

## Appendix A: UK speed camera evaluation study

| Year/Review   | Impact on  |  |  | Notes   |
|---|--|--|--|---|
|   | Casualties   | Crashes  | Speed  |   |
| 1995<br>West London camera demonstration <sup>i</sup>   | 32% drop in death, 130% drop in serious injuries, 292% drop in slight injuries: all at camera sites  | 28% drop in fatal crashes, 118% drop in serious injury crashes, 212% drop in slight injury crashes/injuries: all at camera sites |  | Before after study on 10 trunk routes with no control group. Red light cameras evaluated on routes at same time.  |
| 1996<br>Home Office Cost benefit analysis <sup>ii</sup> |  | 28% drop in casualty crashes at camera sites. Save 1.25 casualty crashes per year per site                                       | Speed down by 4.2 mph at camera sites  | 420 sites analysed. Economic analysis showed return of over 5 times after one year and over 25 times after 5 years.   |
| 2001<br>First year pilot project <sup>iii</sup>         | 47% drop in K/SI at camera sites, 18% drop in pilot areas  | 35% drop in crashes at camera sites, (1.5 less per site), 6% drop in pilot areas overall   | Speeding down from 55% to 16%. Excess speeding down from 5% to 1%  | Eight pilot areas/police authorities, Control group was rest of the UK. No adjustment for regression to mean (RTM). Pilot areas had K/SI casualty reduction twice that for the rest of the UK                           |
| 2002<br>Two year pilot evaluation report <sup>iv</sup>  | 35% decrease in K/SI, or 280 fewer KSI casualties at sites (65% at fixed sites, 28% at mobile sites), 4% drop in K/SI area-wide (530 fewer K/SI) | 14% reduction in casualty crashes at 6 pilots and 6% at all 8 (510 fewer casualty crashes).                                      | Speed down by 10% or 3.7 mph, speeding down by 67% at fixed sites & 37% at mobile sites, Excessive speeding down by 96% at fixed sites & 55% at mobile sites | Six pilot areas and 599 sites. Allowed for long term trend but not RTM. South Wales and Thames Valley analysed separately due to change in serious injury reporting procedure. 56% drop in pedestrian casualties        |
| 2003<br>Cambridgeshire cameras <sup>v</sup>             |  | 46% decrease in casualty crashes at sites, w/in 2000 metre radius, 21% casualty crash decrease                                   |  | 49 camera sites from 1990-2002, control group all of Cambridgeshire. Accounted for regression to mean (RTM) and seasonality   |
| 2003<br>Mobile speed cameras <sup>vi</sup>              |  | az   |  | Controlled before after study with 101 sites. 500 metre routes vs 300 metres circles  |
| 2004<br>Speed cameras at four sites <sup>vii</sup>      |  | 50% drop in K/SI crashes and 25% drop in casualty crashes at digital site but no decrease at Gatso sites                         | Better reduction in speeding at digital sites and where more than one speed camera. Speeding reduced by 11% at one site after camera painted yellow.         | Study of 4 sites-3 Gatso & 1 digital camera. Compared speeding 500m-1000m before and after camera as well as at camera sites. At one site compared extent of speeding with grey camera and after camera painted yellow. |

- The DfT's casualty quota for safety cameras should be dropped. Cameras should be used more widely to prevent casualties, especially at sites of community concern.
- Covert cameras should be used and evaluated. Even the Motorists' Forum has acknowledged the need for covert cameras on road stretches where speeding is persistent.
- Greater priority and investment should be given to tackling speeding – the most common contributing factor in violent death and top anti-social behaviour concern.

### What is Needed

- The real question is how many crashes and casualties would be avoided if we reduced speed, rather than how many are caused by speed. The controversy around cameras is leading to deaths and injuries, which could be prevented if speed limits were more widely enforced.

### Countering Criticism

- Speed is the leading contributory factor in fatal road crashes, and accounts for twice as many deaths as does drink driving.
- Speed will aggravate the outcome, including the severity, of all crashes. By enforcing speed limit the Government saves much more from avoided death and injury than it receives in fines.
- Automated speed limit enforcement frees police for other road traffic duties. It is the low priority placed on traffic law enforcement which has led to a reduction in traffic police. Cameras have helped compensate, not cause, this problem.

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### Public Support

- Public support for safety cameras has been consistently high, over 67%.
- Demand for cameras is also high and the current rules deny communities the protection they seek from speeding drivers.
- Speeding traffic was the leading anti-social behaviour identified by a recent British Crime Survey.
- Public support is useful but not necessary for governments to do the right thing.

### Camera Effectiveness

- The most recent camera evaluation reviewed 2300 sites in 24 Safety Camera Partnerships. It estimated that 770 people had escaped death and serious injury, including at least 100 road deaths avoided.
- Fixed speed cameras are more effective than mobile cameras and reduce speeding by 71%.
- Mobile cameras decrease speeding by 21%.
- Fixed speed cameras halve the number of killed and seriously injured (51%) at camera sites, while mobile cameras reduce fatalities and serious injuries by 28%.
- As with other road safety interventions which are chosen on the basis of high collision numbers, their impact may be affected by the regression to mean effect. However, casualty reduction has been documented with camera use after accounting for regression to mean.
- Speed cameras could be even more effective if they were allowed to be inconspicuous. In addition, there is concern, and emerging evidence, that the rules on publicising the locations of cameras and making the cameras conspicuous are encouraging drivers and motorcyclists to take greater risks on roads where there are no cameras.

