

**On the Threshold to Urban Panopticon?
Analysing the Employment of CCTV in European
Cities and Assessing its Social and Political Impacts**



RTD-Project (September 2001 - February 2004)
5th Framework Programme of the European Commission
Contract No.: HPSE-CT2001-00094

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Working Paper No.6

CCTV in London

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June 2002

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Table of contents

1	BACKGROUND INFORMATION ON LONDON.....	2
	The population.....	2
	The economy.....	3
1.1	SOCIO-ECONOMIC PROFILE.....	3
	Travel and communications.....	5
2	CCTV IN LONDON.....	6
2.1	TRANSPORT.....	7
	The tube.....	7
	Mainline Railway Stations.....	7
	The roads.....	8
	Airports.....	9
2.2	SPORTS STADIUMS.....	9
2.3	CULTURAL/TOURIST ATTRACTIONS.....	10
2.4	CRIMINAL JUSTICE.....	10
	Police.....	10
	Prisons.....	11
3	CCTV IN THE BOROUGH OF WANDSWORTH.....	12
	Socio-economic profile.....	12
	Transport.....	12
3.1	CCTV IN WANDSWORTH.....	13
	Technological and Organisational Sophistication.....	13
	Legality of Signage.....	14
3.2	CCTV ON PUTNEY HIGH STREET.....	14
	Extent of CCTV coverage.....	14
	Technological and Organisational Sophistication.....	15
	Legality of Signage.....	16
4	A VISITOR´S SCENARIO.....	17
5	CONCLUSION.....	20
	The extent, legality and technological sophistication of CCTV.....	20
6	APPENDIX.....	21
7	BIBLIOGRAPHY.....	28

1 Background information on London

London is made up of the 32 administrative areas of the former Greater London Council together with the Corporation of the City of London. The City's share of the global foreign exchange market is just over 32 per cent, nearly twice that of New York. The London Stock Exchange lists 497 foreign companies, more than any other exchange, with 20 per cent of Japanese and 50 per cent of Korean firms located there (London Research Centre, 2000: 15).

The population

London is the most populous city in the European Union, with approximately 7.2 million residents.

London has a slightly higher proportion of females (50.6%) among its resident population than males.

London is different from the United Kingdom with regard to its age structure, the population tending to be younger, on average, than in the country as a whole. In 1998 London had proportionately more children under 5 and adults aged between 20 and 44 than the United Kingdom.

Also, the population of London aged over the current retirement age is projected to fall during the next 20 years, in contrast to the same age group in the United Kingdom as a whole, which is projected to grow.

Over 300 languages are spoken in the Capital and around a quarter of London's people belong to ethnic minority groups (see Table 1).

Of the total ethnic minority population in 1998-99 in London, 42 per cent were Black and 36 per cent were of South Asian origin. A further 22 per cent were of mixed ethnic origin or from other ethnic minority groups.

Table 1: Population by ethnic group 1998-99 in percentages

	Inner London	Outer London	London	Great Britain
Ethnic group				
Black Caribbean	5.8	2.9	4.0	0.8
Black African	7.2	2.5	4.3	0.7
Black Other	3.4	1.6	2.3	0.5
Indian	2.3	7.4	5.4	1.6
Pakistani	1.0	2.0	1.6	1.1
Bangladeshi	4.0	0.7	2.0	0.5
Chinese	0.9	0.5	0.7	0.3
Other Asian	1.5	2.0	1.8	0.3
Other	3.8	2.4	3.0	0.7
All ethnic minority groups	29.9	22.0	25.1	6.6
White	70.1	78.1	74.9	93.4
All persons (=100%) (in thousands)	2,696	4,309	7,005	56,857

(1) The population includes residents in private households, students in halls of residence and those in NHS accommodation.

(2) Four quarter average: Autumn 1998 to Summer 1999.

Source: Labour Force Survey, Office for National Statistics.

The economy

In 1997, London's Gross Domestic Product (GPD) per head was more than 40 per cent higher than the UK average.

Between 1996 and 1999 there was a marked expansion in the number of service industry sites in London, with growth as high as 49 per cent in some boroughs.

There were 251 thousand businesses registered for VAT in London in 1999; 3 per cent of these had an annual turnover of £5 million or more.

Nearly 37 per cent of businesses registered for VAT in London were within business, financial and real estate services compared with 24 per cent nationally (London Research Centre, 2000: 53).

1.1 Socio-economic profile

The proportion of households with an average gross income of £600 or more per week over the period 1996-99 was larger in London than in the United Kingdom as a whole at 31 per cent compared with 23 per cent. Meanwhile, 'the proportion of households with

low incomes (below £100 per week) was the same for London and rest of the United Kingdom at 12 per cent' (London Research Centre, 2000: 92).

Table 2: Unemployment rate: by ethnic origin – 1998-99 ⁽¹⁾

	Inner London	Outer London	Great Britain
ILO unemployment rates (percentages) ⁽³⁾			
White	6.8	5.4	5.7
Black ⁽⁴⁾	17.3	13.1	14.7
Indian/Pakistani/Bangladeshi	19.4	9.6	12.4
Others ⁽⁵⁾	18.3	9.1	12.1
All origins ⁽²⁾	9.5	6.5	6.1
Total (=100%) (in thousands)	127	144	1,732

(1) Four quarter average from Autumn 1998 to Summer 1999

(2) Includes those who did not state their ethnic origin

(3) People aged 16 and over

(4) Excludes Black-mixed

(5) Includes Black-mixed

Source: Labour Force Survey, Office for National Statistics.

In April 1999, the earnings of full-time manual employees in London were on average 13 per cent higher than in Great Britain as a whole for males, while the difference for females was 18 per cent. The equivalent differentials for non-manual employees were 26 and 27 per cent respectively. (London Research Centre 2000: 71).

There was a sharp rise in employee jobs in the financial and business services industry in London between 1989 and 1999 from 25 per cent to 32 per cent.

The ILO1 unemployment rate in London was 7.5 per cent in Spring 1999, compared to the UK average of 6.0 per cent.

People from all ethnic minority groups in London had higher unemployment rates than the White group in 1998-99.

London contains 13 of the 20 most deprived local authorities in England based on the 1998 *Index of Local Deprivation*.

