'KILLER ROADS' OR KILLER SPEED LIMITS?
Why the 'Killer Roads' campaign won't achieve its objective while the national speed limit is 60mph

Summary
The Government must take some share of the blame for the rural road deaths which it ostensibly seeks to address with the re-launch of the THINK! rural speed campaign. It has abundant evidence from research it has commissioned that the national speed limit is too high. There is good evidence to suggest that the gap between the speed limit and actual speeds could be encouraging drivers to take risks which lead to death and serious injury. The 60mph national speed limit gives the wrong message to drivers about appropriate speeds on the majority of our single carriageway network. The review of speed limits which local highway authorities are now undertaking provides an opportunity to introduce a new system of speed limits which would give better information to drivers about appropriate speed choice. At the very least the current campaign should be revised to tell drivers what research has shown about rural road quality, speed choice and crashes.

'Killer Roads' THINK! campaign
On 3 October the Government re-launched a THINK! campaign on rural speed choice ('Killer roads: Government highlights hidden dangers of speeding on rural roads' 03/10/2007) to raise awareness of the disproportionate risk of serious and fatal crashes on rural single carriageway roads.

The campaign warns that 'you are three times more likely to be killed on a rural road than an urban one whilst in a car' and explains the "cause":

'Rural areas can tempt motorists into driving too fast for the conditions they are facing. Long straights and demanding bends, as well as less traffic and fewer pedestrians can make drivers believe it is "safe" to go faster than they normally would.'

Road Safety Minister Jim Fitzpatrick is quoted as saying that

"Driving on rural roads can be deceiving ... The 'national' 60mph speed limit is a maximum, not an expectation, and drivers must match their speed to the road characteristics and weather conditions they are experiencing ..."

It is the argument in this paper that if 'rural areas' are responsible for tempting drivers, then the national speed limit must be at least as much to blame as a source of temptation.

The distinction between excess and inappropriate speed, particularly if the gap is very wide, is a function of the speed limit. The mismatch between the speed limit and average speeds on rural single carriageway roads is large. This gap encourages risk-taking. The campaign and the speed limit send opposing messages. This does not help even well-intentioned and genuinely law-abiding drivers. The THINK! campaign is very unlikely to change the behaviour of the target audience. At the very least this campaign should convey to drivers what research has shown about rural road quality, speed choice and crashes.

Rural road speeds
The annual dataset *Vehicle Speeds Great Britain* (now *Road Statistics 2006: Traffic, Speeds and Congestion*) shows that average speeds for rural single carriageway roads are slightly less than 50mph. The 2006 average speed for cars was 48mph. This tells us what 'most drivers' think 'appropriate' for these roads. Nonetheless, 10% of car drivers exceeded the limit, but only 2% exceeded it by more than 10mph.

According to the DfT's press release 26% of fatal car crashes on rural roads in 2006 were 'directly attributable to speeding or driving too fast for the conditions'. (It is important to note that the system of contributory factors which generates this statistic is likely to *underestimate* the role of speed. This is an issue which deserves serious attention but cannot be addressed here.) The clear emphasis of the THINK! campaign is on inappropriate speed as distinct from speeding (= illegal or excess speed), which would appear justified, given the statistics on average speeds.

The Department for Transport has commissioned ground-breaking research on the effects of speed on road danger but unfortunately not yet fully accepted the policy implications.

Research on the relationship between speed and crashes by the Transport Research Laboratory in 2002 found that rural roads can be divided into four groups according to their quality, which is closely related to average speed. The average speed for the *highest* quality group is 51mph.

Research also by the TRL in 2004 for the revised guidance to highway authorities on setting local speed limits estimated that fewer than 40% of Class A & B roads and 7% of Class C and Unclassified roads with 60mph limits have mean speeds above 50mph. At the time a two-tier, 50/40, speed limit system was being considered. The authors stated that 'within the upper tier [i.e., for the best quality roads], the speed limit likely to be appropriate for the majority (75%) of single carriageway roads would be 50mph, although many of these might be justified primarily on the basis of making the limit consistent with current low mean speeds rather than reflecting high [crash] rates.' (It is important to note that rural crashes tend to be scattered and that this position assumes that high crash rates are required in order to justify intervention.)

<u>Speed choice and crash risk on rural roads</u>

Drivers are more likely to crash as their speed increases relative to the average speed on a given road. The Transport Research Laboratory has shown that at 25% above the average speed the risk that a driver will crash increases by 600%. If the average speed on a given stretch of road is 50mph, then the speed 25% above the average is 63mph. Therefore, a driver can increase his crash risk several hundred percent *whilst remaining within the national speed limit.* For lower quality roads (or around 60% of A & B roads and the vast majority of C & U roads), with lower average speeds, the risk can be elevated many times whilst remaining well below the speed limit. If the average speed is 40mph, then driving at 50mph will increase risk six-fold.

The Department's recent guidance on setting local speed limits states that speed limits are

> *'a key source of information to road users, particularly as an indicator of the nature and risks posed by that road to both themselves and other motorised and non-motorised road users. Speed limits should, therefore, be evidence-led, self-explaining and seek to reinforce people's assessment of what is a safe speed to travel.'*

(The superstitious usage, giving agency to the road that 'poses' the risk to the road user and echoed in the phrase 'killer roads', is clearly problematic. Language has a powerful influence on the conceptualisation of problems, including hazards, as demonstrated long ago by Whorf. Of course, it is the driver who poses the risks and the scale of the risk is very largely a function of speed which itself is very largely a function of vehicle design.)

