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report outlining legislation for speed
cameras, types, funding and
efficacy



Roads: speed cameras

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This note outlines the legislative basis for speed cameras, the types of cameras in use and includes information on their funding. It also discusses issues surrounding their efficacy.

Speed cameras have long been a contentious subject for motorists. Supporters highlight figures that point to their road safety benefits – in reducing both speeds and accidents – while opponents claim that the figures are not clear cut and that the presence of cameras on the roads can have a negative impact on safety.

As part of the National Safety Camera Partnership programme, police forces round the country were able to form a partnership with the local traffic authority and magistrates court. A partnership funding scheme was made available nationally in August 2001. This followed a pilot scheme in eight police force areas. There are now over 30 such Partnerships in England; the Wales Road Casualty Reduction Partnership in Wales and eight Partnerships in Scotland, all overseen by the Scottish Safety Camera Programme. Road safety funding is devolved in both Wales and Scotland.

When the funding criteria changed in 2007 the Partnerships in England widened their scope and are now involved in all forms of road safety (and as such many no longer mention 'cameras' in their name). It is a matter for them to decide how they manage their budgets and what they spend their money on – whether that be cameras or other road safety initiatives such as traffic calming or driver education. A number of local areas have switched off their speed cameras over the past couple of years.

Information on other roads-related issues can be found on the Roads Topical Page of the Parliament website.

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1 Legislation

Under section 89 of the *Road Traffic Regulation Act 1984*, as amended, it is an offence to exceed the speed limit. Proof of speeding may be provided in various ways, including by the use of a speed camera and by police measuring speed from a mobile unit.

The Road Traffic Law Review was set up in 1985 under the chairmanship of Dr Peter North; its report was published in 1988. The report recommended that greater use should be made of technological innovations to promote compliance with road traffic law, including modern camera technology.¹ The necessary legal framework to support the recommendation was put in place by sections 23 and 40 of the *Road Traffic Act 1991*. The former substituted a new section 20 into the *Road Traffic Offenders Act 1988*, allowing evidence collected on camera to be used in proceedings for a speeding or red light offence. The latter inserted section 95A into the *Highways Act 1980* to give highway authorities the power to install and maintain, on or near the highway, structures and equipment for the detection of traffic offences.

Taken together, the legislation provides for:

- local authority powers to install and maintain roadside camera equipment;
- police powers to require information about the identity of a driver;²
- provision for evidence generated by speed and traffic light cameras to serve as the sole evidence against an offender (without corroborative evidence from police officers) providing that the technology used is a type approved by the Home Secretary; and
- the conditional offer of a fixed penalty which could be sent through the post, thus allowing increased volumes of recorded offences to be dealt with.

¹ DoT and Home Office, *Road Traffic Law Review Report*, 12 April 1988, para 3.21

² section 172 of the *Road Traffic Act 1988*, as amended

The law on the use of speed camera evidence is explained in *Wilkinson's Road Traffic Offences* (2011), as follows:

In this context reference should be made to s.20 of the Road Traffic Offenders Act 1988 (as amended). This gives authority, subject to the conditions laid down in the section, for the admission in evidence in offences of speeding and failing to confirm to a red light signal or bus lane, of a record produced by a prescribed device, and in the same or another document of a certificate as to the circumstances in which the record was produced signed by a police constable, etc. A "prescribed device" is one of a description specified in an order made by the Secretary of State. He may also add to or delete from the offences contained in s.20(2) in respect of which this evidence is admissible.

Section 20(6) states that evidence of a measurement made by a device, or of the circumstances in which it was made, or that a device was of a type approved, or that any conditions subject to which an approval was given were satisfied, may be given by the production of a signed document, which as the case may be, gives particulars of the measurement or of the circumstances in which it was made, or states that the device was of such a type or that, to the best of the knowledge and belief of the person making the statement, all such conditions were satisfied.

Section 20(8) requires that a copy of the document be served on the defendant not less than seven days before the hearing or trial. The defendant, not less than three days before the hearing or trial, may serve a notice on the prosecutor requiring attendance of the person who signed the document. Clearly, strict procedural requirements attach to the admissibility of evidence produced in such a manner and the section should be studied in its entirety.

