



Campaign to Protect
Rural England

Traffic signs policy and speed limit signage

A think piece by CPRE

Introduction

1. In September 2008, the Department for Transport launched the most comprehensive review of the British traffic sign system in over 40 years. In April 2009 the Department started consultation on *A Safer Way*, its draft Road Safety Strategy for the next twenty years that is aimed at making Britain's roads the safest in the world.
2. Speeding is a major public concern, indeed a Home Office survey on anti-social behaviour showed that speeding was the biggest single concern with other 40% of respondents raising it. The system of national speed limits – i.e. those that do not, unlike local speed limits, need repeater signs – is not well understood. *Increasing Understanding of Traffic Signs* (DfT, 2004) showed that over half of drivers did not understand the National Speed Limit applies sign, for example, while some drivers claim not to understand the 30mph national speed limit on roads with street lighting.
3. However, clutter from signage is another major public concern, while local authorities are increasing troubled by the 'huge financial implications' of the repeater signs needed to introduce local speed limits in accordance with DfT's guidance. There are clearly difficult and complex issues that need balancing.
4. Although the controversial nature of the subject matter is appreciated, CPRE was surprised and disappointed to learn that neither the signage review nor the road safety review are expressly considering the issue of speed limit signage: each seem to be passing the issue to the other. We believe that the current signage for speed limits is in need of urgent reform and offer this think piece to stimulate discussion and, we hope, bring about change in policy and on the ground.

National Speed Limit

5. There are a number of problems with the National Speed Limit (NSL) sign. First, as noted above, the sign is understood by only a minority of drivers and even fewer understand that the NSL for vans is 50mph, while for HGVs it is 40mph. These lower limits for larger vehicles are rarely enforced due to the increased reliance on speed cameras, typically set at 68mph in accordance with the 10% + 2mph threshold contained in the Association of Chief Police Officers' guidelines. Because of the higher carbon emissions, noise emissions and danger of these larger vehicles travelling at higher speeds, this failure to enforce has particular consequences in rural areas.
6. Second, although there have been concerns raised by motoring groups about a 'blanket' change to the NSL, there has been no serious disagreement that the speed limit is too high on many rural roads. Setting lower local speed limits requires

repeater signs, at a great cost financially and to the attractiveness of landscape and 'lanescape'. Such extra signage clutters roads, may distract drivers from hazard warnings and other safety-critical signage and can kill if hit in a crash.

7. Out of approximately 245,000km of rural single carriageway roads, 30,000km are A roads. Even on a reasonably conservative estimate, if the advice in DfT LTN 1/2006 *Setting Local Speed Limits* was carried out, that would mean lowering the speed limit and installing repeater signs on 200,000km of highway.



8. It is becoming increasingly clear, as the experience of Cumbria County Council has recently shown, that the financial cost of complying with DfT guidance to makes doing so unlikely in the medium term. This is all the more concerning giving the emphasis in *A Safer Way* on local authorities speeding up their speed limit reviews at a time when Local Transport Plan face funding cuts of 35%. Further if local authorities focus on lowering speed limits on A and B roads, drivers are likely to divert to less safe minor roads on which the NSL still applies.
9. By contrast other countries such as the Netherlands and Republic of Ireland have a system of a lower limit of 80km/h on single carriageway rural roads, with a higher limit of 100km/h for national and trunk roads. This reduces the need for and cost of signing, as well as making it easier for drivers to remember what the speed limit is.
10. Possible options for change are
 - a. Change the National Speed Limit such that it the default is 50mph on rural single carriageways but that 60mph can be signed for cars and Powered 2 Wheelers on the safest single carriageways.
 - b. Change the National Speed Limit so that 60mph applied on trunk roads and 50mph on other unlit single carriageway roads unless otherwise signed. More research would be needed as to the relative amount of signage needed for this so as to show whether the complexities of such as system would be justifiable.
 - c. Abolish the National Speed Limit applies sign (diagram 671), replace by the relevant speed limit sign for the road in question (diagram 670) and change Traffic Signs Regulation & General Directions 2002 (TSRGD) Direction 11 (Repeater signs) such that no repeater sign is needed on unlit single carriageways where there is a speed limit of 50mph in force. Roads where a 60mph limit is in force would then require repeater signs.
 - d. As a variant of a. b. and c. there could be different edge markings to make it clear which single carriageway roads have a higher 60mph speed limit. In the Netherlands a car sign (white car on blue background similar to diagram 967 for pedal cycles) is used for trunk roads to show a higher speed. Repeater 60mph signage could be merged with no stopping signs to reduce signage clutter: higher speed roads should have such a restriction for safety reasons.
 - e. A further option is use of a sign, similar to those used at EU borders, to remind drivers of the differential speed limits for different types of vehicle.
11. Options a. and c. seem the most promising, while option e. could be used prior to a national enforcement campaign tackling speeding by larger vehicles.