## 2 Safety Camera Partnerships

In order to be allowed to invest camera fines into road safety measures, the local police force and local authority must establish a Safety Camera Partnerships (SCP) that conforms to guidelines set out by the Secretary of State for Transport. Almost all the police forces belong to a SCP. The government guidelines stipulate where safety cameras can be sited, how they must be signed and how fine revenue can be spent<sup>1</sup>.

Safety camera is the collective term used for all traffic enforcement cameras, i.e. fixed, mobile, and digital speed cameras, as well as red light traffic cameras. As the criticism has focused on speed cameras, particularly fixed speed cameras, this briefing reviews the evidence and arguments for speed cameras.

### Safety camera restrictions

**Camera core sites cannot qualify until they meet ALL of the requirements shown below.** Many of the SCP websites state that cameras are used at hazardous locations or where there is a history of collisions. Few specifically mention that there needs to be at least four crashes involving someone killed or seriously injured (K/SI) before a fixed speed camera can be considered.

DfT Safety Camera criteria<sup>8</sup>

| Rule   | Fixed camera sites   | Mobile speed camera sites         | Red light camera sites                         |
|--|--|-----------------------------------|--|
| 1. Site length requirements                                      | Between 0.4 and 1.5 km   | Between 0.4 and 5 km              | 0.05 km  |
| 2. Number of fatal and serious collisions (K/SI) in past 3 years | At least 4 K/SI collisions per km  | At least 2 K/SI collisions per km | At least 2 K/SI collisions within the junction |
| 3. 85th percentile speed at proposed sites                       | Speed survey shows free-flow 85th percentile speed is at or above ACPO threshold.  | N/A                               | N/A  |
| 4. Percentage over the speed limit                               | At least 20% of drivers are exceeding the speed limit, excluding congestion periods.   | N/A                               | N/A  |
| 5. No other engineering solutions possible                       | There has been a site survey carried out by a road safety engineer confirming that no other cost effective engineering solution can be implemented to improve road safety along this stretch of road. It must also be safe to access camera. |                                   |  |

Note: The 85th percentile speed is the speed at which 85% of traffic on the road was travelling at, or below, when the survey took place. ACPO (Association of Chief Police Officers) recommends a tolerance of 10% plus 2 mph over the posted speed limit<sup>9</sup>.

### Why so much stricter than EuroRAP?

The government's specified casualty collision criteria for a fixed speed camera are very high. The European Road Assessment Programme (EuroRAP) defines 'persistently high risk' roads as those sections with at least one fatal or serious injury collision per mile per three years<sup>10</sup>. This is less than one-fourth the casualty quota required for a fixed speed camera in the UK.

## See camera.... Think memorial!

### 2. "Cameras are used to generate revenue for the government"

The government receives no money from drivers who respect the speed limit. Speeding fines are not imposed on all drivers, but only on those who break the law. The real benefit to the government from cameras lies in the cost savings to the health sector and reduced pain and suffering. The estimated value of crashes avoided (£221 million) is over ten times that of the surplus revenue (£20 million)<sup>59</sup>. In Wiltshire, the number of hospital bed days decreased by 33% in one year (2002-2003), thereby freeing 501 hospital bed days for patients suffering from other diseases<sup>60</sup>.

As discussed in the previous chapter, speeding drivers are treated very leniently. If the government chose to enforce the legal speed limit (as it does the legal alcohol limit) on all the roads the AA's EuroRAP programme classifies as high risk, then the camera revenue earned would be many times higher.

As there remain some who still do not connect speed with danger, RoadPeace urges the government to highlight this connection by investing camera revenue in support and rehabilitation services for road traffic victims, as has been done in Australia and North America.

### 3. "Cameras are a cheap replacement for traffic officers"

Speed cameras are a tool, not a replacement, for traffic officers. Just like computers, motor vehicles, and mobile phones, they increase the efficiency of the police. Speed cameras cannot be blamed for the decrease in traffic officers. This started before the safety camera partnerships were established and is due to the lack of priority given to traffic policing. Speed cameras have not caused the decrease in traffic officers, but they have helped compensate for it.

Best use should be made with the limited traffic police resources available. Many of our members have been bereaved or injured in a crash and they are aware of the restricted police resources allocated to road crash investigation. The government has estimated the average cost of police investigation time to be £1500 for a fatal crash and only £190 for a serious injury crash<sup>61</sup>. Any additional investment in traffic police officers should go towards investigating crashes and tackling those road crimes which cannot be detected through camera enforcement.

### 4. "Cameras are ineffective as the decrease in road deaths has slowed"

Cameras will have contributed to that decrease but unfortunately, there are very few camera sites. With cameras estimated to cover less than 1% of the road network, their impact on national road death rates will be limited. **Who expects to lose weight from dieting only one day a year?**

As noted earlier, there is reason to believe that we are not using the limited number of cameras in the most effective way. There is evidence that the policy of requiring cameras to be highly visible is encouraging drivers to speed elsewhere. Public health experts have warned that the government's policy **may be counterproductive to the aim of reducing road casualties**<sup>62</sup>.

It is also worth remembering that while speed cameras may seem to be the only road safety countermeasure ever discussed by the media, there are many other road safety interventions underway. The Government's Road Safety Strategy has over 150 activities organised into 12 main themes. Speed cameras are only one of many interventions to reduce road casualties.