¹ An international Labour Organisation (ILO) recommended measure, used in household surveys such as the Labour Force Survey, which counts as unemployed those aged 16 or over who are without a job, are available to start work in the next two weeks and who have been seeking a job in the last four weeks, or who are waiting to start a job already obtained' (London research Centre, 2000: 68).

Table 3: Most severely deprived districts in England, 1998 ⁽¹⁾

Ranking	Districts	Ranking	Districts
1	Liverpool	16	Nottingham
2	Newham	17	Camden
3	Manchester	18	Hammersmith/Fulham
4	Hackney	19	Newcastle upon Tyne
5	Birmingham	20	Brent
6	Tower Hamlets	21	Sunderland
7	Sandwell	22	Waltham Forest
8	Southwark	23	Salford
9	Knowsley	24	Middlesborough
10	Islington	25	Sheffield
11	Greenwich	26	Kingston-upon-Hull
12	Lambeth	27	Wolverhampton
13	Haringey	28	Bradford
14	Lewisham	29	Rochdale
15	Barking and Dagenham	30	Wandsworth

⁽¹⁾ Based on the Index of Local Deprivation

Source: Department of the Environment, Transport and the Regions.

Travel and communications

Households in London spend £6.90 a week less on motoring than do those in the United Kingdom as a whole, but £8.10 a week more (almost twice as much) on other travel costs.

Londoners travel about half as far by car as residents in the South East (excluding London) and under two thirds as far as residents of Great Britain as a whole.

Rail mileage (including the London Underground) by Londoners is almost two and a half times as high as the national average.

The number of passengers using London's airports increased by 63 per cent between 1988 and 1998 and by more than 7 per cent between 1997 and 1998. For the first time more than 100 million passengers were handled in a year' (London Research Centre, 2000: 121).

2 CCTV in London

London has witnessed a huge increase in the number of CCTV cameras over the last decade. For instance, following the IRA's terrorist attack on Bishopgate in 1993 a network of cameras was introduced to monitor the entrances to the City of London known as the 'ring of steel'. This system has now been integrated with many of the cameras operating in the City's banks and offices. 'Camerawatch', as it is known, was set up following a meeting with some 400 organisations and involves 373 systems with over 1200 cameras (CCTV Today, November 1995: 28). The capital's busiest shopping area, Oxford Street, is also covered by a £500,000 CCTV system consisting of 35 cameras which are monitored from a centralised control room located in Marylebone police station (CCTV Today, 1997: 3). Similarly, the Parliamentary estate is monitored by a network of 260 CCTV cameras (POST, 2002). But it's not just central London that has witnessed a rapid increase in the use of CCTV systems. For example, in their fictional account of 'an everyday story of video surveillance', Norris and Armstrong (1999) estimated that in a single day a citizen of London could expect to be 'filmed by over three hundred cameras on over thirty separate CCTV systems' (1999: 42).

While there are no government records that would allow us to state the exact number of cameras in the capital, there are figures on central government funding of CCTV which give us some idea of the extent to which surveillance is becoming ubiquitous in the public spaces of the UK. By 1995, over three-quarters (78%) of the Home Office budget for crime prevention was being used to fund the introduction of CCTV systems in public places (Goodwin et al 1998: 3). Between 1994 and 1999, the four rounds of the government's CCTV Challenge Competition raised £85 million to secure the capital funding of 580 CCTV schemes, £31 million from Home Office Funding and £54 million from the partnerships (CCTV Today, November 1995: 4). Under the Crime Reduction Programme CCTV Initiative, £153 million of capital funding was available to crime and disorder reduction partnerships in England and Wales for new and extended public area CCTV schemes. The first round of the initiative was launched in May 1999 and expenditure was expected to reach £64 million (Hansard, 18 January 2000).

London has done particularly well in the bidding process for centrally funded CCTV. For example, in the second round of the Crime Reduction Programme (announced on 31 March 2000) awards amounting to £79 million were made to partnerships. The successful partnerships included a total of 22 London Boroughs who made bids ranging from £15,000 in the Borough of Merton to £2,718,450 in the Borough of Tower Hamlets (for improvements to the Docklands Light Railway). Between them the 22 London boroughs bid for a total of £17,883,343 (Crime Reduction CCTV Initiative). This money has been used to fund new systems and to improve existing systems including 'a £1.2 million upgrade of the London Borough of Ealing's 255-camera CCTV scheme' (CCTV Today, January-February 2002). These figures do not include other CCTV systems

that have received central government funding, such as those in schools. For example, between 1997 and 2002 all 32 of the London borough's received annual school security grants which came to a total of £13,013,510 (Department for Education and Employment, 2001).

2.1 Transport

London's transport infrastructure consists of the London Underground, Mainline Railway system, roads and airports.

The tube

London Underground is a major business with three million passenger journeys made a day, serving 275 stations over 408 km (253 miles) of railway. In 1999-2000, 927 million passenger journeys were made (www.thetube.com). The first CCTV installation on the Underground was carried out in 1961, at Holborn Station on the Central Line, where five black and white cameras were installed (CCTV Today, November 1996: 10). During the 1990's the London Underground system embarked on a programme of blanket CCTV coverage across its 250-station network. By March 1996 one company, Sony, had alone installed 5,000 cameras (CCTV Today, March 1996: 35). On the Central Line which has 55 km of track, 34 stations and carries 166 million passengers a year, 500 CCTV cameras have been installed and are monitored by one central control room.

More recently, London Underground has introduced eighty-five one-man operated trains installed with a 'track to train CCTV system'. The system allows the driver to receive pictures of the platform at each station as it is approached and on arrival to see pictures of the side of the train to monitor the doors and passenger safety (CCTV Today, November 1995). Meanwhile, in January 2002 the London Underground introduced 'Operation Hawkeye' - a 550-camera CCTV system designed to monitor the 58 car parks at underground stations (CCTV Today, March/April 2002: 5). Images from the CCTV system are monitored at three CCTV control rooms at West Ham, Finsbury Park and Wembley Park.