The provisions in s.20 of the Road Traffic Offenders Act 1988, as substituted, must be strictly observed and the prosecution must prove that the device in question had been approved [...] The circumstances in which photographs produced by the prescribed device, such as a Gatsometer, can be adduced in evidence were considered again in *Griffiths v DPP* [2007] EWHC 619; [2007] R.T.R. 44 (p547). It was decided that the developed film from a negative produced by a Gatsometer is "a record produced by a prescribed device" and therefore admissible under s.20 of the Road Traffic Offenders Act 1988. The provisions in that section must be strictly observed so that, e.g. the photographs served on the defence not less than seven days before the hearing or trial must not be of such poor quality as to be unusable.³

2 Guidance

Both the Department of Transport and the Home Office issued circulars on speed cameras in 1992.⁴ This guidance now only applies to those relatively few areas that are **not** part of a road safety partnership scheme.

The first consolidated copy of the rules and guidance for road safety partnerships (then Safety Camera Partnerships) was issued in November 2004;⁵ it was updated in January 2006.⁶ It applied to those areas that joined the Partnership scheme and usually only to new

³ *Wilkinson's Road Traffic Offences* (25th ed.), 2011, paras 3.60-3.62

⁴ Department of Transport, *Use of technology for traffic enforcement: guidance on deployment* (Roads Circular 1/92), 18 March 1992; Home Office, *The use of automatic detection devices for road traffic law enforcement* (HO circular 38/1992)

⁵ DfT, *Handbook of Rules and Guidance for the National Safety Camera Programme for England and Wales for 2005/06*, 4 November 2004

⁶ DfT, *Handbook of Rules and Guidance for the National Safety Camera Programme for England and Wales for 2006/07*, 30 January 2006

sites introduced after the guidance was first distributed. It did not apply retrospectively, although Partnerships were required to regularly review the need for each camera site. Separate handbooks covered England and Wales, Scotland and Northern Ireland. The core rules and guidance for safety camera enforcement funded through cost recovery across the UK were the same but there were regional differences relating to devolved matters including legislation, processes for funding Partnerships and signing regulations. The guidance represented good practice which Partnerships were expected to consider, but was not mandatory. The aim of the guidelines was to specify the situations when areas should install cameras, how to select sites, monitor and evaluate them.

Following the end of the National Safety Camera Programme in 2007 (see below), the handbooks and other guidance were superseded by DfT Circular 01/2007 which took effect from 1 April 2007.⁷ To be clear, in terms of enforcement, the guidance "has no bearing on the enforcement of offences. Non-compliance with this guidance does not provide any mitigation of, or defence for, an alleged offence committed under current UK law".⁸

As to the particular areas covered in the guidance, Annex A gives an overview of the **site selection criteria** and on site selection more generally, the guidance states:

For selecting potential camera sites, it is recommended that analysis of collision data should be undertaken over a minimum period (e.g. most recent 3 years, or preferably 5 years) to determine whether a camera is an appropriate solution to reduce speeds and/or collisions at that site. Average (mean) and 85th percentile speeds should also be collected so that the data is not more than 12 months old. This will help to demonstrate the level of non compliance with the speed limit, which itself should also have been constant over the same minimum period.

The local partnership is fully accountable for these decisions and should be proactive in communicating information on the deployment of cameras through the usual channels, including the Local Transport Plan process and local Speed Management Strategies.⁹

On **signing**, it states:

Camera signs should continue to be co-located with speed limit signs where permitted and practicable.

For fixed speed enforcement, co-located camera and speed limit reminder signs should continue to be placed to allow the signs and speed camera to be visible to the driver in the same view. A camera sign may also be placed not more than 1 km from the first camera housing in the direction being enforced (including or excluding side roads at the discretion of the road safety partnership).

