## Appendix K Trend adjustment of low volumes of data is unreliable

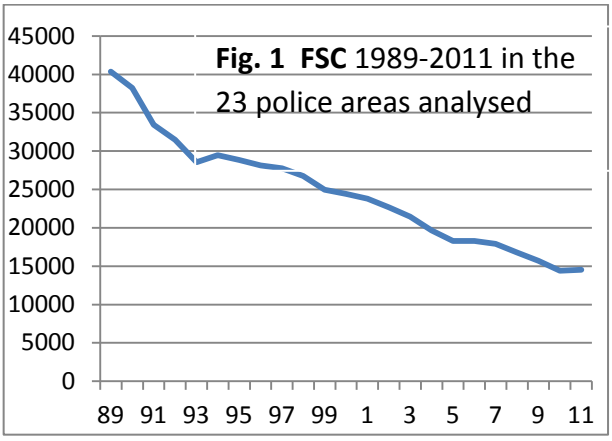


**Fig. 1 FSC** 1989-2011 in the 23 police areas analysed

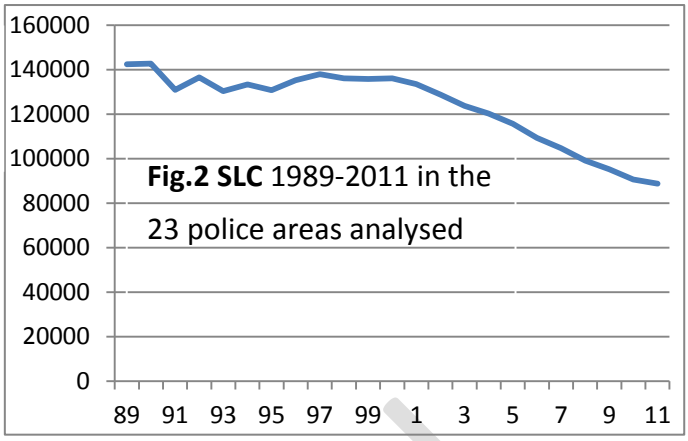


**Fig.2 SLC** 1989-2011 in the 23 police areas analysed

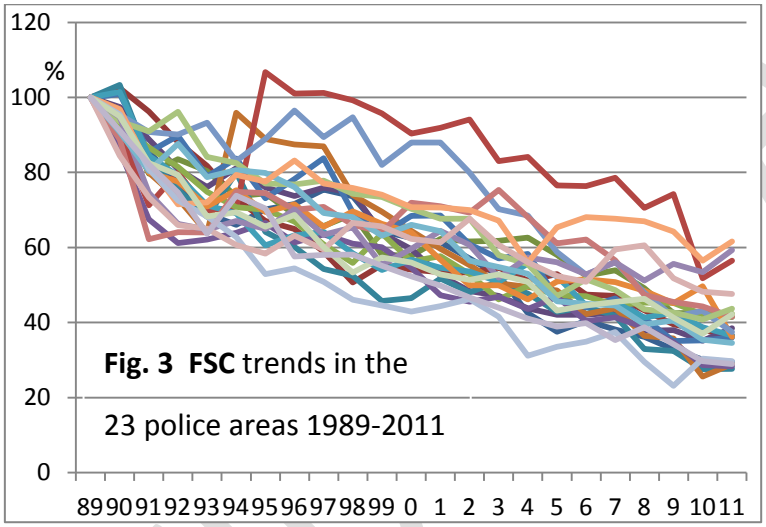


**Fig. 3 FSC** trends in the 23 police areas 1989-2011

**Long-term trends** are due to improving roads, vehicles, medical responses, systems etc.

When numbers are large, **totals are clearly not random.** (Figs. 1,2) Similar trends **inevitably occur at camera sites and must be allowed for** to avoid crediting cameras with reductions due to those trends. Few analysts correct accurately for them while disgracefully some, including **Transport for London, choose not to do so at all.** (App. K)

**It** is even more **difficult to adjust accurately for short-term trends** (i.e. deviations superimposed on long-term trends by weather, seasons, economics, local factors etc.) because **the numbers are smaller and therefore volatile** and will, by their very nature, **vary from area to area**.

The only way to deal effectively with random and localised changes is **to use enough data to reduce volatility to acceptable levels. As Professor Allsop noted** (pg. 10, main analysis), the accuracy of his results was **compromised by the** "***smallness of the numbers and limited extent of the data***……".

When numbers are **relatively small** (e.g. individual police areas) the **volatility superimposed on underlying trends increases** (Fig.3). Even smaller numbers (e.g. sites) **are more volatile still,** yet few analysts who adjust small volumes of data for trends seem to realise that **it is impossible to do so accurately**. Do they not even look at those trends?

But the main analysis explains how the combination of **much more data and the *synchronous detection* method** (App. G) **reduces <u>all</u> non-camera-related effects, including variations in trend, to trivial levels.**