Mainline Railway Stations

Limited camera surveillance has been operating on the mainline railway stations for over thirty years and like the Underground system the 1990's has seen a move towards 'blanket' CCTV coverage; Waterloo Station, for example, is estimated to have 250 cameras (Professional Security, March 2002: 31). In 1997 a modernisation programme was launched which allows British Transport Police (BTP) full access to 1800 CCTV cameras covering all 16 major stations in the capital (CCTV Today, September 1997: 4). In January the following year Railtrack announced a £1 billion station regeneration programme, £40 million of which is to be spent on installing CCTV and better lighting at

800 stations (CCTV Today, September 1997; January 1998). A major CCTV system has also been introduced on the capital's Docklands Light Railway. The system consists of 114 cameras which are integrated with 70 passenger alarm points at the railway's 29 stations (CCTV Today, September 1997: 35).

The roads

Since the early 1990's speed cameras and red light enforcement cameras have increasingly been deployed on the national road network. By 1994 just over half of all police forces were using speed cameras. In 1996, a survey of ten police forces found they had 102 speed cameras which were rotated between 700 sites. However, the most recent figures suggest that in London alone there are now 650 speed cameras in operation (Sunday Times, 27 February 2002). The rapid increase in the use of speed cameras is reflected by the increase in the number of prosecutions from 6,390 in 1993 to 49,560 in 1996. Meanwhile, fixed penalty notices increased from 25,767 in 1993 to 212,000 in 1996 (Norris and Armstrong, 1999: 45). 45)

In July 1997 the Metropolitan Police announced it was to introduce an automatic licence plate recognition system in an effort to combat terrorism and violent crime (*Independent*, 22 July 1997). This was prompted by the 'success' of a similar system launched by the City of London police in February of the same year. By integrating digital camera and computer technology, the system is capable of automatically reading vehicle numberplates as they pass into the 'Square Mile' of the City of London. The numbers are then stored on computer, and matched against a database of 'suspect' or wanted vehicles. The system is capable of handling 300,000 vehicles an hour (Norris and Armstrong, 1999: 45).

London's motorists are also monitored by a real-time traffic information service called Trafficmaster which covers all the major roads in the capital. This system depends upon data supplied by a network of fixed infra-red sensors mounted on motorways and Passive Target Flow Measurement 'blue pole' cameras at the roadside. The network now covers over 8000 miles of the UK road network, utilising 7500 sensor sites (www.trafficmaster.co.uk). However, the most recent expansion of cameras on the capital's roads was announced in 2002 when London's mayor, Ken Livingstone, outlined plans to introduce a traffic congestion scheme comprising of 700 CCTV cameras. From February 17, 2003 motorists will have to pay £5 a day to drive into Central London between 7am and 6.30pm, from Monday to Friday except on public holidays. The charging zone is eight square miles and covers 1.3% of the total 617 square miles of Greater London (The Times, 27 February 2002: 10). The system works by linking the network of cameras to an automatic number plate recognition system. Two cameras will monitor traffic at the zone's entry and exit points: one colour camera to picture the whole vehicle and surroundings, and one mono camera to capture numberplates. All numberplate images are then stored and will be automatically checked with a central

database to see if the daily fee has been paid. A fine of £80 will be levied against anyone who does not pay, which will be reduced to £40 if paid early or rise to £120 for late payment (The Times, 27 February 2002: 10).

The London Bus Lane Enforcement Camera Project also uses video cameras (mounted either on buses or at the roadside) to enforce bus lane regulations in the Metropolitan police area. In 2000 it was estimated that the project had reached the halfway stage with some 300-bus lanes being enforced by the surveillance system (Hansard, 25 July 2000). By 31 March 2000, a total of 151 bus mounted and 29-fixed cameras had been installed. Raymond Webb of the Metropolitan Police stated: 'I suspect that in a few years time, more buses will have CCTV than will not' (CCTV Today, May 2001: 4). Finally, CCTV is becoming a routine security measure inside the buses themselves. London Buses Metroline, for example, (which runs 870 buses on 82 routes, carrying 162 million passengers per year) has introduced CCTV cameras on 130 buses and is now retrofitting its entire fleet (London Transport, 2000).

Airports

In 1996, a £600,000 digitally recorded CCTV system was installed by British Airways at Heathrow airport. The system consists of 96 cameras which capture and record video images using a video motion detection system which provides instant access to any recently recorded images and longer term archive storage (CCTV Today, July 1996: 34). There is also extensive CCTV coverage at the entrances to the public car parks at Heathrow, Gatwick and Stanstead. These systems were introduced in the mid-1990's after it was revealed that a robbery of 1 million pounds of cash from a Heathrow Airport car park was not filmed by the security cameras because all the car parks cameras were in fact dummies (*Guardian*, 3 April 1994). By early 1995 this security lapse had been remedied as the British Airports Authority installed a 100-camera system over their eighteen car parks. The digital system involves a picture of each car, registration number and driver being taken on entry. The information is then stored on a remotely accessible computerised database (CCTV Today, March 1996: 10-14 in Norris and Armstrong, 1999: 46).

2.2 Sports Stadiums

From our review of the security literature it would appear that the majority of the capital's major sports stadiums and arenas have extensive CCTV surveillance systems. In 2001 the Security Company, White Group, won a contract to supply CCTV to the multi-million pound Wembley Arena and Conference Centre redevelopment (CCTV Today, May 2001). The contract includes installing 18 cameras within the arena, supported by a system of external static and high-speed dome cameras to help monitor and maintain crowd safety. Similarly, the Earls Court and Olympia exhibition centres in west London

have control rooms equipped with CCTV, access control and fire detection systems (Professional Security, October 2001).

All of the capital's premier football teams have sophisticated CCTV systems in operation. In 1998, 61 cameras were installed at the former Stamford Bridge – home of Chelsea FC – ground with 'plans to increase the capability of the system to include in excess of 150 cameras in due course' (CCTV Today, March 2000: 44). On this site security officers can monitor the business activities of the stadium and the surrounding area including the underground car park, the hotel as well as all access routes to the ground. At White Hart Lane – home of Tottenham Hotspur FC – police officers, ambulance officers and local council officials monitor the images from the 40 surveillance cameras in a control room high above the pitch (CCTV Today, March 2000: 44). Meanwhile, at Charlton Athletic's football stadium all the seats, walkways, entrances/exits to the Club, players' tunnel, turnstiles and the retail shop are covered by a system consisting of 28 CCTV cameras (CCTV Today, May 2001: 64).

