

## Response to Gladman AQ statement

As I understood Mr Walton's verbal response, the appellant's modus operandi is to run their AQ model, multiply its output by whatever factor is necessary to match the actual readings published by Uttlesford (this is indeed compliant with DEFRA guidance, although DEFRA permit this only as a last resort when refinement of the model cannot be achieved), and then perform a linear extrapolation to accommodate the ~50% increase in dwellings.

The written response would seem to confirm this methodology (although I thank Mr Walton for the clarification of the developments included in his traffic scenarios, which although granted and in progress, did not feature in his 2018 AQ baseline).

The fatal methodological error is that whereas existing baseline traffic is a mixture of local cold-starts and already-warmed vehicles entering the village from points west, additional dwellings in the village will be **exclusively** cold-starts. On that basis, the remark in Mr Walton's para 1.11, viz.

*"It should be noted that any localised emissions that aren't fully represented in the initial modelling assessment (such as Cold Start emissions which will already be taking place from existing local vehicles at the junction), will be taken into consideration during the verification process [...]"*

*... all modelled scenarios ... have been uplifted by the adjustment factor."*

This rather misses the point, in that the adjustment factor is derived from the acknowledged 'mixed fleet' base case, whereas the 500+ additional vehicles will **all** be Cold Starts.

This confirms that the modelling takes no meaningful account of the Cold Start problem (which, lest we forget, entails emission levels at *many multiples* of fully warmed vehicles).

The problem I face is that whereas the Cold Start problem is well-understood by the engine technologists, for reasons of cost and complexity it has yet to feature in the AQ modeling community. Hence the elephant in the room metaphor; we all know it is there, but nobody is volunteering to deal with it.

The consequence is that even if we cannot quantify the problem in terms of its weight in the balance, it should, IMHO, be acknowledged as part of that balance.

*David Mayle, 01Oct19*