For mobile enforcement, co-located camera and speed limit reminder signs should continue to be placed in advance of the point of entry to the site or route (including or excluding side roads at the discretion of the road safety partnership) in the direction being enforced. Camera signs should also continue to be placed thereafter at intervals of around 1 km throughout the length being enforced.¹⁰

On **visibility**, it states:

⁷ DfT, *Use of speed and red-light cameras for traffic enforcement: guidance on deployment, visibility and signing* (DfT Circular 01/2007), 31 January 2007

⁸ *ibid.*, p8

⁹ *ibid.*, paras 22-23

¹⁰ *ibid.*, para 41

Depending upon the enforcement method used, speed camera housings (including tripod-mounted cameras) or the camera operator or the mobile enforcement vehicle should be clearly visible from the driver's viewpoint at the following minimum visibility distances:

- 60 metres where the speed limit is 40 mph or less;
- 100 metres at all other speed limits.

On every occasion before commencing enforcement at a camera site, the enforcement officer should check that the visibility guidance is met.¹¹

And on **conspicuity**, it states:

Fixed speed camera housings located within an area of street or highway lighting should be coloured yellow either by painting both the front and back of the housing or covering both the front and back of the housing with retro-reflective sheeting. In an area not covered by street or highway lighting, the speed camera housing should be treated with yellow retro-reflective sheeting. The recommended paint colour is No.363 Bold Yellow of BS381C:1996. The retro-reflective sheeting should meet the requirements of BS EN 12899-1:2001 or a suitable microprismatic sheeting conforming to BS 8408 or an equivalent Standard of a European Economic Area State.

Vehicles from which enforcement may take place should be liveried and clearly identifiable as an enforcement vehicle. Visibility of the livery should be maintained during enforcement, e.g. where it is necessary for the doors to be open, markings or livery should be apparent to approaching traffic in the direction of enforcement. If the enforcement officer is undertaking enforcement away from the vehicle, the enforcement officer should be conspicuous by wearing high-visibility clothing.

On every occasion before commencing enforcement at a camera site, the enforcement officer should check that the conspicuity guidance is met.¹²

In June 2011 the Government set out requirements for local authorities and the police to publish information related to speed cameras.¹³ Site by site casualty, crash and speed information for permanent fixed camera sites (but not mobile enforcement camera sites), including annual crash or casualty data back to 1990 for the numbers of killed and seriously injured and for all personal injuries, must now be published by the relevant local body. Links to where to find this information are given in this August 2011 publication from the Department for Transport.

3 Type approval of devices

As at January 2012 43 mobile speed detection devices had been type approved by the Home Office.¹⁴

The detailed testing requirements for speed cameras are outlined in *The SpeedMeter Handbook*, and the *Automatic Distance/Time Speedmeter Handbook*, both published by the Home Office in 2005 and 2006.¹⁵ The Association of Chief Police Officers (ACPO) also

¹¹ *ibid.*, paras 45-46

¹² *ibid.*, paras 47-49

¹³ DfT, *Speed camera information*, 26 June 2011

¹⁴ HC Deb 24 January 2012, c149W

¹⁵ Home Office, *The Speedmeter Handbook* (4th ed.), March 2005; and: *Automatic Distance/Time Speedmeter Handbook* (2nd ed.), February 2006

published a code of practice for operational use of enforcement equipment in 2002, reviewed in 2004. This describes the type approval process for speed checking equipment (including hand held) and also describes what police officers should do with this equipment.¹⁶ In February 2009 the Home Office sent a letter to the chair of the ACPO road policing enforcement technology committee to clarify the position regarding type-approval of traffic law enforcement devices and the consequent admissibility in court of evidence from such devices.¹⁷

There have been particular concerns about the accuracy of some types of camera such as the hand-held LTI 20.20¹⁸ and SPECS average speed cameras.¹⁹ The previous government always indicated it was satisfied with the devices when challenged with these concerns.²⁰

4 Funding

4.1 Funding settlement prior to 2007

The cost of installing and maintaining speed cameras in the 1990s meant that some police forces had only one in eight devices operating at any one time and drivers were beginning to realise that they were unlikely to be caught.²¹ Various bodies called on the then Labour Government to divert to police forces and local authorities a percentage of the income from fixed penalty motoring fines or an additional charge on top of the fine to help pay for the cameras. The problem was that all the income from speeding fines was paid to the Lord Chancellor under section 60(1) of the *Justices of the Peace Act 1997*. Ministers initially took the view that a fixed penalty system in which speeding fines were not paid to the Exchequer would be tantamount to decriminalising speeding. However, there were precedents (e.g. parking fines and the penalties imposed on motorists whose vehicles break emission laws) and the Government was under considerable pressure to do something about the funding of speed cameras.