2.3 Cultural/Tourist Attractions

By conducting telephone interviews we were able to obtain information on the CCTV systems in nine of the top cultural/tourist attractions in London. These included: the British Museum, Natural History Museum, Kew Gardens, London Zoo, National Gallery, National Portrait Gallery, Science Museum, Tower Bridge Experience and Westminster Abbey. The size and technological sophistication of the systems varied quite considerably. The average number of cameras was 47, ranging from 11 in one institution to 140 in one of the major museums. Similarly, the annual running costs (maintenance and personnel) ranged from £6,000 to £1,000,000.

At the time of the research the nine cultural/tourist attractions had between them a total of 411 CCTV cameras. All nine of institutions had CCTV systems that were monitored by CCTV operators in an on-site control room. Over three-quarters (79%) of these were monitored on a continuous basis, i.e. 24 hours a day, 365 days a year. All of the systems recorded the images captured by the surveillance cameras, and four (44%) of these were recorded digitally. Finally, all of the institutions had the facility to deploy security officers to events caught on camera and four (44%) had installed automatic detection technologies.

2.4 Criminal Justice

Police

Although the police have been actively involved in the setting up of open street CCTV systems throughout London, in the main, they are not the operators or owners of the systems which are normally run by the local authority. Even so, the Metropolitan Police

own and control a number of mobile systems which can be temporarily deployed particularly for public order events and increasingly their dedicated traffic enforcement cars are equipped with cameras to provide evidence of dangerous and reckless driving. However, it is inside the police station that CCTV has most proliferated. Since the early 1990s there has been a rolling programme to introduce CCTV in all custody suites thorough out the Metropolitan Police Area. At present coverage has been established in 32 of the 64 custody suites. Therefore with in the next few years every person arrested will be subject to video recording on arrival at the police station. (Metropolitan Police, 2001)

Most recently at Kilburn police station in North London cameras have been introduced to all the cells where prisoners are detained. The initiative is specifically aimed at preventing prisoners from harming themselves while in custody and reducing allegations of police brutality. This move is especially controversial since the cells have integral sanitation and there is no mechanism for privacy screening of the images (Newburn and Hayman, 2001).

Prisons

CCTV is a central feature of prison security and is used to monitor the perimeter fence of all London Prisons. However, more recently the government has actively supported the expansion of CCTV across the prison estate to combat drug dealing in prisons (Home Office, 2000). For example in the London prisons of Holloway, Brixton and Wormwood Scrubs CCTV has been introduced into the visiting areas, so that all interactions between prisoners and their visitors are permanently recorded (HMIP 2000, 2001a 2001b).

3 CCTV in the Borough of Wandsworth

The borough of Wandsworth is set in the heart of South London on the River Thames. It includes Balham, Battersea, Earlsfield, Putney, Roehampton, Southfields, Tooting, Wandsworth, parts of Clapham and 5 miles of Thames river frontage. It is the largest of the inner London boroughs, occupying an area of more than thirteen square miles. The borough also has a growing population – currently some 260,000 residents (Wandsworth Borough Council, January 2001). Like other urban areas during the 1990's, it has suffered high unemployment rates, the male rate of unemployment as recorded in the Census being 12.3 per cent. Compared to other inner-London boroughs though, it rates relatively highly in terms of measures of affluence (Jones and Newburn, 1998: 120). For example, its proportion of households which are owner-occupied, at 54 per cent, is the highest of all inner-London boroughs. The proportion of households with more than one person per room is about 4 per cent (the lowest in inner-London). The proportion of households owning two or more cars is over a tenth, the highest in inner-London, and although 44 per cent reported no car, this was one of the lowest proportions of all inner-London boroughs (Jones and Newburn, 1998: 121).

Socio-economic profile

In 1998 17 per cent of the resident population were aged under sixteen, 67 per cent were aged between 16-59, and 15 per cent were aged 60 or over.

More than one in five people in Wandsworth belong to a racial minority group.

Professional and Managerial occupations make up 35 per cent of the total workforce in Wandsworth, compared with 27 per cent of the workforce in Inner London.

There is considerable variation in the ILO unemployment rate between the London boroughs. For those boroughs where a rate can be reliably estimated, the annual average from March 1998 to February 1999 ranged from 5.0 per cent in Wandsworth and 5.4 per cent in Barnet to 16.7 per cent in Newham and 14.8 per cent in Hackney (London Research Centre, 2000: 74).

Transport

Wandsworth is served by a network of road, rail, river and air services. Heathrow airport can be reached by car in 45 minutes and Gatwick in 30 minutes by rail ... Waterloo International Station is only 10 minutes away by train.

The borough has the only commercial heliport in London.

There are 8 British Rail stations in the borough – Clapham Junction, Putney, Wandsworth Town, Earlsfield, Wandsworth Common, Queenstown Road, Battersea Park and Balham.

Underground stations in Wandsworth include Tooting Broadway, Tooting Bec, Balham, Clapham South, Southfields and East Putney.

3.1 CCTV in Wandsworth

In 2000 the Borough of Wandsworth had an open-street CCTV network consisting of approximately 180 cameras mainly covering town centres and housing estates (Wandsworth Council Press Release, 10 April 2000). The system is monitored at a major control room in Wandsworth, though as Newburn and Jones (1998: 155) point out, 'there was some difficulty in finding the staff to carry out the monitoring (for much of the time, the screens were unmonitored, although video-taped)'. Following successful bids to the Home Office's Crime Reduction Programme worth a total of £267,000, Wandsworth council intends to introduce a total of 32 new cameras to monitor the Lennox Housing Estate, St George's Hospital and the car parks in Battersea Park (Wandsworth Council Press Release, 20 March 2000). Meanwhile, the council recently purchased a rapid response mobile CCTV unit which will be used in an attempt to reduce crime and anti-social behaviour. The system consists of a vehicle equipped with CCTV cameras and radios which 'will be used for both covert and overt filming purposes' (Wandsworth Council Press Release, 13 June 2000).

In our sample of Wandsworth Institutions we found:

The hospital, public school, social welfare/benefits office, unemployment office, metro/underground, car park, shopping mall, chain store, pharmacy, bank, post office, hotel, cinema, petrol station, and pub all had a CCTV system.

However, the kindergarten, college/university, court, leisure centre, public library, church, cemetery, public toilet, small shop, restaurant, park and high-density residential area did not have CCTV systems.

