document which have a bearing. Continuous developments in digital video storage systems mean that recording systems are being replaced much sooner than their tape based counterparts. It cannot be ignored that digital development will continue apace ensuring that today's capital investment in CCTV will need revision earlier than has been required in the past.

Sustainability of the current CCTV infrastructure is directly related to its age with only 3 refurbishment projects covering 18% of Scotland's CCTV in the coming year. It is reported that a major contribution to the successful bid [redacted] was the upgrade of Glasgow's ageing CCTV camera stock and its supporting infrastructure.

When first introduced CCTV images were wholly generated by analogue CCTV cameras which were then transmitted across cables to a CCTV monitoring station where they were recorded and switched (by a matrix) to any number of screens, termed video walls. All of the above was carried out in the analogue domain with images recorded on tape and all other functions were fully analogue based. The electronics industry has developed efficient digital systems to improve signal quality and lower bandwidth requirements that now the entire above can achieved by digital means. The uptake from analogue to digital signalling can be progressive with systems of mixed analogue and digital component parts. These systems are termed "hybrid". The use of digital signalling opens up the opportunity to transfer CCTV images and commands by

[10] Police Scotland Public Space CCTV Review, Terms of Reference - Sustainability

digital networks utilising the use of IP, the Internet Protocol, on any computer network.

From returns received the following statistics can be drawn:

- 80% of cameras are analogue, 20% are digital
- 85% of Matrix are analogue, 15% are digital
- 80% use analogue network transmission, 20% of cameras use digital

These figures highlight that although there have been some updates carried out to the CCTV systems in Scotland there is a major piece of work required to turnaround failing systems and to keep them fit for purpose. [redacted]

An undoubted risk is attached within this assessment of the technology landscape, whereby 85% of analogue matrices have been identified. These component parts have mostly become obsolete and are not obtainable within the market place any longer, should these components fail and a replacement is not sought it would cause a hybrid system to instantly fail. Thus the entire system would become redundant. Hybrid systems are now reliant on some component parts being available in the second hand market place to where there is no guarantee of obtaining the equipment required. This also allows for prices to be inflated as demand outstrips supply.

Not all CCTV cameras that are analogue need to be upgraded by a digital counterpart. These can have an incremental step applied; a digital encoder back end added which effectively would convert the camera to provide digital signalling. (A hybrid CCTV Camera)

To achieve computer network transfer the adoption of a digital CCTV matrix is required which infers that 80% of the CCTV systems in Scotland are in need of an upgrade prior to going digital. We must consider that for a true digital system that both the camera (front end) and digital video recorder (back end) be digitally compatible.

The cost of upgrading all 85% of the CCTV systems in Scotland on aging matrices from analogue to digital is significant and therefore poses a major risk to continued operations. [redacted]

[redacted]

A cost has not been obtained for changing the 80% of analogue network transmission to digital transmissions as this would be directly linked to

the contracts for transmission costs and would depend on the Service provider.

As reported later in this document the cost of dedicated traditional analogue based networks is increasing, these increases are an indication that CCTV cameras operators should look to alternative methods for image transfers. The most obvious alternatives are computer networks for the longer distance transfers or wireless networks for the shorter transfer of images.

Recommendation 5: All analogue matrices are upgraded to an agreed digital specification within the next five years when the current contract with their suppliers expires.

FUTURE DEVELOPMENT AND COORDINATION

Analyse the current position of Public Space CCTV provision in Scotland and make strategic recommendations to facilitate informed discussion with Police Scotland and core partners, including Local Authorities and Scottish Government, on the future development and coordination of this facility over the next decade[11]*.*

It is clear that an investment into the landscape of Public Space CCTV is required now at an urgent pace. [redacted] An agreed standard and path to digital must be agreed to ensure that Public Space CCTV remains fit for purpose

An indication of the pace of change is that CCTV industry forecasts currently predict that shipments of analogue CCTV cameras will be overtaken by their digital counterparts in 2017.

The investments of the past in high quality analogue cameras and their supporting lenses and infrastructure are too great to cast aside all at once. The cost of replacement in its entirety would be prohibitive in today's austere financial climate. The vast majority of Public Space systems (85%) are hybrid, neither analogue nor digital but a mix of both with 20% of Public Space CCTV cameras in Scotland purporting to be fully digital. The addition of a digital video encoder to an analogue CCTV camera to become a hybrid is an incremental upgrade that sustains the cameras use whilst a full digital network is being realised.

It is important that a staged transition be considered for Scotland, this would allow Public Space CCTV to meet the minimum standard so that sharing protocols can be effective and efficient.