In December 1998 the Treasury announced that it had agreed to allow fines, levies and fees to be used to finance specific projects (so-called 'netting off').²² This would allow Government departments and agencies to retain money raised from fines and levies in cases where this would encourage the development of new initiatives, more efficient use of public money and better services. Separate criteria were to be applied to fines/penalties and licences/levies: for example, money raised from fines and penalties would only be allowed to meet costs where:

- this was likely to improve performance against policy objectives;
- enforcement costs could be readily identified and apportioned; and
- arrangements were in place to prevent any possible abuse of the system through the use of fine and penalty collection as a method of revenue raising.²³

¹⁶ ACPO, *Code of Practice for Operational use of Enforcement Equipment*, 25 November 2004

¹⁷ Home Office, *Letter to DCC Adam Briggs, ACPO*, 2 February 2009

¹⁸ BBC Inside Out, *Mobile speed cameras*, 7 March 2005; and: "Speed guns DO lie", *The Daily Mail*, 18 March 2006

¹⁹ "Drivers will have no escape from new speed cameras", *The Times*, 9 October 2008

²⁰ HC Deb 18 April 2007, c687W; and: HC Deb 7 January 2008, c300W

²¹ see, e.g.: "Speed cameras left unused by police to save money", *The Guardian*, 23 January 1997

²² HM Treasury press notice, "Treasury agrees to allow fines, levies and fees to be used to finance specific projects", 9 December 1998

²³ in a December 1998 debate the then Home Office Minister, Paul Boateng, explained the attractions and problems of hypothecating the money from speed cameras; see: HC Deb 9 December 1998, cc453-460

Section 38 of the *Vehicles (Crime) Act 2001* subsequently amended the 1997 Act to allow the Lord Chancellor to make payments to responsible authorities in respect of the whole or any part of their relevant expenditure. The penalties went to what was then the Department for Constitutional Affairs but were then sent on to the Department for Transport, which passed the money on to the relevant local Partnership, up to an agreed amount. The remaining income went to the Treasury. According to the 2003 report on 'netting off' pilot schemes, the Treasury received approximately half of the income from speeding fines.²⁴

In the last year that this system operated (2006-07), the Treasury received £7.95 million in revenue from fines for offences detected by speed cameras and, as a total, the Partnerships themselves received £97.9 million in fine revenue.²⁵

4.2 Changes to funding under the Labour Government, 2007-2010

In December 2005 the then Secretary of State for Transport, Alistair Darling, announced changes to the 'netting off' approach to safety camera funding: the 2006-07 financial year would be the last one where the Safety Camera Partnerships would be funded directly from the fine revenue generated by speeding motorists. Instead, from 2007-08, the Government would provide a total of £110 million in additional funding per year to local authorities for all forms of road safety improvement.

The Government's argument was essentially that speed cameras needed to be considered within a wider context of road safety measures (e.g. speed limits, traffic calming) that could be taken and co-ordinated at a local level and that it would be for individual local authorities to determine the best mix for their particular circumstances:

For 2007-08 and beyond, my department will enhance the overall level of funding for road safety provided to local highway authorities in England through the Local Transport Plan (LTP) process. For the first time a proportion of this funding will be revenue based.

