

Session: Enforcement Tuesday 16 November 2004

Heather Ward
Centre for Transport Studies
University College London
England

h.ward@ucl.ac.uk

tel: +44 20 7679 1564

fax: +44 20 7679 1567

Safety Cameras in Great Britain – the continuing debate

History of safety camera use in Britain.

Enforcement cameras were first introduced in 1991 and the first deployment of cameras in anything like a systematic way was in West London in 1992 when 21 fixed speed camera and 12 red-light camera sites were installed and their effectiveness monitored (London Accident and Analysis Unit 1997).

In the early days the take up of automatic enforcement by police forces was modest. In 1994 there were 30 speed cameras and 54 red-light cameras but by Spring 1996 there had been continued growth with 102 cameras servicing 700 sites (475 speed and 254 red-light camera sites). Now there are an estimated 5000 safety cameras in use on British roads, nearly all of these are fixed and mobile speed cameras with the proportion of mobile cameras increasing all the time.

An early evaluation of safety camera effectiveness (Hooke et al 1996) demonstrated that the net benefit of speed cameras was five times the initial investment in the first year and more than 25 times after five years. For traffic light cameras the benefits were modest but positive. But a key barrier to more rapid deployment of cameras was one of resource. At that time fines from cameras did not accrue to the police forces who operated them but went to the Consolidated Fund of the Exchequer. The Hooke report concluded that there was a mismatch between where the costs and benefits lay. The **costs** were divided between the Local Authorities, who typically purchased and installed the equipment, and the police, who were responsible for installing and changing the film (cameras were all wet film in those days) and for processing the fixed penalty notices together with the courts. There were no benefits to these authorities in terms of income to offset these costs. The **benefits** accrued to individuals and society in the reduction of injury, distress and material damage. It was suggested that there was little incentive to reach optimal levels of camera use because greater use meant greater cost and burden on the police and courts.

“To address this funding problem the Government now accepts that those responsible for installing and operating cameras should be able to retain some of the fine revenue from offences detected by cameras to cover their

costs. This would enable better use to be made of existing cameras and for additional cameras to be introduced for road safety purposes.”

A new funding system was developed to enable partnerships of local authorities, the police, magistrates’ courts committees and other agencies involved in the enforcement process to have some of their camera enforcement costs refunded from a proportion of the fine revenue. A pilot scheme in eight police force areas demonstrated the effectiveness of partnerships operating under this system of netting-off which has now been introduced nationally (see Gains et al 2003).

The fixed penalty fine for speeding (whether caught by a camera or otherwise) on a road which is not a motorway is now £60 (150 AUD) and three penalty points on the licence. When twelve points have accrued within a three year period, the driver loses their licence for a period determined by the court. If the driver has been caught speeding by a margin of 30 miles/h there is no offer of a fixed penalty and the driver must attend court where the fine can be as high as £1000 (2500 AUD) with 6 penalty points or a driving ban for up to 6 months. The fine for exceeding the speed limit by a wide margin (i.e. travelling at 100 miles/h or more) on the Motorway is £2,500 (6350 AUD), with the option of a driving ban available to the Courts . However, fixed cameras and time/distance cameras are rarely used on motorways except to enforce lower speed limits at major roadworks. Mobile are occasionally used.

Brief overview of controversies surrounding camera operation and effectiveness

Perceptions of danger and of being caught

Cameras at traffic lights have never been contentious, probably because it is evident to all drivers that jumping red lights is dangerous whereas the prevailing public attitude to speed is that everyone drives a bit above the speed limit and it is only those who are exceeding the limit by a wide margin that are dangerous. There is a difference between perception by drivers and results of accident-led analysis as to what is a risky location, which problems a speed camera is well placed to solve, and where it will have little or no effect. This affects acceptability as many drivers cannot see the point of some of the camera locations.

Enforcement of speed limits by the use of speed cameras is effective but controversial. The controversy has heightened since the formation of partnerships with their ability to retain part of the fine and penalty revenue to fund an increase in camera activity. The heart of the issue is that both the real and perceived chance of being prosecuted for speeding have risen rapidly and are probably closer together now than they ever have been. In the early days the perceived chance of being caught was higher than the actual chance because very few fixed site camera boxes had active cameras, and mobile activity was sporadic.