[11] Police Scotland Public Space CCTV Review, Terms of Reference – Future Development & Coordination

TOMMORROW'S CCTV

1. It is imperative that the path from analogue to digital be explored and a standard platform agreed. This would not be restrictive in terms of suppliers, manufacturers or installers but would apply a standard to the output of quality of the system.
2. In line with broadcast television higher definition CCTV cameras and displays will develop with **Ultra High Definition Tele-Vision** (**UHDTV**) currently being publicly demonstrated by a number of major Japanese suppliers.
3. With major improvements in video compression such as High Efficiency Video Compression standards (HEVC) transmission of high definition images will increasingly rely on the computer networks and the internet protocol (broadband) for delivery.
4. Improvements in video compression and reducing digital storage costs enable high definition images to be recorded economically.
5. Video Analytics (VA) will become more prevalent as processor speeds and algorithms continue to improve allowing more intricate and complex functions carried out within cameras themselves.
6. As digital recording media (memory) improves in speed and size recording of video will be pushed to "the edge" within the camera.
7. Given the costs involved for placement fixed (permanent) CCTV cameras will be installed in areas of large footfall and or areas of night time economy. (Ideally only after a privacy impact assessment has been carried out and there is a widely agreed and documented partnership need published.)
8. Rapid deployment cameras will increase in number. The advance of wireless communications and the ease to redeploy CCTV will improve which will broaden their attraction as a cost effective public reassurance tool.

The rate of adoption of high definition cameras for CCTV is increasing; it is not immediately apparent but standard definition CCTV hardware is becoming less obvious in the market place. High definition brings with it opportunities and challenges. The opportunity arises from high definition images allowing observers to explore in more detail areas in static images in the digital domain lessening the reliance on operator intervention. With higher definition fixed CCTV cameras there may be no requirement for CCTV operators to physically alter camera views with a single static camera covering a larger area than its standard definition counterpart.

[Note: High definition cameras have been highlighted by the UK Surveillance Camera Commissioner, Andrew Rennison, as a possible threat to the privacy of individuals' captured by HD CCTV from the higher level of detail available from the technology.]

With the application of high definition cameras the size of memory to retain images and the bandwidth (network capacity) to view increases

but fortunately the impact of both these factors will be offset by continuing improvements in network capacity and video compression.

The reliance on fibre based connectivity between cameras and their monitoring and recording position for transmission has and continues to see major increases in costs as the realisation that video data has to compete on a more equal basis with computer networks for digital bandwidth. The response of CCTV practitioners has been to turn to wireless for the relatively shorter distance transmission of images. Wireless is not without its drawbacks but it does not involve the same civil works to install as fibre and the revenue costs are becoming highly competitive. Wireless CCTV like most technologies and for the same reasons is becoming digitally based and a number of CCTV systems have adopted 3G mobile telephony for less critical image transfers.

Computer network transmitted CCTV is now a reality, many television programmes are available over the internet, the BBC iPlayer™ for example, which is a consequence of high levels of development in video compression and improvements in network capacity. Video compression is achieved by analysis of images and reducing the content whilst not impacting the viewing experience. These technological enhancements offer the possibility of the rationalisation of CCTV monitoring positions by transmitting images over wide area networks allowing CCTV monitoring and control to take place theoretically anywhere on the network and therefore over more geographically spread areas. The major obstacle to its wider adoption is the concern of IT professionals to allow video (which traditionally has been bandwidth hungry) across their computer networks.

During the local authority consultation phase a number of Local Authorities stated in relation to Public Space CCTV that they had considered working collaboratively with neighbouring Local Authorities but that the cost was prohibitive. The cost of transmission particularly for the rural areas again was very expensive. There is no common infrastructure for Public Space CCTV at present but this could change due “The Scottish Wide Area Network” (SWAN).

The following is a resume of what SWAN is expected to deliver and there is a clear correlation of what could be achieved in relation to a common infrastructure for Public Space CCTV. Ron McDonald Head of National Communications within the SWAN project has been contacted and stated he saw no reason why Public Space CCTV could not utilise this project and advised that the preferred bidder would be appointed in October 2013 when discussions could take place to identify requirements and possible costings.

SWAN is designed to ensure that Scottish public service organisations get best value for money in its investments in ICT. Collaboration is now the default choice in the design and delivery of services and in the procurement and deployment of ICT infrastructure to support this. There

is also a presumption against each organisation separately pursuing investment in and ownership of ICT assets or seeking its own capability for individual development. One deliverable of the strategy is a public sector network which supports resilient high-volume and high-speed communication.

The SWAN initiative is strategically aligned with the McClelland Review of Scottish Public Sector ICT Infrastructure, taking forward its recommendations on public sector collaborative procurement, aggregation of network demand and use of common standards.