The enhanced funding will be allocated to authorities in accordance with their road safety needs (using the existing LTP road safety formula) and with the quality of their second round LTP submissions and delivery record. We will also provide enhanced funding to Transport for London ... We propose to allocate some £110 million a year for this enhanced funding over the period 2007-08 to 2010-11. As well as the greater flexibility, this will provide financial stability and facilitate long term planning. It is also a substantial increase in funding for road safety, by comparison with the latest projection of 2005-06 expenditure by safety camera partnerships in England which is some £93 million.²⁶

Some organisations saw this as, effectively, a cut in funding for speed cameras, while others acknowledged that speed cameras 'had their place' but needed to be better integrated with other road safety measures. For example, the RAC said that "while cameras had their place, they should not be seen as the first and last resort for road safety" and the AA said that it was "sensible for cameras to work alongside other safety measures".²⁷ The then Conservative Transport Spokesman, Chris Grayling, stated that the change was an

²⁴ DfT, *A cost recovery system for speed and red-light cameras - two year pilot evaluation*, 11 February 2003

²⁵ HC Deb 1 June 2009, cc18-19W

²⁶ HC Deb 15 December 2005, cc179-180WS

²⁷ "Speed camera funding to be cut in new road safety plans", *The Independent*, 16 December 2005

acknowledgement by the Government that "speed cameras have been used as a stealth tax on motorists".²⁸

Essentially, the change meant that all fine revenue would go into the Treasury-controlled Consolidated Fund and local authorities would receive a separate road safety grant from the Department for Transport as part of the local transport planning process.

4.3 Changes to funding under the Coalition Government, 2010-

The Coalition Agreement stated that the Government would "stop central government funding for new fixed speed cameras and switch to more effective ways of making our roads safer".²⁹ Details of the policy were announced in June 2010 when the then Roads Minister, Mike Penning, wrote to local authorities announcing the Government's intention to abolish the road safety capital grant from 2011-12, much of which was spent on funding new cameras, and change the road safety revenue funding:

... while camera operations will have a continuing role, I want to see authorities considering the potential of the full range of local road safety interventions, including educational or engineering solutions. Second, I want to ensure that local partners are accountable to local voters for the decisions they take on the location of cameras and the scale of camera operations, and for the financial consequences of those decisions.

In order to achieve these objectives, I will be doing two things. First, I will be making changes to the arrangements for funding road safety activities at local level. After this financial year, we will be ending the discrete road safety capital grant, which has been closely associated with paying for new speed cameras. We will also be reviewing the future arrangements for resource support to local authorities, as part of a wider planned rationalisation of funding support to local authorities.³⁰

The Minister's arguments about increasing local authority flexibility as to how they spend their budgets are in many ways an extension of the reasons given by the previous Labour Government for ending direct camera funding and allocating instead a broader road safety grant.

On 10 June the cuts to in-year local authority transport grants were also announced, one item to be cut was the road safety grant:

Road safety funding - £37.797m. £20.592m is proposed to be removed from road safety revenue grant (paid out via Area Based Grant) in the last four months of 2010/11 and £17.205m road safety capital grant originally due to be paid in May. This represents a reduction of 27% in the revenue grant and all of the capital grant.³¹

4.4 Impact of funding changes

There have been many stories in the press over the past two years pointing to whole areas of the country where speed cameras have been switched off. There is, however, no clear picture as to exactly how significant the change has been.

For example, in response to these funding changes a number of areas announced a scaling back or complete end to their camera operations. In 2010 areas such as Oxfordshire and

²⁸ "New rules for speed cameras", *ePolitix.com*, 15 December 2005

²⁹ HMG, *The Coalition: Our Programme for Government*, May 2010, p31

³⁰ *Letter to Mike Penning to local authorities*, 24 June 2010 [HC DEP 2010-1514]

³¹ CLG, *Local government's contribution to £6.2 billion efficiencies in 2010-11*, 10 June 2010, pp7-8 [HC DEP 2010-1284]

Wiltshire switched off all their cameras, while Bracknell Forest in Berkshire, Gloucestershire, Thurrock in Essex and Kent announced cuts to their schemes. Devon and Hertfordshire indicated that their operations might also be affected by the end to the direct grant in 2011.³² More recently, the West Midlands turned off their speed cameras.³³

Two contrasting reports from mid-2012 show how the numbers are not altogether clear. In June 2012 *The Sun* published a report stating that nearly half of the speed cameras in Britain had been switched off:

The Sun found that 1,522 of the country's 3,189 camera sites were out of action last year. That is 48 per cent — up from 37 per cent in 2010 and 32 per cent in 2009.