Rural 40mph zones

12. Inspired by 30km/h zones in the Netherlands, the introduction of 20mph zones in urban areas in the UK has probably been the most high profile and popular success of road safety engineering recently. However, another successful safety measure in that country remains almost unheard of this side of the channel.

13. The Netherlands has introduced 60km/h (38mph) zones in rural areas and these have reduced collisions by 25% compared to the 22% reduction achieved by 30km/h zones in urban areas. By 2005 there were about 14,000km of 60km/h roads compared to 43,000km of 80km/h roads. Not only designed to improve safety, these zonal signed limits are designed to communicate the functional use of these types of road. This means that drivers are expected to modify their driving and be prepared to share the road with slower forms of traffic. This is a key element of the systems approach taken by the Dutch in their vision for 'Sustainable Safety' on their roads.



14. 60km/h zones have prominent gateways, no lines down the centre, junction treatments – such as very gently raised tables but no priority markings – and edge strips that both give the impression the carriageway is just a single lane, as well as providing space that is prioritised for non-motorised users. 40mph zones in the UK have been given special authorisation for use in the New Forest and Dartmoor but have been primarily used as a way to lower speed limits without the use of repeater signs rather than being accompanied by Dutch-style measures.

15. Options for change are:

- a. Add permitted variants to diagrams 674 and 675 (entrance to and end of a 20mph zone) to permit the use of 40mph zone signage without special authorisation being needed from the DfT.
- b. Introduce new General Directions to control use of such 40mph zonal signage, for example suggesting a maximum carriageway width in 40mph zones, which could be reduced by edge markings, and dealing with issues at junction issues such as visibility distances and vertical deflections.
- c. Introduce new Traffic Advisory Leaflet on rural traffic calming, providing general guidance including on use of 40mph in rural areas and on application of Manual for Streets for lanes. This could include dealing with transitions across authority boundaries, tying in the introduction of 40mph zones with existing maintenance and resurfacing, plus using coloured edge surfacing that fits in with the local vernacular, e.g. beige in the Cotswolds, red in Herefordshire.
- d. Create a new default speed limit of 40mph for unlit single carriageway roads without median markings.



- e. Introduce a ‘green speed’ sign, a modified version of diagram 671 but with the black stripe changed to green, for use on minor rural roads to encourage drivers not to exceed 40mph. This is being piloted in Norfolk and Devon as part of a Rural Road Safety Demonstration Project.
16. Option a. is very worthy of further consideration: it does not make sense for 40mph zones to only be used in AONBs and National Parks as other rural areas have similar needs for lower speeds. The proposed graduated Fixed Penalty Notices with higher penalties for those driving significantly over the limit would help improve compliance. Option b. would assist with reducing speeds in 40mph zones as well as transforming driver perceptions: although there is limited evidence on 40mph zones in the UK, some have suggested that they have not reduced speeds significantly. Option c. would be helpful due to the lack of existing guidance: for example DfT TAL 2/04 on Rural Traffic Calming describes a single scheme rather than setting out general principles.
 17. Option d would need substantial advertising and even with that many drivers would be unlikely to understand it due to the complexity of the system, particularly if combined with a split 50/60 speed limit on single carriageways with median markings. It would also need terminal signs as well as reviews by highway authorities to record the median markings on their roads. It is therefore not recommended at the moment, although could be re-examined ten years into the new Road Safety Strategy if 40mph zones progress successfully. Option e is also not recommended as few drivers are likely to understand such a sign and fewer still to reduce their speeds due to it.

