

## TOPIC 12: Speed cameras and road safety policies.

May 2011: Wp Ref Speedc/Speed and policy 02

### Targets and reporting.

1. The Government set a target of reducing the Killed and Seriously injured, KSI, by 40 % by 2010 compared with the average for the years 1994 to 1998. The reduction achieved for the corresponding period ending in 2000 was 35% for fatalities and 43% for KSI. Hence the new target did not look particularly challenging.
2. A statistic of note is that the ratio of KSI to fatalities fell from 13.1 in the period 1984 to 1988 to 9.5 for the five years 2004 to 2008. The change suggests an under-reporting of the seriously injured, which are, to an extent, at the discretion of the police. For that reason this note deals only with deaths.
3. Even with deaths there is a problem. If a patient admitted to hospital survives for 30 days the injury is categorized as "serious". That survival will depend on response time of the emergency services and on the effectiveness of the A and E wards. If those have improved then a reduction in recorded deaths may as well be due to those improvements as to safer roads.

### The Four-year evaluation report <sup>1</sup>

4. This influential report deals with the effects of the cameras at the camera sites, not the overall effects of policy.
5. The executive summary provides:

“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.**

However, later in the text reference to regression to the mean and to long term trend are lost leaving the reader with the overall percentages and the 100 fatalities pa saved.
6. In contrast Appendix H provides:

*H.4.1 Personal injury collisions (PICs)* Table H3 summarises the estimated percentage changes in all PICs relative to the observed collisions prior to camera installation. The overall average observed reduction in PICs is 31%. After allowing for trend and RTM effects, the average **reduction in all PICs attributable to the cameras is 16%** .....
7. Hence, the main text exaggerates the effect at the camera sites by a factor of two. Against that background we say this report is misleading.

### The nation-wide effect

8. Figure 1 shows that, despite the support given to the cameras by the endless speed humps and traffic management schemes, the long established, nation-wide downward trend in deaths per vehicle-km of 7.1% per year, instead of accelerating, collapsed to 2.5% in 1995.
9. Had the previous trend continued there would have been 10,000 fewer deaths than actually occurred. The June 2007 value for a fatality was £1.64 million. That should be increased by 10%, to allow for lesser casualties. Hence, the 10,000 extra deaths imply a casualty cost, laid at the door of present policies, of £18 billion for the period.
10. Additionally, in excess of 13 million motorists were fined, most of whom were driving as well as could reasonably be expected. If those fines averaged £70 the amount taken was nearly £1 billion. For the more detailed see: <http://www.transport-watch.co.uk/transport-pdfs/luxford-damage-road-safety.pdf>

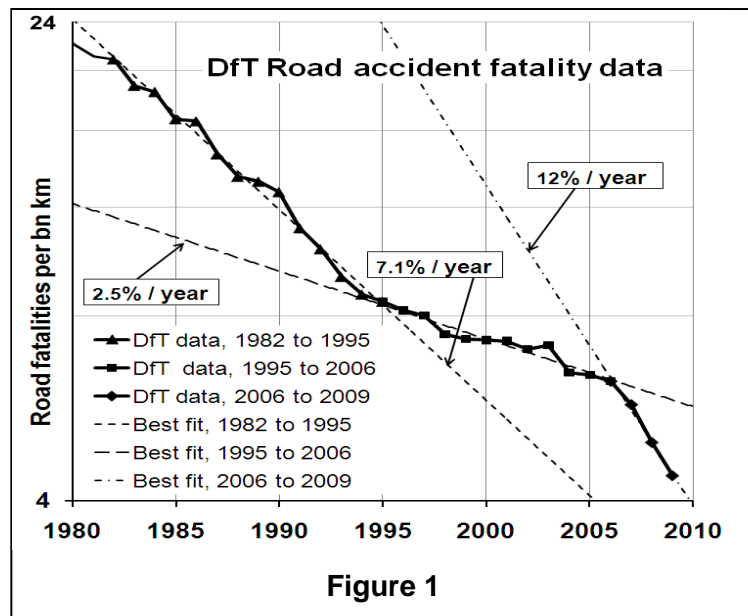


Figure 1

11. The sudden acceleration in the downward trend that happened in 2006, coincides with a reduction in speeding fines and with the recession.
12. Fig 2 shows a remarkable correlation, namely that a doubling fines corresponds to 370 extra deaths.