It follows a £38million funding cut by the Government since their 2010 vow to "end the war on the motorist".

Many areas have left non-working cameras in place as a deterrent but may never reactivate them. Avon and Somerset switched off all 69 of its cameras in April 2011 — and the number of accidents where speed was a factor has since **FALLEN** 31 per cent.

In London, 565 out of 754 — 75 per cent — of cameras have been turned off. But Bedfordshire, Cheshire, Essex, Greater Manchester and other areas used all their camera sites last year.³⁴

However, data obtained by the RAC Foundation in July 2012 under FOI shows only a small overall reduction in the number of fixed speed cameras in operation (from 529 in 2010 to 487 in 2012) and an increase in the number of operational fixed camera sites (from 2,188 in 2010 to 2,331 in 2012). It went on:

Of the 38 organisations approached with FOI requests by the RAC Foundation four refused to answer any questions, while two others — Durham and Darlington, and North Yorkshire and York — have never used fixed speed cameras.

Of the 32 administrative bodies which did use fixed speed cameras and did respond, ten said they had made no change to the level of provision of sites, housings and cameras since 2010. Several others registered only small changes in provision over the past two years.

The biggest changes have been seen in Avon & Somerset, Northamptonshire and Wiltshire & Swindon where all operational cameras were switched off.

Despite an overall picture of continuing fixed speed camera operations, concern was raised by a number of those questioned about how the money would be found to replace increasingly obsolete wet-film cameras — those relying on old-style photographic film instead of digital technology — with new equipment.

One estimate is that an appropriate type-approved digital camera to replace a wet-film camera will cost in the region of £20,000.

Commenting on the figures, Professor Stephen Glaister, director of the RAC Foundation, said:

³² "Poll: more councils cutting speed cameras", *The Independent*, 21 August 2010; and "Could localism agenda save speed cameras from the scrapheap?" *Local Transport Today*, 6 August 2010 [LTT 551]

³³ "Speed cameras switched off in cost-cutting drive", *Birmingham Mail*, 2 April 2013

³⁴ "Hundreds of speed cameras off for good", *The Sun*, 4 June 2012 [emphasis in the original]

"Many people believe there has been a mass switch-off of cameras over the past couple of years. But the data shows that, overall, this is simply not true..."³⁵

5 Efficacy of speed cameras in reducing casualties

Between 1997 and 2005 the Department for Transport published a number of evaluation reports on speed cameras, providing statistical evidence supporting the effectiveness of speed cameras in reducing collisions:

- A July 1997 report by the Highways Agency about the West London Speed Camera Project found a 70 per cent reduction in fatal accidents and a 28 per cent reduction in serious accidents.³⁶
- An August 2001 report by University College London and PA Consulting Group on the first year of the Safety Camera Partnership programme pilot found that number of people killed or seriously injured dropped by 18 per cent across the eight pilot areas as a whole and by 47 per cent at the camera sites compared to the average over the previous three years. On average the number of drivers speeding at camera sites dropped from 55 per cent to 16 per cent.³⁷
- A February 2003 report on the second year of the pilot found that, in terms of casualties, that there was a 35 per cent reduction in people killed or seriously injured (KSI) at camera sites, compared to long-term trend, equating to approximately 280 people.³⁸
- The June 2004 The three-year evaluation report on the Partnership programme updated the analysis carried out in the pilot areas to include the 24 Partnership areas operating over the three years April 2000 to March 2003. Only areas operating within the programme for at least a year were included.³⁹ The report found that vehicle speeds were down by around seven percent and there was a 33 per cent reduction in personal injury collisions.⁴⁰
- The December 2005 four-year evaluation report on the Partnership programme updated the previous report to include all 38 areas that were operating within the programme over the four year period from April 2000 to March 2004. Only areas operating within the programme for at least a year were included in the analysis. The report found that vehicle speeds were down by six per cent (as opposed to seven per cent in the three year report) and that without allowing for selection effects (such as regression-to-mean) there was a 22 per cent reduction in personal injury collisions (33 per cent in the previous report).⁴¹

