

Prof Henry G. Overman, who claims that "*I'm an expert on evaluation methodology and perfectly capable of assessing your approach and what, if anything, we can learn from it*" also wrote that:

"*One observation I would make is that your proposed alternative method (appendix D) is very problematic. Looking for a sudden reduction at installation sites makes no sense because of the problems that you highlight in appendix B and C (selection of sites, regression to the mean, different pre-trends, random variations and the small numbers problems).*

That response suggests that however expert Professor Overman may be at all sorts of things, he either failed to read the information I provided, or failed to understand it despite my best efforts to make it clear. **The issues are plain, simple and as below:**

(a) Site selection bias and the regression to mean changes that occur the moment selection periods end, **must, by definition, end before the cameras are installed.** They therefore **cannot have any effect whatever on post-installation collision numbers.**

(b) If all the cameras in any group had been installed at the same time it, different trends, random variations and other *confounding factors* could indeed affect post-installation data, so that it would be unclear whether any deviations observed in the data were due to cameras or to those *confounding factors*.

(c) I fully accept that the **small numbers problem** to which Professor Overman refers also results in volatility and uncertainty/

Professor Overman continued:

This is why the impact evaluation literature across a wide range of fields - favours the use of a valid comparison group, careful consideration of pre-trends, consideration of inference, etc.

I accept of course that in those circumstances **such methods are necessary.** Professor Overman's mistake was however that he either **failed to read or failed to understand** the following critically important points despite my best efforts to make them clear:

i) **Selection Bias and RTTM necessarily ending before installation and therefore cannot affect post-installation data.**

ii) **My analysis covers some 200,000 collisions within 1km of 3,848 cameras, more than enough to overcome the "small numbers" problems.**

iii) That because cameras were **not** installed at the same time but over many years. **all the confounding effects, inherently not positioned in time relative to camera installation, are distributed over those many years and hence averaged out, making it mathematically impossible for them to have any significant shorter-term effect on the post installation graph.**

iv) **But all camera effects, inherently positioned in time relative to camera installation, are not distributed over those years but are instead summed correctly.**

There is **nothing whatever new about this**, generations of electronic signal engineers have used this **synchronous detection principle to filter tiny wanted signals from huge unwanted signals**, and it is a principle which can be demonstrated very easily using notional data.

For all these reasons, **the use of a valid comparison group, careful consideration of pre-trends, consideration of inference**, methods - complete with their wide margins of error - to which Professor Overman - **refers were never necessary.**

All of this will be explained in detail in my analysis of speed cameras that shows beyond rational dispute that the cameras cause more collisions than they prevent - and that all the experts have been badly wrong all along.

Idris Francis