We obtained information on the number of cameras from fourteen institutions. Between them these premises had a total of 127 CCTV cameras. On average there were nine cameras per institution.

Technological and Organisational Sophistication

We obtained information on the operation of the systems from fourteen of the fifteen institutions that had CCTV. While eleven of the systems (79%) were monitored by observers, five (46%) were monitored irregularly and four (29%) did not have the facility to deploy someone to the scene of incidents caught on camera. Also, ten (71%) of the fourteen institutions had fixed cameras only.

Legality of Signage

To be compliant with the DPA 1998, signs have to state the purpose of the surveillance and provide contact details of the Data Controller so people may exercise their right to access surveillance footage relating to themselves. Our findings are listed below:

We obtained information on signage from thirteen of the twenty-seven institutions. Nine out of thirteen (69%) of institutions with CCTV systems had some sort of sign declaring the presence of CCTV.

We obtained information on the content of signs from eight institutions. Only two (25%) had signage in accordance with the current Data Protection Act. The other six institutions displayed signs that alerted the public to the operation of CCTV but failed to provide the full information legally required under the Data Protection Act.

3.2 CCTV on Putney High Street

The Borough of Wandsworth has five town centres - Balham, Clapham Junction, Tooting, Wandsworth and Putney - which are the main shopping locations in the borough and the focus for a wide range of employment, services, leisure and entertainment facilities. The high street we chose is situated in Putney which has a national profile and strong identity arising from the annual Oxford and Cambridge Boat Race and river related recreational activities. It has a strong shopping centre which includes the Putney Exchange (a shopping mall situated on the high street), Sainsbury's, Waitrose, Marks and Spencer, many restaurants, a theatre and a cinema. It is also the Borough's major office centre (The Wandsworth Fact File, 2000: 3). The resident population of Putney in mid-1998 was 25,700 people, 10 per cent of the population of Wandsworth local authority.

Extent of CCTV coverage

Putney has an open-street CCTV system that is monitored from a centralised control room in Wandsworth town centre. Also, the Upper Richmond Road is monitored by several 'blue pole' cameras that are part of London's Trafficmaster network.

In total ninety-two premises appeared to have cameras. However, in six of these cases these were 'dummy' cameras. Thus, 86 (41%) out of 211 of the institutions in our sample had CCTV systems in operation. On Putney High Street fifty-nine (49%) of the institutions had CCTV in operation. On the Upper Richmond Road eighteen (34%) institutions had CCTV systems.

In the retail units in the Putney Exchange Shopping Mall a quarter (25%) had CCTV in operation. However, the shopping mall itself has a 17-camera system monitored on a continuous basis (24 hours a day, 365 days a year) by security officers.

The existence of cameras varied considerably between different institutions. For instance, while every bank in our sample had a CCTV system, none of the estate agents had a

system. In contrast six (30%) pubs/cafes, fifteen (33%) small shops, eight (38%) restaurants, thirty-four (47%) of the chain stores, and three (60%) office blocks had CCTV systems.

Our sample gained information on the number of cameras in 60 of the 86 institutions with CCTV systems. In total, there are 246 CCTV cameras in our Putney sample. The average number of cameras in these institutions is 4.1.

Technological and Organisational Sophistication

We obtained information on the ownership of systems from sixty-three respondents, and information on the operators of systems from sixty-two respondents. We found that fifty-three (84%) CCTV systems are 'in-house', and that 'in-house' staff operate fifty-six (90%) systems.

Forty-five out of fifty-nine (76%) institutions in our London high street have fixed cameras only.

Forty-five out of sixty-three (71%) institutions have one TV monitor while two (3%) institutions have CCTV cameras but no monitor on which to view the images.

Thirty-six out of sixty-one (59%) institutions have the facility to split the screen on the TV monitor to display several images simultaneously, while forty out of fifty-eight (69%) systems have sequential switching.

Fifty-eight out of sixty-three (92%) institutions record the images captured by their systems on to video-tape and thirty-seven out of fifty-three (70%) systems have multiplexing. But five institutions do not record any images captured by the CCTV cameras.

In thirteen out of sixty-two (21%) of those institutions with CCTV systems the images displayed on the monitors are not routinely observed by security or staff.

Thirty-six out of fifty (72%) systems are monitored by a single person, thirty-eight out of forty-nine (78%) are monitored 'irregularly', while only five (10%) systems are monitored on a continuous basis (i.e. 24 hours a day/7days a week).

In forty out of forty-nine (82%) institutions those monitoring the system have other tasks to carry out.

In terms of system integration, only two (3%) institutions have the facility to relay pictures captured by their system to an outside institution (i.e. the police). However, eighteen (29%) have electronic communication links (e.g. radio links and panic alarms) with other police/security systems.

Only three out of sixty-one (5%) institutions have automatic detection technology, while twenty-three out of sixty-two (37%) are unable to deploy someone to the scene to deal with incidents caught on camera.

Legality of Signage

Only forty-three (53%) out of a total of eighty-one premises with CCTV displayed a sign declaring the operation of CCTV

We obtained information on the content of signs from forty-six premises. Only ten (22%) had signage in accordance with Data Protection law. At the other thirty-six (78%) premises although there were signs they failed to provide the full information legally required under the Data Protection Act.

4 A visitor's scenario

It is 9.30 on a warm June morning and Claude and Helena Zidane have just touched down at London's Heathrow Airport. As their plane taxis to the terminus they talk excitedly about who they might meet at the opening night party for the Tate Modern's latest exhibition. They board the travelator and head towards the baggage reclaim and are noticed by the security guard in the central CCTV control room who thinks they make a handsome middle-aged couple: he in his expensive linen suit and she in her designer label frock. This is the Zidane's first appearance on English CCTV but it certainly will not be their last. Indeed as they pass through baggage reclaim, customs and out of the airport to the Tube (metro) they are filmed almost constantly on the 96 camera system and their images recorded for posterity on the state of the art computerised digital system². Rather than traipse round London with their luggage they have decided to check in to their Suburban Hotel in Putney South West London, before an afternoon of sight seeing and the early evening reception at dinner.