While this is guidance on setting local speed limits, it is not obvious why national speed limits should depart from it. Hypocrisy has corrosive effects on outlook. But beyond this, the effect of the guidance is to put the entire onus and cost of introducing appropriate speed limits onto local authorities whose decisions will be viewed in light of the national limit as a ‘standard’. This is inefficient and unfair.

The national speed limit gives drivers the wrong information. It does not in any way reinforce an assessment of what is a safe speed to travel. It is not evidence-led.

Driver attitudes to speed

But the real situation is actually potentially far worse. Rather than simply giving drivers the wrong information about most of the rural roads on which they are travelling, the national speed limit could be encouraging many drivers, particularly those most at risk, to drive at inappropriate speeds or even to speed. Rule 125 of the newly revised Highway Code states that 'the speed limit is the absolute maximum'. Therefore it is reasonable to expect that at least some drivers will consider themselves fully entitled to attempt to drive at least up to the speed limit. However, we know from research by Corbett and Simon, Stradling, the AA, RAC and the Midlands Road Safety Partnership study of driver attitudes to speed that:

Many drivers who consider themselves law-abiding in fact often choose a speed well over the limit. Their choice is supported by official enforcement thresholds. 68mph would be ACPO's recommended enforcement threshold for the 60mph limit. As we have seen, drivers can remain well within this threshold and still introduce vastly elevated risk to themselves and others.

Drivers speed for the thrill and as a form of 'self-expression'. Speeders tend to be high mileage drivers with powerful cars and are mainly men, especially young men. Many of these use driving to test and challenge themselves (as they might be expected to do, given the current persuasions of car advertising, the motoring media and vehicle design).

The majority of drivers think they are better than the average. On this basis alone they are unlikely to think road safety campaigns are targeted at them. They think drink and drug driving is a much greater road safety problem than speed.

There is evidence that many drivers simply do not know what the national speed limit is. Research carried out in the late 1980s showed that many people living in rural areas assumed that the derestricted sign meant either 70mph or no speed limit.

Together these findings support the conclusion that there must be many drivers on rural roads who think that exceeding any speed limit by as much as 10mph is something a skillful, above-average, 'law-abiding' driver should easily *and safely* be able to do. Speed limits are indeed ‘guidance’ (the *de facto* situation in the absence of enforcement), if not worse — ‘for wimps only’.

A different approach to the problem of lethal speed choice

Taking the research findings properly into account in connection with the available data should lead to stronger policy on speed which would also be more coherent. It would have a greater chance of being understood by the public.

1. The Department should introduce the two-tier, 50/40, system recommended in the research on managing speeds on rural single carriageway roads.

2. Local authorities are currently reviewing speed limits on A & B roads and must complete the task by 2011. They should be given fresh guidance to sort all single carriageway roads within their boundaries, including trunk roads, into the two tiers, based on good data on mean speeds and speed profiles, adjacent land uses, and local transport and environmental objectives. Within the upper 50mph tier they should determine which roads should retain a 60mph and within the lower 40mph tier which should have a lower limit, meriting 'Quiet Lanes' designation.

3. The Department has argued, rather oddly, against reducing the national speed limit because of the signage requirements, the cost and resulting clutter. On the basis of the evidence, only a small percentage of the rural network (around 25% of A & B class roads) would be suitable for a 60mph limit. These roads are usually well engineered to a fairly high standard and it is likely that 60mph limits could be indicated with terminal and repeater signs without causing disproportionate intrusion. A default 50mph could be indicated by a centre white line and a default 40mph by the absence of a centre white line. This accords with recent research on the effect of road markings on speed choice. It would be unambiguous, visible to drivers but not visually intrusive. It would reduce maintenance costs for highway authorities. Roads with lower speed limits could be signed at 'gateways', as for Quiet Lanes. These are illustrative suggestions and no doubt would be improved through consultation with highway design engineers.

The main cost would be informing drivers of the new system. But this would be a short-term cost which would have the benefit of educating them about appropriate speed and the risks of excessive speed (the aim of the current THINK! campaign). It could be fitted into the existing road safety publicity cycle. The new system would perform the function envisaged for speed limits in the guidance, including reinforcing the assessment of appropriate speed that the data tells us nearly 60% of drivers make. It would ensure that Rule 125 of the Highway Code did not incite risky behaviour.

4. This new system of national speed limits would enable the current and largely meaningless system of A, B, C, and U classes to be replaced by a classification system based on speed limits: 60, 50, 40 and <40. This could be mapped in exactly the same way that the current system is, using colour codes. A classification system based on speed limits would provide drivers with better information when route-planning, including road quality and likely journey times. It would assist compliance. By giving drivers, including hauliers, information on the nature of the route on which they were being directed, it would even help with the now press-worthy but entirely predictable effects of the increasing use of sat-nav systems.

5. Speed limits closer to average speeds would enable more enforcement targeted on stretches of road with demonstrably elevated risk. This would help to prevent as well as reduce deaths and serious injuries on rural roads.

Broadly similar arguments apply for the restricted road 30mph limit. This should be reduced to 20mph. There is a strong *prima facie* case to reduce the 70mph limit on motorways and dual carriageways to 60mph on climate and road safety grounds. It is very possible that under a rational system of speed limits and genuine action to curb climate change the top speed limit would be even lower. This would have implications for the 50/40 system advocated here: many would be adjusted downward.

Since it is probable that these recommendations will be rejected, *at the very least the current campaign should convey to drivers what research has shown about rural road quality, speed choice and crashes*. This would put the re-launched campaign into context.

The Slower Speeds Initiative
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