30mph zone for village name plates

18. While in the UK the 30mph speed limit applies to roads with a system of street lighting, most European countries apply the equivalent 50km/h speed limit in built-up areas without requiring street lighting. Nameplates of settlements are used to signify the commencement of the built-up area and reduction in speed limit, while exit plates indicate the end and return to the ‘open road’.



19. Options for change are:
 - a. Introduce permitted variant of existing 20mph zone signs, allowing use for 30mph zones, as with the proposal above for 40mph zones.
 - b. Introduce a variant of the recent variant to diagram 2402.1 that allows the merging of a 30mph speed limit sign with a village name plate to this sign to be modified so that it was zonal, by including the word ‘ZONE’. A new exit sign would also be needed.
 - c. Modify diagram 2402.1 to include a permitted variant that has a red rim (as in France) or inverted colours (such as in the Netherlands) to signify a different speed limit applying. A new continental style end of village speed limit sign, such as the village name with a red line through, would also be needed.
 - d. No change to signage but encourage more use of 20mph zones in villages, other than on major through routes, through guidance and funding.
20. Option a. could be confusing for drivers, particularly if there were 20mph zones in the same settlement. Residential streets in villages and village centres are as worthy of

consideration of 20mph zones as similar streets in towns. There could be similar problems with option b., particularly as drivers would be less likely to notice the word zone in the middle of a village nameplate.

21. Option c. would need a major advertising campaign and would need a concerted change to village name plates across the country if the meaning of the sign is to be remembered by most drivers. The uniformity of settlements over a certain size having a consistent speed limit is surely important for driver comprehension. Such a change would therefore need substantial resources and buy-in from local authorities. French style red-rimmed village signs could be confused with MoD directional signage which looks similar.
22. Option d. is therefore recommended but on the conditions that refreshed DfT guidance promotes 20mph in villages as strongly as in urban areas, that the regulations on 20mph zones are changed as suggested below and that new guidance relaxes the requirements for 30mph repeater signs in villages.



Revised General Directions for requirements of 20mph zones

23. There are significant problems with existing rules on 20mph zones that have remained unchanged since the requirement for ministerial authorisation for them was lifted in 1999. In particular the regulations and guidance are still based on 20mph zones being limited to small areas not more than 2km across. Some authorities are mixing 20mph zones with 20mph limits and the boundary signage between these is very confusing.
24. In *Ending the Scandal of Complacency: Road Safety Beyond 2010* the Transport Select Committee highlighted the slow progress towards 20mph on streets in the UK and raised the need for regulations and funding to be changed so that 20mph zones to be introduced much more quickly and easily as on the continent. The fact that existing zones have failed to enhance the attractiveness of streets within them was also noted.
25. Current regulations require a 'traffic calming feature', such as a road hump, narrowing or island, to be installed in 20mph zones at least every 100m, except at the end of cul-de-sacs. Rather than decreasing clutter to emphasise that a 20mph zone is a shared space, most schemes do the opposite thereby encouraging resentment rather than sharing of space by drivers. Rather than deflections being placed where most needed, such as at junctions and pedestrian desire lines, they are placed where the tape measure says the next 100m spot is.
26. Research shows that road width is probably the most important single influence the speed drivers feel is appropriate. But the regulations ignore this and only consider variations in road width implemented after 1999 as a traffic calming feature: so an ancient, narrow country lane that would require new measures every 100m, while streets in a new housing development designed to be narrow to keep speeds down would have to seek other traffic calming features. This does not make sense. Nor the fact that an entry treatment on a side street leading to nowhere would count as a 'traffic calming feature' on an adjacent main road even if no driver ever drove down it.
27. In order to make large areas into 30km/h zones quickly and within financial means available, the Netherlands changed national guidelines to allow a 'sober' approach to

implementation. Rather than requiring frequent measures, all that is needed for 30km/h zones are gateways at entrances and measures to address unsafe places, mainly junctions. New research shows that while the rapid roll-out of 30km/h zones has had impressive safety benefits, some drivers are not complying with the new speed limit and that more measures are needed. In particular priority junctions (e.g. with give way markings) should be removed such that all vehicles give way to the right, as is common on the continent.