While waiting for the train they are filmed by the cameras on the platform³, and which not only relays their images to a central control room but also to the driver of their approaching train, who in her cab has a monitor which enables her to observe the platform pictures from each station⁴. After changing trains, when they are filmed as they are transferred between platforms they arrive at East Putney, the short walk from the platform to the exit is caught on 6 different cameras⁵. The two hundred yard walk to the Putney Castle Hotel is the first time since arriving in England that they have not been filmed, although as soon as they enter the driveway to the Hotel they are picked up by the Hotel's car park system and again by the lobby cameras⁶.

After a cup of coffee in their room they order a taxi to take them up to town where Claude wants to take advantage of mega-music stores on Oxford Street to top up his collection of Jazz CDs and Helena wants to see if she can pick up a Gucci handbag in the sales. They are filmed getting into the cab in the Hotel entrance and then their five mile journey is monitored by a plethora of cameras watching over London's motorists. First the Taxi's licence plate is recorded by one of the thousands of Traffic Master Cameras which now grace Britain's roads⁷. The taxi driver is careful to observe the speed limit

² See page 10 of main report.

³ The London Underground (The Tube), since the early 1990s the London underground has embarked on installing cameras throughout their stations and platforms and there is now almost blanket coverage of all stations. For instance of the central line alone there are 500 cameras covering 43 stations.

⁴ In 1995 London Underground introduced their first 'track to train CCTV system' see report page 10.

⁵ Based on first hand observation from our field work

⁶ Based on first hand observation from our fieldwork

⁷ See page 9 of report and www.trafficmaster.co.uk for details of this system

through out the journey as he does not want to be caught on the myriad of speed cameras now operated by the Metropolitan Police⁸, similarly he is careful to keep out of the designated bus lanes, as they are now monitored by kerb-side and bus top mounted cameras⁹. On arriving at Oxford Street, they decamp and are immediately picked up on one of the 35 cameras comprising the Open Street CCTV system which is monitored from a control room in Marylebone Police station¹⁰. Without exception they are recorded on the in-house CCTV system of each of the six stores they visit over the next hour-and-a-half¹¹.

It is now one-thirty and they are ready for lunch, they decide to head towards China Town in Soho to eat in a small restaurant recommended by a friend, as they order their Noodles and King Prawns Helena gives Zindane a small present of a silk tie. As he reaches for her hand to kiss it in thanks he does not stop to think whether this moment of intimacy is being caught on camera. In fact it is not. The small black box pointing at them from the corner of the ceiling is in fact a dummy camera, installed by the manager as a deterrence against till snatches and handbag theft.¹²

Over lunch they decide that as their legs are tired they will be lazy tourists and take a bus around the main attractions but stopping off at Westminster Abbey and the British Museum. As they board the bus they are surprised to see a notice informing them that security cameras are in operation inside.¹³

At both Westminster Abbey and The British Museum their images are captured on a myriad of cameras protecting the priceless religious and cultural artefacts.¹⁴ As they leave Westminster Abbey they walk past the Houses of Parliament which are protected by a network of over 260 cameras. It is now five o'clock so they decide it is time to take a taxi back to their hotel to freshen up before this evenings seven o'clock reception. On returning to their returning to their Hotel, they shower and change and order another taxi to take them up to the Tate Modern.

⁸ There are now estimated to be 650 speed cameras in London alone, see page 8 of report and *Sunday Times*, 27th February 2002.

⁹ There is an ongoing programme of CCTV installation to cover all of London's bus lanes currently over half are now monitored by 170 cameras. - see page 10 of main report and *CCTV Today* 2001:4).

¹⁰ Unusually the Oxford Street system is in run and monitored by the police directly, All other high street and town centre systems covering the main shopping areas of every London are operated an run by the local authority in partnership with the police.

¹¹ From our sample in Putney High Street nearly half of the chain stores had CCTV. However given the importance of Oxford Street as the premier shopping street of the capital and its attraction to shoplifters and pickpockets it is not unreasonable to assume that all the major store on this street have CCTV.

¹² In our sample xx premises had dummy cameras and although they are not filmed here if thy had eaten in the restaurant next door, there would be a high chance that their moment of intimacy would have been filmed : from our sample around 40 percent of restaurant had cameras.

¹³ London Buses metroline is in the process of installing cameras on its entire fleet of 870 buses – see [Http://www.londontransport.co.uk](http://www.londontransport.co.uk)

¹⁴ It would appear that nearly all the major tourist attraction, galleries and museums in London are protected by CCTV – see page 11-12 of the main report.

While they marvel at the exhibits and mingle with the famous guests they are unsurprisingly filmed on the Tate's new multi-camera system. What they had not realised was that while talking to the *avant garde* performance artist Miles Monk, the tiny video cam in his hat was relaying live images of them tucking in to the buffet supper directly to his web site. According to the site metre this was currently being viewed by two-hundred and ninety-seven people as far apart as Lisbon, Los Angeles and Lagos.

When it is time to leave they decide that as it is such a pleasant evening they will stroll along the Thames back to Waterloo station and once inside the station they are continuously monitored by the blanket coverage of 250 CCTV cameras part of the 1800 cameras which cover the 16 major Mainline stations in the capital. As they alight at Putney Station they are filmed on the platform and as they exit the entrance hall of the station.¹⁵ Before walking back to their hotel they decided to have a night-cap in the Pub opposite the station. As they cross the road they are captured on the Wandsworth Borough CCTV Network monitored from a centralised control room¹⁶. On entering the Pub, Helena notices a large sign on the door announcing that the premises are under video surveillance, the purpose of the system, and the name of the data controller¹⁷ After a quick drink they return to the Hotel, to sleep although their dreams are broken by the buzz of the metropolitan polices video equipped Helicopter which is monitoring the progress of a stolen car as it traverses south London¹⁸

¹⁵ Based first hand observation from our field work

¹⁶ All of Wandsworth's town centres are monitored on the Councils 180 borough wide camera network. - see report page 14)

¹⁷ In our sample around one in three pubs/cafes had CCTV system, however most premises, unlike this pub did not have legal signage of the 86 institutions with CCTV only 43 had any sort of signage indicating the presence of CCTV and on 10 of these were fully in according with the Data protection ACT.

