

The Damage to Road Safety by the focus on Speed reduction and enforcement

Present road safety policies, particularly the attack on speed, date from the mid 1990s. Figure 1 shows that the downward trend in deaths per vehicle-kilometre, instead of accelerating under the impact of those policies, flattened off remarkably. That has arisen despite the cameras being supported by endless speed humps and traffic management schemes that cause congestion where none need exist.

Extra deaths are here defined as the difference between the actual deaths and those that would have arisen had previous trends continued. Figure 2 compares extra deaths with speeding fines. In total, from 1995 to 2007, some 13.6 million fines coincided with 9,600 such deaths. Although nobody would claim that the fines caused the deaths (a) the correlation between the two, at 99%, is astonishing and (b) the penalty numbers are a proxy for the vigour with which the policy has been pursued. Table 1 provides the data upon which figure 2 depends.

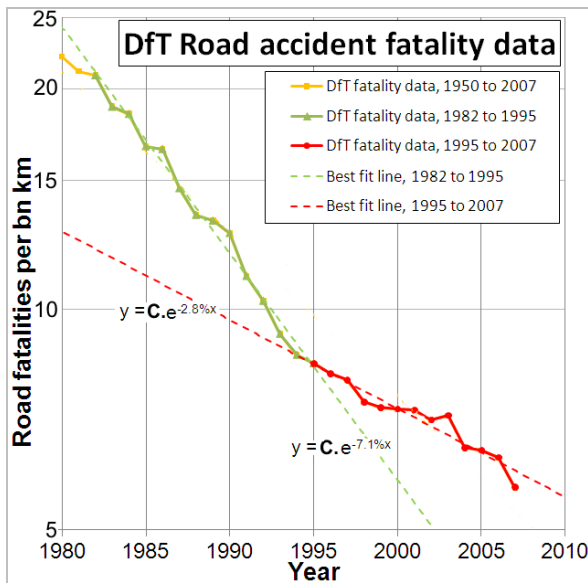


Figure 1

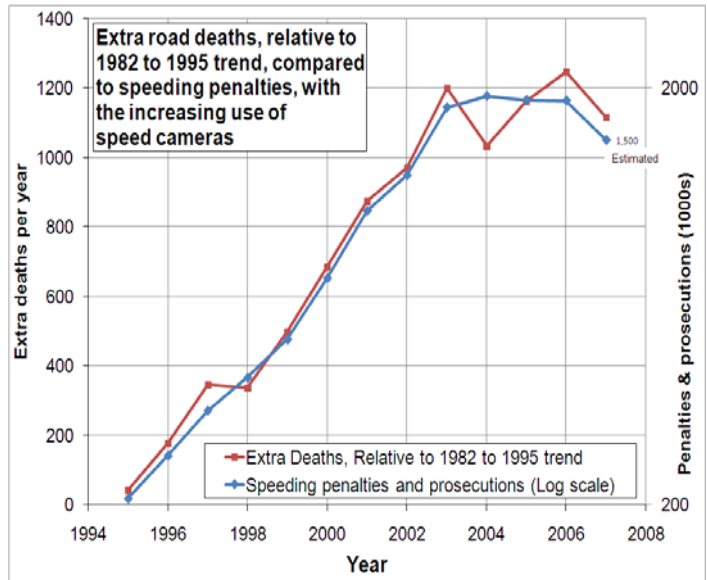


Figure 2

Rather than recognise that the medicine is not working, we now have the prospect of an even larger dose, with speed limit reductions to 20mph in towns and 50mph on rural roads. If previous experience is repeated the effect on road safety, far from being beneficial, is likely to be quite the reverse. Certainly those speed limits will cause considerable stress to drivers and waste resources while we struggle to cope with the worst economic conditions most of us have ever known. Delaying all journeys by as little as two minutes would cost over £11 billion annually.

Contrary to those supporting the cameras, speeding (defined as exceeding the speed limit), is a minor recorded cause of accidents. In 2007 it amounted to 5.4% for fatal accidents, to 3.2% for accidents where the worst injury was categorised as serious and to 2.4% for all severities.

Despite that, Ministers continue to support the attack on speed with pointless statements such as 30% of road accidents are due to speed. The truth is that the authorities have rejected the highly successful policies used in the 1980s and early 1990s, prior to the speed cameras, in favour of an automatic and punitive system that has proved a disaster.