The McClelland Review of Scottish Public Sector ICT Infrastructure, published in June 2011 recommended that:

- The few large and many other multiple small contracts should be aggregated to build a single Scottish Public Sector Network that adopts the standards and protocols of the UK PSN
- The combined spend should be leveraged to gain cost and performance advantages for the public sector
- This network should be used by every public sector body and university and college in Scotland.

The Scottish Government's Response to the McClelland Review of ICT Infrastructure in the Public Sector in Scotland committed to achieve better value through collaboration and sharing of ICT infrastructure and digital connectivity.

Therefore if utilizing an IP network for CCTV SWAN could be the driver to rationalise monitoring stations across Scotland[12]. Although this does not detract from the changes which need to occur with the current estate of Public Space CCTV.

Recommendation 6: Once preferred bidder is identified for SWAN project early negotiations are required to elicit possible benefits for Public Space CCTV throughout Scotland utilising this system.

Alternative CCTV topologies to that of central monitoring and recording are now realisable using modern video servers, recording CCTV cameras locally, in a school, in a public building, small town CCTV systems can improve service delivery by connecting CCTV recorders on a computer network.

There are technological limits in the form of network latency that would impact the distance over which fully monitored and controlled CCTV cameras could realistically operate.

[12] http://www.government-online.net/scottish-wide-area-network/dated 060813

Video Analytics is the automated use of images to highlight changes in a cameras captured view. As such it is highly used in the security industry to bring to the attention of CCTV operators only that a predefined threat has occurred and it creates a notification or alarm. With the ongoing development of such systems it is possible for Video Analytics in the future to determine if behavioural conditions occur and bring into view only CCTV images where there has been a major change thus relieving operators from having to observe large number of images on a video wall. This could lead to a reduction in the number of required CCTV operations staff. To support such advances in the future the overall network of Public Space CCTV need to be at an acceptable digital platform.

BODY WORN CAMERAS

In recent years there has been the introduction of the wearing of body worn cameras by Police Officers, Community Wardens and SIA Stewards. There have been two pilot projects in Renfrewshire and Aberdeen Council area prior to the inception of Police Scotland. An evaluation of the pilots[13] was carried out in 2011 which identified a reduction in crime and benefits regarding early pleas within the Court system resulting in cost savings. Whilst there a clear benefits to the adoption of this device it is disparate throughout Police Scotland. Only one legacy Force area Grampian procured body worn cameras for their officers. In other areas small amounts of money have been given generally from Community Safety Partnerships to local Divisional Commander who bought a limited amount of cameras which range with a guarantee of one to three years. [redacted]

Recommendation 7: Police Scotland provides direction on the corporate approach to the capital purchase of body worn cameras and associated revenue costs which requires to be supported by a relevant Standard Operating Procedure and Training provision.

PARTNERSHIP DATA SHARING (INCLUDING IMAGE CAPTURE AND STORAGE)

Review current practice, including existing partnership data sharing projects within COPFS in Edinburgh and Glasgow, and make recommendation on best practice to be adopted nationally[14].

[13] OSD Consulting Evaluation Report 2011
[14] Police Scotland Public Space CCTV Review, Terms of Reference – Partnership Data Sharing

This review focussed on the process surrounding Police Scotland sharing Public Space CCTV images with COPFS for evidential purposes associated with criminal prosecutions in Scotland. The nature of the process also includes sharing other images obtained from private space CCTV also referred to as 3rd party CCTV.

In general terms current practice throughout Police Scotland is disparate around the same theme whereby COPFS request a CCTV image production through a forensic gateway. This request is processed, the desired image is burned to disc and the disc is manually delivered to COPFS.

This current process is weak in the following areas:-

- system is dated in respect of current technology
- bureaucratic in respect of unnecessary witnesses involved in the evidence chain
- not secure in respect of the ability to tamper with CCTV evidence in disc format
- does not afford the punctual sharing of evidence to positively effect a plea of guilty during the judicial process

i6

Police Scotland has just procured a new IT system i6 that will revolutionise the way we deliver our core business both internally and externally with partner agencies, to ensure that we have a corporate approach which is effective and efficient.