¹⁸ See http://www.timeforcitizenship.com/police/about_prevent.asp for details of the Metropolitan Police's Air Support Arm

5 Conclusion

The extent, legality and technological sophistication of CCTV

In our Putney sample, 41% of premises had CCTV systems in operation. These institutions had an average of 4.1 surveillance cameras. If we use these figures to extrapolate the extent of CCTV coverage in London and the country as a whole we come up with the following results. If we begin by assuming that the extent of CCTV coverage in Putney is broadly representative of CCTV coverage across the whole of London, we could estimate that 41% (102,910) of the 251,000 businesses registered for VAT in London would have a CCTV system. Between them these businesses will have 421,931 surveillance cameras. If we add to these the number of surveillance cameras operating in other public institutions (open-street systems, transport, hospital, schools etc.) it would not be unreasonable to 'guesstimate' that Londoners are monitored by at least 500,000 CCTV cameras. This means that in London (with a population of 7.2 million residents) there is approximately one camera for every fourteen people. From these figures we would suggest that in the UK (with a population of almost 60 million) there are at least 4,285,000 cameras in the UK.

In terms of the legality of CCTV systems, we found that just over half (53%) of institutions with CCTV systems in our Putney sample had signage. However, we found that the majority of these signs were not in accordance with the law as stated in the Data Protection Act 2000. Many of the signs, for example, were not 'clearly visible and legible to members of the public', did not have adequate specification of the data controller (i.e. identity of the person/organisation responsible for the scheme and contact details), and did not give details of the purpose of the scheme (Data Protection Act 2000: 8-9). Based on these criteria we found that less than one-quarter (23%) of the signs in our sample were in accordance with the law. If these figures are an accurate reflection of the legality of CCTV systems in the capital's major businesses, it would mean that 75,124 (73%) of the CCTV systems in London's business space are illegal.

While the extent of CCTV coverage in our Putney sample was quite considerable, many of the systems were small operations with very little technological sophistication. For instance, the majority (79%) of institutions in our London high street have fixed cameras only, and more than seven out of ten (71%) institutions have just one TV monitor. Some (8%) institutions do not record the images captured by the CCTV cameras and well over a third (37%) are unable to deploy someone to the scene to deal with incidents caught on camera.

6 Appendix

Table 4: Wandsworth Institutions

Type of institution	Is there a system?	Is there a sign?	Is signage legal?	How many cameras?
Hospital	Yes	Missing		25
Kindergarten	No	N/A		0
Public School	Yes	Missing		4
College/University	No	N/A		0
Court	No	N/A		N/A
Welfare Office	Yes	Yes	No	8
Unemployment Office	Yes	Yes	No	18
Other Local (leisure centre)	No	N/A		N/A
Public Library	No	N/A		0
Govt Building	Missing	Missing		Missing
Embassy	Missing	Missing		Missing
Religious Centre	No	N/A		0
Cemetery	No	N/A		0
Metro	Yes	Yes	No	16
Car Park	Yes	Yes	No	2
Public Toilet	No	N/A		0
Shopping Mall	Yes	Yes	No	17
Small Shop	No	N/A		0
Chain Store	Yes	No		2
Pharmacy	Yes	Yes	No	4
Bank	Yes	No		Missing
Post Office	Yes	Yes	No	4
Hotel	Yes	No		6
Museum	Missing	Missing		Missing
Cinema	Yes	No		5
Petrol Station	Yes	Yes	Yes	4
Restaurant	No	N/A		0
Pub/Bar/Café	Yes	Yes	Yes	12
Park	No	N/A		0
Stadium	Missing	Missing		Missing
High-Rise	No	N/A		0

Table 5: Type of Institution in Putney High Street

	Frequency	Percent
Chain Store	74	35%
Small Shop	46	22%
Restaurant	21	10%
Pub/Bar/Café	20	9%
Estate Agents	18	9%
Bank	11	5%
Office Block	5	2%
Pharmacy	2	1%
Religious Centre	1	0.5%
Metro	1	0.5%
Shopping Mall	1	0.5%
Cinema	1	0.5%
Others	11	5%
Total	212	101%

Table 6: Existence of a system

	Frequency	Percent
Yes	85	40%
No	121	57%
Dummy	6	3%
Total	212	100%

Table 7: Is there a sign indicating the surveillance? (132 missing cases)

	Frequency	Percent
Yes	42	53%
No	38	47%
Total	80	100%

Table 8: Is the sign in accordance with national laws? (167 missing cases)

	Frequency	Percentage
Yes	10	22%
No	35	78%
Total	45	100%

Table 9: Who owns the system? (149 missing cases)

	Frequency	Percent
In-House	53	84%
Private Security	5	8%
Other	5	8%
Total	63	100%

Table 10: Who operates the system?

	Frequency	Percent
In-House	56	90%
Private Security	5	8%
Other	1	2%
Total	63	100%

Table 11: Is there a code of conduct for the system?

	Frequency	Percent
Yes	34	56%
No	27	44%
Total	61	100%

Table 12: What is the publicly declared intention of the system?

Purpose	Number
Prevention and detection of	
- Theft, fraud, burglary	48
- Damage to property	20
- Violence against persons	39
Improvement of	
- Accident and fire prevention	6
- Work management and service	17
- Client's safety feeling	12
- Other	4

Table 13: Is the system monitored by observers in real time? (150 missing cases)

	Frequency	Percent
Yes	49	79%
No	13	21%
Total	62	100%

Table 14: What is the time of observation?

	Frequency	Percent
24 hours/7days	5	10%
Day time	6	12%
Irregularly	38	78%
Total	49	100%

Table 15: What is the maximum number of observers at anyone time?