Netting-off of fine income – a stealth tax?

Prior to 2000 when there were few cameras, the local press and radio did not devote much time and space to reporting camera activity and issues. Interest started to rise

after netting-off of fines was allowed especially as soon afterwards there was an increase in the fine from £40 to £60. This encouraged the view that fine income from cameras was a stealth tax. There was a perception that all fine revenue went to the safety camera partnerships and it took some time before the media were accurately reporting that only a proportion goes to the partnerships. There remains today a real tension between revenue raising and road safety in the mind of some sectors of the public, especially those who have been fined for speeding.

Role of the media in shaping policy

The media saw as draconian catching people driving at 35 miles/h in a 30 miles/h speed limit when before cameras came into operation drivers were unlikely to be caught unless they were doing 40 miles/h. This campaign struck a chord in the mind of drivers. The Police started to be more open about their thresholds for enforcing the speed limit which is, as a minimum, the speed limit plus 10 percent plus two miles/h, although in reality very few forces did not, and still do not, enforce at levels as low as these. This side of the story was not reported by the media. The Home Secretary was reported as saying that the police should lay off motorists and concentrate on catching real criminals. Ministers were beginning to be concerned that the increasing use of cameras could lead to failing public support.

There were increasing calls by the national media and others to increase the conspicuity of cameras. The coverage in the press was a powerful lever on the opinion of the Minister. Some police forces were reported to be in favour of brightly coloured cameras because they took the view that cameras are there to change behaviour to reduce death and injury through speeding. The cameras were not there primarily as a means of prosecution. It was reported that in the view of the police, behaviour change was more likely to occur if the police were open about their activities. The AA (Automobile Association) on behalf of motorists welcomed this openness. By July 2002 all fixed speed camera housings in England and Wales had to be yellow, (yellow and orange stripes in Scotland) and be placed where they were highly conspicuous i.e. not behind a tree or a sign.

Role of pressure groups

Pressure on Government from interest groups is a powerful part of the democratic process and in Britain there are pro- and anti- camera interest groups. The pro-camera and road safety groups campaign for more covert operation of cameras because it is their view that the full potential of cameras is realised through a combined use of conspicuous cameras at hazardous locations and of inconspicuous cameras where there is a problem of excess speed and associated injury accidents spread over a long stretch of road or around a local area. The use of inconspicuous cameras is clearly not an acceptable strategy to drivers and to politicians who do not want to appear anti-motorist. The view of the police lies somewhere in between the two camps. There have been concerns expressed that over reliance on automatic technology for speed reduction means that other dangerous practices are overlooked because police are taken away from traffic to other duties.

The anti-camera groups, in particular the motoring press, are uncompromisingly pro-car and resent what they see as their freedoms being eroded. The national motoring

organisations take a more moderate line and see the benefits of enforcement provided it is in the right place with cameras highly visible. Their position is to try to shift the debate towards having speed limits more closely matched with the road conditions.

Recent public opinion surveys indicate that over three quarters of those questioned are accepting of fixed speed cameras providing they are highly visible and sited at hazardous locations. Even amongst those who have been fined, there is a strong favourable opinion provided the cameras are well sited at hazardous locations, fully conspicuous and the route well marked.

Enforcement in Britain is seen as a last resort given that only a small minority of drivers set out to deliberately flout road traffic laws. . The police enforce by consent and if they are too heavy handed and the public withdraws its consent to the level of enforcement then there is a backlash. There is a fine line to be walked by the police, safety camera partnerships, and politicians between being heavy handed in the eyes of the drivers and too soft in the eyes of the road safety campaigners. Whilst the Government remains strongly supportive of cameras and their safety benefits, at the moment they are probably being over cautious and erring towards the soft side.

How effective are cameras?