One of the benefits of CCTV systems is that CCTV Cameras are an independent witness beyond intimidation and the recorded footage is its statement in court. One of the challenges currently facing the Police Service is to deliver the relevant CCTV images to the Procurator Fiscal at the same time as the case is reported whether that is as a custody case or a report case. Clearly the quicker the Procurator Fiscal has the CCTV images the quicker the defence is fully aware of the weight of evidence against their client which could result in very early pleas of guilty. This would be of immense benefit to Police Scotland preventing the requirement to submit full statements, the Scottish Police Authority not requiring to carry out detailed forensic examinations, the needless citing of witnesses for possible proceedings, the Procurator Fiscal's Office not requiring any further action after the initial marking of the case and presenting it at Court and the Scottish Court Service having fewer trials to arrange and manage. All this would result in a considerable cost saving to the public purse.

i6 will deliver an integrated electronic case management system, which is supported by an electronic production system. There is the ability to add still images and limited amounts of CCTV footage (as long as these are not in an unusual or 'exotic' format) and send these electronically to the Procurator Fiscal, which will have a unique production number and a full audit trail for anyone accessing that footage. i6 will utilise desktop personal computer functionality such as Windows Media Player to allow the footage to be played on any computer that has the software application.

Preliminary discussion with some Public Space CCTV managers regarding the production of images in a standard format to allow this solution to progress would not be an insurmountable problem as long as they were consulted and provided with the necessary information. At present 72% already produce images in a format that is acceptable to the Procurator Fiscal, but an issue is the encryption of the data which is required would need to be addressed in any solution. This would allow where there is 24 hour monitoring, the images could be shared with the Police immediately and thereafter added to the case. Clearly if it is private space CCTV then that would still require to be formatted by a Digital Forensic Unit or Technical Support Unit as is current practice.

Whilst i6 has some technical ability to deliver this solution the exact limitations of the solution are still to be explored as a part of the detailed design phase of the programme. There may be limitations in terms of data storage of such images and the management of them within the infrastructure.

Martin Leven, Head of IT, has been consulted and has agreed that the technical solution is viable and the best option moving forward. His department is currently working on Project Core regarding the internal network for Police Scotland which will also provide data storage and an archiving solution in relation to Force information. What was required was a business case to be presented in relation to CCTV capture to Court. This would allow work currently being progressed in different work streams to be coordinated to achieve the desired result.

Recommendation 8: A project is established to implement the electronic transfer of Public Space CCTV images to Court utilising i6 and Project Core. Collaboration is required between COPFS, Scottish Court Service, Police Scotland and Public Space CCTV Operatives.

Whilst the future would appear to be i6 it is not anticipated that it will be delivered for at least two years. In the interim it is proposed that a pilot project be established at a Scottish Court building. The project would look at placing a reviewing suite for Public Space CCTV within the Court Building. This would allow access for the Procurator Fiscal and the defence agent to review the Public Space CCTV at all and every stage of the court process. If the case went to trial it would be streamed from this

computer to a plasma screen within the Court. This would lead to cost savings for Police Scotland in relation to burning of discs, work currently done with Digital Forensics Unit, lodging transportation and destruction of productions. The pilot will also produce data in relation to the benefits of utilising CCTV images at each stage of the process. The estimated cost of the pilot for installation would be approximately £25,000 with annual transmission/maintenance costs of £2,000.

Recommendation 9: A pilot project is established in an identified Court location to provide a viewing suite for the Procurator and defence agents and thereafter if required as evidence within the court is transmitted on a plasma screen.

This report was tasked with looking at Public Space CCTV but Police Scotland utilises a lot of images from 3rd party CCTV which requires to be altered to a format that can be played in the Court system. Currently this work in the West Command area is undertaken by the dedicated Digital Forensic Unit. In the East and North Command area this work is undertaken by the Technical Support Unit and on some occasions using the Public Space CCTV operatives who have purchased the software to perform that task.

Recommendation 10: An internal review of the role of Technical Support Unit and the Digital Forensics Unit to be carried out to identify best practice and develop a corporate model for Police Scotland.

PROGRESS IN IMPLEMENTING THE NATIONAL STRATEGY

As this is the first questionnaire since the implementation of the National Strategy it will be the base line of where CCTV is now and following reviews will continue to monitor work ongoing to implement the National Strategy.

In the questionnaire a number of questions were asked in relation to the National Strategy Document to gauge what progress had been achieved. 14 Local Authorities have utilised the camera evaluation tool which identified 53 cameras which were not strategically placed to deliver the required outcomes. The issue identified in trying to remove Public Space CCTV Cameras was that the public were not in favour as they believed that the camera was preventing crime and if removed crime would increase. A number of Local Authorities felt the tool was cumbersome and not easily utilised. In addition there was a cost applied to the removal of the identified cameras which in turn become prohibitive.

Only 8 Local Authorities produce annual reports and 9 Local Authorities use key performance indicators for the services they provide. 15 Local

Authorities have carried out a Strategic Review of their CCTV facilities. 19 Local Authorities have an internal audit mechanism to ensure compliance with the requirements of the Data Protection Act.

It has been difficult to establish the exact figures across in relation to proactive monitoring of Public Space CCTV in relation to crimes detected and persons reported to the Procurator Fiscal across Scotland. [redacted]