Number of observers	Frequency	Percent
0	2	4%
1	36	72%
2	9	18%
3	1	2%
4	1	2%
10	1	2%
Total	50	100%

Table 16: Do the observers fulfil any other tasks parallel to the observation? (163 missing cases)

	Frequency	Percent
Yes	40	82%
No	9	18%
Total	49	100%

Table 17: Number of PTZ or dome cameras in operation (155 missing cases)

	Frequency	Percent
0	45	79%
1	1	2%
2	5	9%
3	1	2%
4	2	3%
6	2	3%
8	1	2%
Total	57	100%

Table 18: How many monitors? (149 missing cases)

	Frequency	Percent
0	2	3%
1	45	71%
2	11	17%
3	1	2%
4	3	5%
5	1	2%
Total	63	100%

Table 19: Are the monitors split screen? (151 missing cases)

	Frequency	Percent
Yes	36	59%
No	25	41%
Total	61	100%

Table 20: Does the system have sequential switching? (154 missing cases)

	Frequency	Percent
Yes	40	69%
No	18	31%
Total	58	100%

Table 21: Are the images recorded? (149 missing cases)

	Frequency	Percent
Yes	58	92%
No	5	8%
Total	63	100%

Table 22: Does the system use analogue or digital recording? (154 missing cases)

	Frequency	Percent
Analogue	56	97%
Digital	2	3%
Total	58	100%

Table 23: Does the recording employ a multiplexing system? (159 missing cases)

	Frequency	Percent
Yes	37	70%
No	16	30%
Total	53	100%

Table 24: Can images be switched to other observers? (150 missing cases)

	Frequency	Percent
Yes	2	3%
No	60	97%
Total	62	100%

Table 25: Are there communications links to other institutions? (149 missing cases)

	Frequency	Percent
Yes	18	29%
No	45	71%
Total	63	100%

Table 26: Is there any automatic detection of events? (151 missing cases)

	Frequency	Percent
Yes	3	5%
No	58	95%
Total	61	100%

Table 27: Is there any deployment to events caught on camera? (150 missing cases)

	Frequency	Percent
Yes	39	63%
No	23	37%
Total	62	100%

Table 28: Who is deployed?

	Frequency
Staff	31
Security	14
Police	9
Others	1

7 Bibliography

- CCTV Today* (1996), 'Digital system contract', July, p. 34.
- CCTV Today* (1997), 'Railtrack completes capital's 16 station surveillance project', September, p. 4.
- CCTV Today* (1997), 'Passenger security', September, p. 35.
- CCTV Today* (1998), 'Chelsea Pyramid', January, p. 37.
- CCTV Today* (1998), 'Railtrack's fast track', January, p. 34.
- CCTV Today* (2000), 'Match day surveillance', March, p. 44.
- CCTV Today* (2001), 'Covert cameras introduced in latest crime fight on London buses', May, p. 4.
- CCTV Today* (2001), 'White Group's Wembley win', May, p. 55.
- CCTV Today* (2001), 'Charlton Athletics' stadium CCTV cameras upgrade', May, p. 64).
- CCTV Today* (2002), 'Ealing control room dismantles video wall', January-February, p.4.
- CCTV Today* (2002), 'Tube cameras', March/April, p. 5.
- CCTV Today* (2002), 'Congestion charging gives green light for 700 camera investment', March/April, p. 4.
- Data Protection Commissioner (2000) *CCTV Code of Practice July 2000*, Office of the Information Commissioner located at:
<http://www.dataprotection.gov.uk/dpr/dpdoc.nsf>
- DfEE (2001), *School Security*, at:
<http://www.dfes.gov.uk/schoolsecurity/allocations.shtml>
- Drury, I. (1995), 'City Challenge', *CCTV Today*, November 1995, pp: 28-30.
- Drury, I. (1997), 'Oxford St retailers plan £1/2m monitoring scheme in time for Xmas 97 shoppers', *CCTV Today*, January, p. 3.
- Fassbender, J. (2001), 'London live', *CCTV Today*, May, p. 10.
- Hansard (2000), *House of Commons Written Answers for 18 January* (pt 4), at:
<http://www.parliament.the-stationary-of...900/cmhansrd/vo000118/text/00118w04.html>

- Hansard (2000), *House of Commons Written Answers for 25 July (pt. 7)*, at:
<http://www.parliament.the-stationary-of...900/cmhansrd/vo000725/text/00725w07.html>
- Home Office (2000) *Government reply to the Fifth Report from the Home Affairs Committee Session 1998-9 Drugs in Prison* (located at http://www.parliament.the-stationary:office.co.uk/cgi-bin/htm_hl?DB=ukparl&STEMMER=en&WORDS=drug+prison+&COLOUR=Red&STYLE=&URL=/pa/cm200001/cmselect/cmhaff/248/24814.htm#muscat_highlighter_first_match)
- HMIP (2000) *A Short Unannounced Inspection of HM Prison Brixton 26-29 June 2000* at: http://www.homeoffice.gov.uk/hmipris/insrep.htm#Full_Announced_Inspections, Accessed 12 June 2002
- HMIP (2001a) *Report on and Unannounced Follow-up Inspection of HM Prison Holloway 11-15 December 2000*, at:
http://www.homeoffice.gov.uk/hmipris/insrep.htm#Full_Announced_Inspections, Accessed 12 June 2002
- HMIP (2001b) *Report on and Unannounced Follow-up Inspection of HM Prison Wormwood Scrubs 7-17 February 2000*, at:
http://www.homeoffice.gov.uk/hmipris/insrep.htm#Full_Announced_Inspections, Accessed 12 June 2002
- Jones, T. and Newburn, T. (1998), *Private Security and Public Policing*, Oxford: Clarendon Press.
- Learmont, J. (1995), *Review of Prison Service Security in England and Wales and the Escape from Parkhurst Prison on Tuesday 3rd January 1995*, Cm 3020, London: HMSO p. 126.
- Leech, R. (1995), 'Central line leads the world with TV "eye" technology', *CCTV Today*, November, pp: 23-25.
- London Research Centre (2000), *Focus on London 2000*, London: The Stationary Office.
- London Transport (2002), *North West London bus garage hosts Golden Jubilee Royal visit release 6th June 2002* located at:
http://www.londontransport.co.uk/press_414.shtml, Accessed 12th June 2002.
- Metropolitan Police (2001) *Custody Suite CCTV Policy (December 2001)*, located at http://www.met.police.uk/publications/special_notice_20-01.htm, Accessed 12 June 2002.

Newburn, T. and Hayman, S. (2001), *Policing, Surveillance and Social Control: CCTV and police monitoring of suspects*, Cullcompton, Devon: Willan Publishing.

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

POST (2002) – Parliamentary Office of Science and Technology – ‘CCTV’, No. 175, at www.parliament.uk/post/home.htm

The Times, ‘Londoners divided by Mayor’s £5 traffic toll’, 27 February 2002, p. 10.

The Times, ‘Snap Solution’, 8 January 1997, p. 4.

Sunday Times, ‘The road with the most speed cameras in England’, 27 February 2002,