There is a new subject at the centre of controversy over camera use. As evidence of their effectiveness in reducing the number of casualties increases (Gains et al 2004) there is a debate as to how much of the effect is a true effect and how much is an overestimate resulting from selection bias (regression to the mean) effects. Amongst the academic community there is no doubt about the effectiveness of cameras in reducing road casualties, the debate is centring on how much and by which methods the effect may be estimated (see for example Mountain et al 2004, Elvik 1997, Stone 2004, Hess and Polak 2003). The roll out of the safety camera programme in Britain was constructed in such a way that neither a randomised control trial nor a case controlled trial could be undertaken. In subsequent discussions of the size of the regression to the mean effect it has remained unresolved as to how this effect can be estimated. More research and data gathering is needed in this area.

Public opinion surveys

Public opinion surveys have generally found that drivers are positive in their attitudes to speed cameras. In August 2001, Direct Line, a motor insurer, published a survey of 2000 drivers and their attitudes towards speed cameras (MORI 2001). They found that 70 percent of drivers were in favour of cameras and 70 percent think that well placed cameras are a useful way of reducing accidents and saving lives. Around that time there had been a spate of media reports about civil liberties and the Direct Line Poll showed that only 21 percent of those surveyed thought that cameras were an infringement of people's civil liberties.

The presence of cameras led 89 percent of respondents to say that they made them think more carefully about how fast they were driving. 69 percent thought that cameras should be well marked and conspicuous, although there was support from 20 percent of drivers for hiding cameras, and 13 percent thought that some should be conspicuous and some inconspicuous. The most favoured location for speed cameras amongst two thirds of those surveyed was outside schools and other hazardous locations.

In June 2002, the London evening paper, *The Standard*, whose reporting was generally anti-camera, published the results of its own poll which found that 84 percent of those questioned in London and the South East of England thought cameras were a good thing. 69 percent reported obeying speed limits even when there was not a camera nearby and 49 percent said they had never been flashed by a camera. 85 percent believe that cameras save lives and 68 percent think that hiding them from view is unfair. There is more support for cameras amongst older drivers.

Stradling et al (2003) in their report on *The speeding driver: who, how and why?* asked about opinions of speed cameras and found that more females (82 percent) than males (68 percent) thought them a good thing and support for speed cameras increased with age of driver from 57 percent of 17-24 year olds to 87 percent of over 65s on favour. In reviewing the results of the surveys, Scottish Road Safety Units agree that speeding drivers, especially male drivers under 24 years and over 40 should be targeted by well planned and resourced publicity campaigns.

The results from the surveys are consistent with each other and consistent over time. They demonstrate the relationship between conspicuity and acceptability in the minds of the driving public.

Driver behaviour at camera sites

More people are being convicted of speeding offences with one in five people in a recent AA Motoring Trust survey having been convicted of a speeding offence in the last three years compared with one in six people in the corresponding 2001 survey. A recent report suggests despite more people being caught¹, this is not matched by more drivers being disqualified as a result of totting up of penalty points (Parliamentary Advisory Council for Transport Safety 2004). It has been suggested that this may be the result of drivers modifying their behaviour as they get close to accruing 12 points and loss of their licence. The form of this behavioural modification is at the moment unknown until more research is undertaken. Corbett (1995) has developed a typology describing response of four groups of drivers to the presence of speed cameras. This seems a promising way forward to begin to think about possible interventions to target speeding drivers.

¹ Cameras led to a total of 1 411 300 fixed penalty notices and prosecutions in 2002 compared with 262 200 in 1996, and 9557 drivers disqualified for speeding in 2002 compared with 14 690 in 1990 (PACTS 2004).

- **conformers**; those that reported they normally complied with speed limits so cameras would make no difference to them. They tend to be more cautious, older and more experienced drivers and the least likely of the four groups to have had a crash in the previous three years.
- **the deterred**; those who reduce their speed on roads where camera are installed. This group was somewhere between the conformers and the manipulators.
- **manipulators**; those that slow down on the approach to cameras and speed up again afterwards: and
- **defiers**; those that stated they carried on as before driving well above the speed limit.

The aim of speed cameras is to reduce the size of the proportion of manipulators and defiers. Manipulators are calculating and sophisticated in their reaction to cameras. They tend to be younger drivers with high offending scores and who report driving at the highest speeds on the roads before cameras were introduced. They do not approve of cameras but know where they all are and think they know how they operate which gives them the confidence to drive past them without being caught (Corbett and Simon 1999).