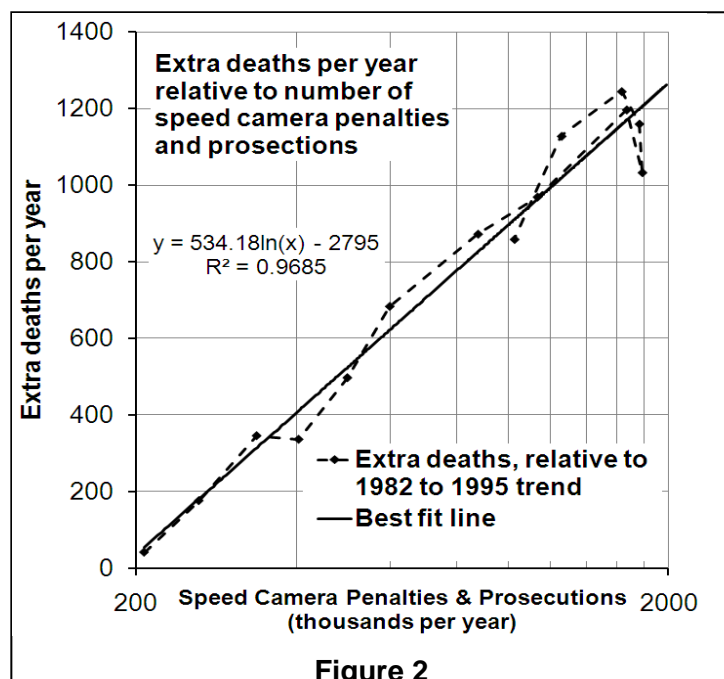


Figure 2

13. Of course there is no obvious causal link but, had the matter been the reverse of the facts, doubtless the cameras would have been given the credit. Consequently perhaps they should take the blame.
14. The points on the graph correspond to successive years with 1995 at the bottom left. At top right there is an astonishing reversal with deaths falling in line with fines. Whether the effect is due that reduced fines, or to the recession taking the youngest and more dangerous drivers off the road, or to some other factor is speculative. Certainly there was no overt change in policy in 2006.
15. Whatever the case the data makes it difficult to claim success for the policies pursued over the past 15 years. Instead those policies appear to have been a disaster.

### Speeding as a recorded cause

16. Traffic and Road Research paper LR 323 published in 1998 found that “excessive” speed was recorded as a contributory factor in only 7.3% of accidents. Despite that

Marie Taylor of the Traffic and Road Research Lab used the data to claim that 30% of accidents were speed related. To do that she combined the following: (1) Failure to judge another person's path or speed, 10.7%, (2) excessive speed (includes breaking the speed limit) 7.3%, (3) Following too closely 4.1%, (4) Slippery road 3.0%, (5) Aggressive driving 1.4%, (6) Weather, e.g. mist or sleet 0.8%, (7) Other local conditions 0.4%, Total 27.7%. The combination was referred to as "inappropriate speed". That was allowed to morph, in the minds of the policy makers and the public, to "speeding" (meaning breaking the speed limit) and to 30% when in reality breaking the limit was present in less than 7% of accidents.

17. Data in Table 4(a) of the DfT's "Reported Road Casualties Great Britain Annual Report 2008" shows that in 2008 speeding was recorded as a cause in 14% of fatal accidents and in 5 % of all personal injury accidents, PIAs. However, because there are nearly always more than one recorded cause in any particular accident, speeding as a proportion of all recorded causes was at the 5.7% level for fatal accidents and at the 2.3% level for all PIAs. That data is almost identical to the same available years earlier in the DfT's "Contributory Factors to Road Accidents".
18. Despite that the officials at the DfT have to put it about these last 15 years that speed causes 30% of accidents and have been happy to have that seen as though all accidents due to speed involve breaking the limit.
19. Worse still, justice has routinely been defeated because of the high costs of a defense, the disgraceful claims of camera accuracy routinely made by police expert witnesses and the difficulty that a citizen will have in extracting the evidence, which may disprove the allegation. For an example see The Luxford story at <http://www.transport-watch.co.uk/transport-pdfs/luxford-summary-tow-col.pdf>.

### **Speed and accidents**

20. The TRL reports 421 and 511 were commissioned so as to find the relationship between speed and road accidents. Since speeds are higher on the safer roads, the researchers subdivided the rural road sample into four categories and established a positive relationship between speed and accidents for each category. The results in TRL 511 suggested that a one mph reduction in speed saves between 4% and 9% of accidents and that a 10% increase in speed would lead to 30% more KSI accidents. TRL 421 suggested that a 1 mph reduction in speed would reduce accidents by 5%.
21. Those reports and others have created pressure for ever greater reductions in speed limits. However, (a) since there would be no accidents if we were all stationary, a positive relationship between speed and accidents would inevitably be found (b) the speed, flow and accident rates would have coalesced had the subdivision of road types and flow been extended, illustrating the circularity and pointless nature of the research.
22. In any event our analysis at topic 9 shows that, even if the claims in these reports are true, the value of accident savings following upon a speed reduction would be less than one fifth of the value of the time lost.

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Against that background we comment that it is a sad day for all of us that the police and others continue to defend these punitive and failed policies. After all if we cannot trust the authorities to tell the truth and to behave reasonably, in this vector why should we trust them in any other?

**Acknowledgment**, Dr G Luxford provided the trends in death rates and the relationship between extra deaths and speeding fines used in this note.

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<sup>1</sup> The national safety camera programme Four-year evaluation report December 2005, PA Consulting group. [http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/nscp/nscp/coll\\_thenationalsafetycameraprogram/atnationalsafetycameraprogr4598.pdf](http://www.dft.gov.uk/pgr/roadsafety/speedmanagement/nscp/nscp/coll_thenationalsafetycameraprogram/atnationalsafetycameraprogr4598.pdf)