28. There is some flexibility in the existing guidelines, in particular in relation to 'overrun areas' counting as traffic calming features, which could include Dutch style edge strips and attractive surface treatments. However, forthcoming research by CPRE on police approaches to speed management shows that in their responses to consultation requests for 20mph zone proposals, many forces misinterpret the guidance. In particular they state they require 20mph zones to be 'self-enforcing', leading to traffic engineers to be over cautious and rely heavily on road humps, even though experience shows that a hardcore of drivers tend not to comply with speed limits or indeed be slowed to below 20mph by even the highest permitted humps.



29. The recent report of the London Assembly Transport Committee *Braking Point: 20mph speed limits in London* called for a borough to pilot 'default' 20mph limits. This is not possible as primary legislation sets the default limit on streets with a system of street lights to 30mph on a national basis. However, as more areas such as Portsmouth and Oxford make 20mph the speed limit on all but a few of their streets, it is time to consider at what point the national default could be ripe for reconsideration.
30. Options for reform are:
- Widening the definition of traffic calming feature to include other measures, such as zebra crossings, mini-roundabouts, reduced height kerbs, junctions without any give-way lines, and pre-existing narrow sections of road.
 - Removing the requirement for traffic calming features on sections of carriageway where mean speeds are below 24 mph (this being the requirement for introducing 20mph limits).
 - Reducing requirements for traffic calming features where psychological measures are taken, such as removal of median markings, replacement of yellow lines with Restricted Zones controlling parking or where different surface treatments are used.
 - Adopting the Dutch 'sober' approach, requiring only features at gateways, junctions and crossings for 20mph zone implementation.
 - Providing new guidance on whole district 20mph schemes and practical implementation making best use of the latest research on psychological traffic calming.

31. All approaches have merit. Proposed amendments to the TSRGD in 2010 could take option a. forward, while options b, c and d could be piloted in various areas through specific authorisation from the DfT.

Shared spaces and surfaces

32. On the continent speed limits of 20km/h (12.5mph) are common and limits as low as 10km/h (6mph) or walking pace are possible. In the UK, the lowest speed limit possible without specific authorisation remains at 20mph. It is argued speedometers are not accurate at speeds much below 20mph so that lower speed limits would not be enforceable.



33. Some Home Zones in the UK have 20mph zone signs at their entrance, sending out entirely the wrong message to drivers about appropriate speeds. By contrast in Switzerland and France there is a default speed limit of 20km/h for «zones de rencontre», their equivalent of Home Zones, 15km/h in *Woonerven* in the Netherlands while in Germany a „Verkehrsberuhigter Bereich“ (traffic calmed area) is limited to „Schrittgeschwindigkeit“ (walking pace), not more than 7km/h. Early German signs for their version of Home Zones included a plate explaining the regulations while the Swiss sign has a 20 roundel built in.
34. On most country lanes there are no facilities for people walking and cycling so space has to be shared. CPRE helped secure the introduction of powers to designate Quiet Lanes in the Transport Act 2000. At the time we called for 20mph to be a standard speed limit for Quiet Lanes. Since then there have been very few Quiet Lanes implemented or even rural 20mph zones despite the success of the pilot scheme in Epping Forest. Feedback on the Quiet Lanes that have been implemented have stressed the need to keep signage clutter to an absolute minimum.

35. Options for change are:

- a. Introduction of new 10mph zone as with other new speed zones and include directions on use..
- b. Permitted variant of Home Zone sign to include a 10 roundel and permitted variant of Quiet Lane sign to include a 20 roundel.
- c. Allow introduction of 10mph speed limits without DfT authorisation.
- d. Guidance to drivers through rule 218 of the Highway Code etc. as to appropriate speed in Home Zones and Quiet Lanes then use of proposed Fixed Penalty Notices for Careless and Inconsiderate Driving against those who drive at inappropriate speeds.