The defiers were more likely to drive high performance or company cars and generally denied a link between speeding and crash occurrence. They had the highest speed preference scores (i.e. they liked driving fast and usually did so everywhere) and were of the opinion that the police would not take action against them even if they were photographed. This was an attitude expressed in the early days of cameras when there were not many around and there were of the order of one cameras to 10 to 15 or even 20 boxes. It was Corbett and Simons' opinion that the attitude of this group would be likely to change as cameras became more widespread and whilst they may not turn into the deterred, they would likely become manipulators.

Stradling et al's (2003) findings on the causes and consequences of speeding in Scotland also points to persistent speeders being among those with high accident records. Their survey found that excess and excessive speed out of town had risen over the last decade whilst excessive speed in towns has fallen, partly due to the popularity of traffic calming measures. The report also identified that speeders identified in their study have a higher likelihood of crash involvement with drivers who had been stopped for speeding or had been flashed by a speed camera having double the incidence of recent accident involvement.

More recently Skinner et al (in press) have taken the Corbett typology and applied it to a sample of drivers on a rural road who had been caught on camera (the camera was operating below the speed limit for experimental purposes to capture those driving under as well as over the limit). The study found that speeding was perceived as widespread and normal and that the speeding behaviour of other drivers justified the speeding behaviour of the respondents. Many drivers resented camera enforcement. Indeed many drivers, especially the conformers, once prosecuted, felt

anger because they believed they were innocent and safe and this in turn engendered anti-camera sentiments. This reaction has been noted by an AA Motoring Trust survey which found that 88 percent of drivers were in favour of the use of cameras for red light running, this reduced to 78 percent for speeding offences. Acceptability of cameras by those with prosecutions for speeding offences was 62 percent.

Speeding drivers tend to be the younger less experienced drivers with the most negative perception of camera enforcement (Jones et al in press). Manipulators and defiers both denied the link between speed and prosecution, and speed and accidents. In the Jones et al study the defiers as a group appeared to have avoided both collisions and prosecutions

This type of work is useful in allowing insights to those who deliberately speed. There will always be those conformers and the deterred who will be caught on camera during periods of concentration lapses but in the main it is those who persistently drive with higher speeds that need to be deterred from doing so. That four distinct groups have been found by two sets of researchers indicates that the typology generally holds. This has implications for road safety policy in that different strategies are needed to target each group. The largest group is that of the conformers followed by the deterred. Jones et al suggest that these groups need to be kept on board by ensuring that speed limits are appropriate for the road and conditions, and that they are clearly signed to minimise 'accidental speeding'. It seems that the strategy with most promise for the high accident involved manipulators is to use concealed cameras or increased use of mobile cameras in order to minimise knowledge of exact locations to reduce the effect of the manipulative driving style. Albeit a relatively small group, the defiers are a difficult group to target and their behaviour suggests that increasing the real likelihood of detection and prosecution should in time affect their driving style.

Government plans for a revised table of penalties for speeding

There has been concern in Parliament about the high numbers of people being caught speeding and the numbers of people losing their licences. This has led the Department for Transport to issue a discussion paper on revised penalties (DfT 2004). This proposes a graduated system for points and fines for speeding offences. Currently the vast majority of speeding offences are dealt with through the fixed penalty procedure where the penalty is three points and the fine £60 regardless of the degree of speeding. Many people feel they are harshly penalised for speeding 'a little bit' although as can be seen, the enforcement threshold of 10 percent plus two miles/hr is more than 'a little bit' above the speed limit. The discussion paper itself is proving controversial amongst road safety groups although the motoring organisations have given it a cautious welcome. The final decision will be subject to primary legislation, and further formal consultation and debate in Parliament. The final form for the penalties is therefore unlikely to be known until late in 2005,

Table 1: Government suggestion for a possible structure for graduated penalties

	Lower penalty - 2 points and £40 fine	Standard penalty - 3 points and £60 fine	Higher Penalty - 6 points and £100 fine
Speed (mph)	Speed up to and including (mph)	Speed (mph)	Speed at or above (mph)
20	No lower penalty for speeding in 20 mph zone	Up to and including 31 mph	32
30	39	40 – 44	45
40	50	51 – 56	57
50	61	62 – 69	70
60	72	73 – 81	82
70	83	84 – 93	94