³⁵ RAC Foundation, *English councils keep commitment to speed camera deterrent despite funding cuts*, 10 July 2012

³⁶ HA, *West London speed camera demonstration project*, 1997; the work done by the Police Research Group in 1995-96 found similar results, see: Police Research Group, *Cost benefit analysis of traffic light and speed cameras* (Police Research Series Paper 20), 1996

³⁷ DTLR press notice, "Life saving cameras to be made more visible", 13 August 2001; and HC Deb 29 October 2001, c477W

³⁸ DfT, *A cost recovery system for speed and red-light cameras - two year pilot evaluation*, 11 February 2003, pp1ii-iv

³⁹ HC Deb 15 June 2004, c28WS

⁴⁰ DfT, *The national safety camera programme: Three-year evaluation report*, June 2004

⁴¹ DfT, *The national safety camera programme: Four-year evaluation report*, December 2005

The findings of these reports have been disputed by commentators.⁴² The main contentious issue is that these evaluations do not account for regression to mean (RTM) effects.

As indicated above, the four year evaluation report updated a previous report (three year evaluation, June 2004) and was commissioned by the DfT and authored by academics and staff at PA Consulting Group, University College London, Napier University and University of London. The update included all 38 areas that were operating within the Partnership programme over the period from April 2000 to March 2004. The results regarding casualties and deaths were summarised in the report as follows:

Both casualties and deaths were down - after allowing for the long-term trend, but without allowing for selection effects (such as regression-to-mean) there was a 22% reduction in personal injury collisions (PICs) at sites after cameras were introduced. Overall 42% fewer people were killed or seriously injured. At camera sites, there was also a reduction of over 100 fatalities per annum (32% fewer). There were 1,745 fewer people killed or seriously injured and 4,230 fewer personal injury collisions per annum in 2004. There was an association between reductions in speed and reductions in PICs.⁴³

These headline figures have been disputed as they do not take into account RTM effects.

Speed cameras are installed at sites where there has been a high level of collisions over a short period of time.⁴⁴ The high level of collisions may be due to an increase above typical levels which has occurred as a result of chance. If the increase is down to chance then it would be reasonable to expect the number of accidents to fall from this untypically high level upon next measurement. Such a change would be expected irrespective of whether a speed camera had been installed or not. This is what is known as the regression to mean effect. The theory of RTM suggests that if a variable is first measured when it is at an abnormally extreme value which has occurred purely by chance it will be closer to its normal (mean) value on subsequent measures.

Failure to account for RTM effects when quantifying the effects of speed cameras can over-estimate their impact, attributing decreases in collisions solely to the introduction of the camera. Headline figures produced in the DfT evaluation reports have failed to take into account RTM effects and have therefore been questioned by commentators. For example, in a June 2004 press release the pressure group Safe Speed stated:

The recent official report on the benefits of UK speed cameras is totally unjustified in its headline conclusions, says Safe Speed.

The largest problem arises from the naturally random distribution of road accidents, and the rule that requires cameras to be placed where there have been a high level of accidents over a fairly short period.

When a camera is placed where there has been a temporary upward blip in accident figures, we should not be surprised that the blip does not recur. Such placement

⁴² see, e.g.: "Shuffling accidents along the M11", *Straight Statistics*, 5 February 2010; "Caught on camera", BBC News Online, 19 April 2007; "Are safety cameras only half as effective as we thought they were?", *Local Transport Today*, 12 January 2006 [LTT 434]; and: Safe Speed press notice, "Speed camera report is false", 21 June 2004;

⁴³ op cit., *The national safety camera programme: Four-year evaluation report*

⁴⁴ site selection guidelines for cameras include threshold levels of both all personal injury collisions (PICs) and fatal and serious collisions (FSCs); whenever site selection is based on particularly high numbers of observed collisions in a particular period of time, the sites identified will tend to be those with more collisions than expected during the period of observation

appear to be extremely commonplace and the effect results in an illusion of benefit. Even genuine accident black spots are most likely to receive a camera after an especially bad spell.⁴⁵

The DfT commissioned the Department of Engineering at Liverpool University to study the RTM effect in response to criticism received. Their findings were detailed in Appendix H of the four year evaluation.