- e. Changes to directions for 20mph zones (as suggested in preceding section) to fit better with country lanes, such as not requiring additional measures for single track roads or those with a central grass strip.
- f. New guidance on rural traffic calming and Quiet Lanes to encourage action in the next round of Local Transport Plans from 2011.

36. Option a. is supported as with 20mph increasingly becoming the standard speed limit in urban areas, there is a need for lower speed limits in limited cases, particularly on shared surfaces. Speedometers on cars on the continent are no more accurate than those here, so the main reason given for opposing lower speed limits does not seem strong. In any event ACPO guidelines on speed limit enforcement could be set to trigger enforcement at 15mph in 10mph zones, compared to 25mph in 20mph zones.



37. Option b would require moving signs for Home Zones and Quiet Lanes into the regulatory section of the TSRGD, probably requiring new Traffic Regulation Orders for existing signs. That will be considered in a future think piece. Option c is not favoured as using penalty notices for excessive speeds is likely to be controversial and perceived as unfair by motoring interests. The DfT should advertise nationally to increase driver understanding of these types of area.

38. Options d and e are favoured to fill the gap in this area that was revealed by the lack of content covering rural issues in the Local Transport Plans handbook on policies and best practice.

Towards a road hierarchy

39. The options presented above could help the UK away from a one-size fits all approach towards more of a defined road hierarchy. In a rural context this was defined by section 269 of the Transport Act 2000 as being: ‘(3) A rural road hierarchy is a system under which rural roads are categorised by a local traffic authority (by reference to the ways in which they are used) for the purpose of subjecting different categories of rural roads to different speed limits.’

40. Road hierarchies in urban as well as rural areas could help reduce clutter, reduce collisions and reduce confusion from inconsistent speed limits, particularly if neighbouring authorities were required to consult each other. Such a move would be in accordance with the Dutch Sustainable Safety systems approach that both the Transport Select Committee and *A Safer Way* have highlighted as best practice.

41. Previous examination of a rural road hierarchy focused too much on requiring a very formalised hierarchy that had to fit with existing road classifications and was based on safety issues rather than wider goals that the DfT’s *Delivering a Sustainable Transport Strategy* has developed. An alternative could be to signpost the way towards a less rigid hierarchy without moving there straight away.

42. Options include:

- a. Different signage for different levels of hierarchy, close to the Dutch system
- b. Different Regulations or Directions depending on level of highway, e.g. no diagram 1008 (median line) permissible in 20mph zones and encouraging tying together parking zone signage with speed limit signage etc.
- c. Guidance, such as a Local Transport Note, on hierarchy and how to make roads more self-explaining, including creating a sense of place.
- d. Further guidance on how to tie-in maintenance, development control and other issues into a road hierarchy as Essex County Council are doing in their commended Local Transport Plan.



43. All options are worth of further consideration but option a. would be at least a medium term aim.

Suggestion for Hierarchy

	Through	Distributor	Access
Rural	50, 60, 70 (dual carriageway / motorway)	50mph, 40mph, 30mph or 20mph zone in village	40mph zone, 20mph zone, Quiet Lane, Byway
Urban	50mph, 40mph or 30mph	30mph, 20mph, 20mph zone (e.g. in town centre)	20mph zone, 10mph zone, Home Zone, Pedestrianised Zone

Conclusions

44. There are major opportunities for minor modifications to speed limit signage, which should be implemented as soon as possible. The proposed reviews five and ten years into the new Road Safety Strategy would provide convenient milestones to evaluate the success new measures suggested in this think piece. These milestones would also provide opportunities to consider whether 20mph could become the default for streets with street lights and 40mph the default for rural roads without median markings. The proposed move to a 50mph default for single carriageways should however move forward straight away.

45. In conclusion the following signage changes should be investigated as priorities for implementation:
- a. 50mph speed limits as the starting point (as opposed to blanket speed limit) for rural single carriageway roads;
 - b. Introduction of 40mph zone signage for networks of minor rural roads;
 - c. Revised requirements for 20mph zones;
 - d. Introduction of lower speed limits for shared spaces and surfaces; and
 - e. Start to move towards a road hierarchy.