Source DfT 2004

“These illustrative figures have been calculated on the basis that the lower penalty would apply (except for 20 mph zones) at speeds below the speed limit, plus 12.5%, plus 6 mph (to allow for the technical limitations of speedometers); and that the higher penalty would apply to speeds beyond the speed limit, plus 25%, plus 6 mph.” (DfT 2004)

Alternative approaches to driver information and education

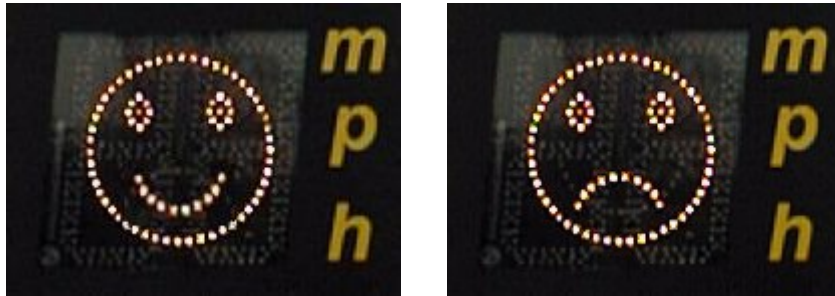
In addition to formal penalties, the Association of Chief Police officers has recently announced that it is putting in place arrangements for a national programme for the use of speed awareness courses. These are targeted at offenders who exceed the speed limit by a small margin and each person is allowed to take the course only once. The courses are not compulsory but the offender chooses, once offered, to attend a specially designed course, at a cost to themselves equal to the current fine, but on completion they do not accrue the penalty points. The courses typically comprise six hours training over one day with a two hour in-class theory session and four hours of practical on-road training, including discussion and feedback. Speed awareness courses seek to explore the possible reasons why drivers and riders not only exceed the maximum permitted speed limit applicable within a specific area, but also the speed deemed most appropriate for a given road and traffic environment.

The motoring organisations welcome the extended use of these courses but the RAC suggests that speed awareness courses should be offered to habitual offenders and motorists caught doing high speeds as well as first time and low level offenders. They believe that driver education should be a real alternative to prosecution.

Speed indicator devices, known locally as SIDs, are becoming increasingly popular with local authorities and police forces. They are mobile units placed at the side of

the road and show a happy face if the drivers is at or below the speed limit and a sad face if they are above it. Most authorities do not show the actual speeds to discourage drivers seeking to “clock the highest speed”. Drivers welcome these devices and say they want to keep to the limit (the conformers in Corbett’s typology) and as an education device are seen popular and effective.

SID (Speed Indicator Device)



Summary

The use of speed cameras in Britain is still controversial. The Government and the Police have both acted to try to bring back on board those who see themselves as law abiding citizens who only speed a bit or by accident. The Government sees cameras as an important element in its strategy to reduce death and injury on the road but in order to keep the public on side have issued a discussion document on the introduction of graduated penalties and are about to issue a consultation document on a new strategy for setting local speed limits. This should help local authorities assess in a more transparent manner the appropriate speed limit for a particular road.

The police for their part are keen not to penalise with undue harshness this section of the driving public and are embracing SIDs and speed awareness courses in an attempt to educate drivers about the dangers of driving above the speed limit and at speeds inappropriate for the conditions.

Referring to Corbett’s typology is helpful because it is the large majority of drivers who may be thought of as conformers and the deterred who feel on the one hand supportive of cameras yet on the other hand angry when they are caught. The manipulators and defiers who see no link between speed and accidents probably comprise the hard core of anti-camera campaigners. They make the valid point that police are over-reliant on camera technology and are not out there on the road to penalise other forms of ‘bad-driving’.

More sophisticated enforcement strategies need to be developed to allow the speed camera programme to become more effective at penalising those whose speeding behaviour is entrenched and a danger to themselves and others whilst not being unduly harsh on those who occasionally lapse. The first steps have been made in recognising not all offenders are the same and that penalties need to better fit the crime.

Acknowledgements

The views expressed in this paper are the authors own.

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