The method used to allow for RMT effects required a larger amount of data for each site than was required in the main section of the report. The data requirements for each site meant that 216 sites could be included in the study, a somewhat smaller number than the 3,500 – 4,500 used in analysis in the main report. All of the 216 were urban sites.

Appendix H reports that the introduction of speed cameras resulted in a reduction in the number of personal injury collisions and fatal and serious collisions. However the positive effects are not as large as those reported in the headline findings. The results are summarised in Appendix H as follows:

H.4.3 Summary of results

After allowing for both RTM and long-term trends in collision frequencies, the average effect of these 216 cameras was a reduction of 19% in both personal injury collisions (PICs) and fatal and serious collisions (FSCs) relative to what would have been expected in the after period had the cameras not been installed.

In total the 216 cameras were estimated to be saving 162 PICs each year of which 24 involved fatal or serious injuries.

RTM effects were estimated to account for an average fall relative to the observed baseline collisions of 7% in all PICs and of 35% in FSCs. RTM effects represented one quarter of the observed fall in PICs and three fifths of the observed fall in FSCs.

In August 2010 concerns were also expressed following a review by the DfT as to how the severity of road casualties are recorded. It stated that there were:

...discrepancies in the categorisation of severity of injury between medically trained staff and lay persons, especially for injuries where there is little or no blood, the casualty is conscious at the roadside or there are no obvious external signs of injury such as broken bones.

It should also be recognised that not all injuries, even severe ones, come to the attention of the police. Some never do and some are reported subsequently, which means that no police officer attended the scene.⁴⁶

6 Campaign groups

The Parliamentary Advisory Council for Transport Safety (PACTS) is an associate Parliamentary group and registered charity, advising and informing MPs and Peers on road, rail and air safety issues. Over the years it has prepared a number of briefings arguing the case for speed cameras. For example, in October 2008 it stated:

⁴⁵ op cit., "Speed camera report is false"

⁴⁶ DfT, *Review of Police Road Casualty Injury Severity Classification – A Feasibility Study* (Road Safety Research Report No. 119), 5 August 2010

... Speed cameras have proven to be an extremely successful element of an integrated speed management strategy, and studies have consistently shown that deaths and serious injuries have been reduced by over a third at speed camera sites. Rather than 'punishing motorists', speed cameras may instead save the lives of motorists and other road users.⁴⁷

The Slower Speeds Initiative campaigns for lower and better enforced speed limits; a higher profile for speed reduction initiatives; development of speed control technology and changes in the law to allow conviction of speeding drivers who kill and maim. It has argued for the use of speed cameras to enforce more 20 mph zones and supports a campaign called 'end the body counts' to "change the rules for using speed cameras, so that people don't have to be killed or seriously injured to justify speed limit enforcement".

Safe Speed states that it "does not campaign against speed limits or appropriate enforcement of motoring laws, but argues vigorously that automated speed enforcement is neither safe nor appropriate". For example, the late Paul Smith, founder of the organisation, stated in December 2007:

Leaving roads policing to cameras was a terrible idea. Speed cameras only detect speed above a speed limit - which isn't necessarily a cause of danger - but our skilled traffic police can detect and prevent all sorts of risky behaviour (...) The overall road safety results show that leaving roads policing to cameras was a deadly mistake. We've slipped to 20th in Europe for rate of improvement; Road deaths haven't show a proper fall for well over a decade and annual hospitalisations of road crash victims are rising significantly. We need to scrap the failed speed camera policy urgently and police the roads properly to get British road safety back on track.⁴⁸

⁴⁷ PACTS, *PACTS briefing on Speed Cameras*, 23 October 2008

⁴⁸ Safe Speed press notice, "Road policing left to cameras: a deadly mistake", 10 December 2007