Table 1 Fatalities

Year	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	
Trend (a)	3580	3422	3253	3085	2926	2725	2577	2461	2310	2187	2040	1926	1831	
Actual	3621	3598	3599	3421	3423	3409	3450	3431	3508	3221	3201	3172	2946	Totals
Extra deaths (b)	41	176	346	336	497	684	873	970	1198	1034	1161	1246	1115	9674
Penalties 1000s (c)	207	262	337	404	499	699	1015	1236	1797	1914	1873	1865	1500	13608

(a) These are the deaths that would have occurred had the trend from 1982 to 1995 continued.

(b) The “Extra deaths” are the differences between the actual deaths and the trend deaths.

(c) The 2007 value is based upon the reported reduction in fixed penalties of some 380,000 compared with 2006.

Addendum

Following the original publication of this note we had criticism to do with the choice of break point reference Figure 1 above. However, those points were not selected lightly. Instead there was considerable analysis as summarised below.

- (1) The source data consisted of fatalities and vehicle-km by year for the period 1950 to 2007. Using the statistical package within Excel we fitted the best fit line to that. (It provided an annual rate of decline of 5.1%.
- (2) We then plotted the differences between the observed death rates and the trend line from (1) above using (a) the actual death rates and (b) the 7 year rolling average. The latter smoothed the data and allowed trends and breaks in the overall trend to be identified
- (3) The result of that is in figure 3. From that it is clear that there are 4 major phases, namely 1950 to 1960, 1960 to 1982 and 1982 to 1995 and 1995 to 2007. Where the lines on that figure slope upwards from left to right, the rate of reduction in deaths (or smoothed deaths) per veh-km is less than for the overall (1950 to 2007) trend line. Where the lines slope downward, from left to right, the rate of reduction in deaths per veh-km is greater than for the overall trend.
- (4) By far the most striking point of discontinuity identified by the analysis is in 1995, so forming a sensible basis for the selection of that year in subsequent analysis. Likewise there was a striking change in 1982.
- (5) Subsequent curve fitting provided the following rates of decline in deaths per veh-km.
 - a) 1950 – 1960.....4.0%
 - b) 1960 – 1982.....4.8%
 - c) 1982 – 1995.....7.1%
 - d) 1995 - 2007..... 2.8%

In all cases the correlation coefficients were above 95%. An important aspect of this is that the rate of decline was steadily improving up to 1995, when the progress being made then collapsed.

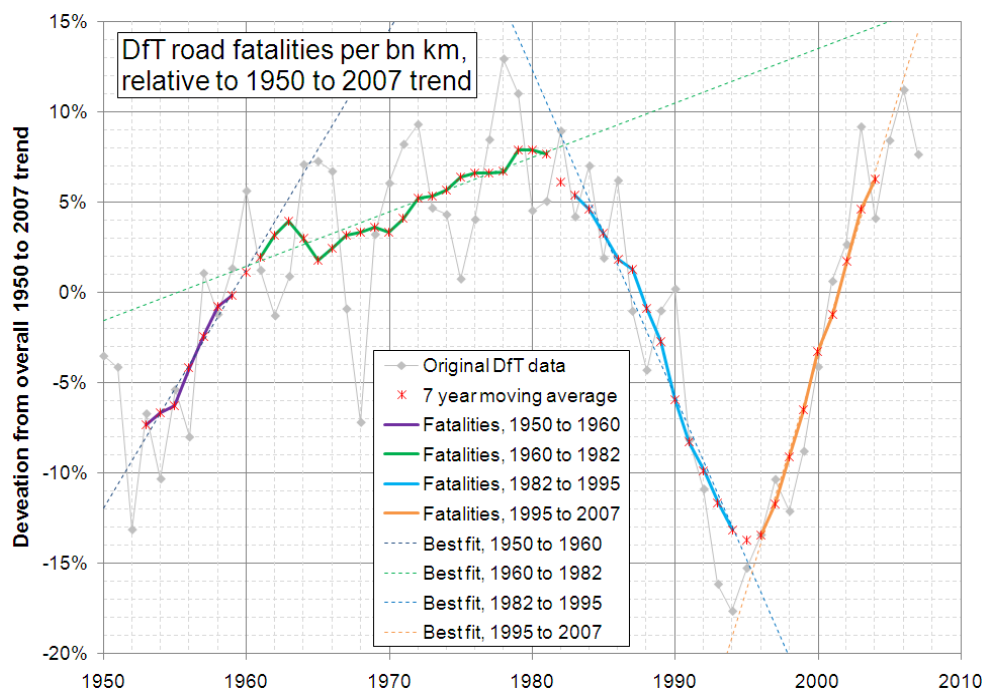


Figure 3

Note: the breaks in the smoothed data are to reduce overlap from the 7 year central moving average.