

Extract from Department for Transport circular 01/2013 'Setting Local Speed Limits'  
– The Underlying Principles of Local Speed Limits

## **Key points**

The Highways Agency is responsible for determining speed limits on the trunk road network. Local traffic authorities are responsible for determining speed limits on the local road network.

It is important that traffic authorities and police forces work closely together in determining, or considering, any changes to speed limits.

The full range of speed management measures should always be considered before a new speed limit is introduced.

The underlying aim should be to achieve a 'safe' distribution of speeds. The key factors that should be taken into account in any decisions on local speed limits are:

- history of collisions
- road geometry and engineering
- road function
- composition of road users (including existing and potential levels of vulnerable road users)
- existing traffic speeds
- road environment

While these factors need to be considered for all road types, they may be weighted differently in urban or rural areas. The impact on community and environmental outcomes should also be considered.

The minimum length of a speed limit should generally be not less than 600 metres to avoid too many changes of speed limit along the route.

Speed limits should not be used to attempt to solve the problem of isolated hazards, such as a single road junction or reduced forward visibility, for example, at a bend.

## **Background**

### **Responsibility for local speed limits**

21) The Highways Agency is responsible for determining speed limits on the trunk road network, and local traffic authorities are responsible for determining speed limits on the local road network. In this Circular, the term 'traffic authority' is used to denote both the Highways Agency and local traffic authorities.

22) It is important that traffic authorities and police forces work together closely and from an early stage when considering or determining any changes to speed limits. This may be through the local road safety partnership arrangements. It is also important that neighbouring traffic authorities work closely together, especially where roads cross boundaries, to ensure speed limits remain consistent. As part of the process of making a speed limit order, consultation of those affected is of key importance and, together with good information about planned changes, this will improve support for and compliance with new limits.

The legislative requirements are summarised in Section 4.

### **Considerations in setting local speed limits**

23) A study of types of crashes, their severity, causes and frequency, together with a survey of traffic speeds, should indicate whether an existing speed limit is appropriate for the type of road and mix of use by different groups of road users, including the presence or potential presence of vulnerable road users (including people walking, cycling or riding horses, or on motorbikes), or whether it needs to be changed. Local residents may also express their concerns or desire for a lower speed limit and these comments should be considered.

24) Where limits for air quality are in danger of being exceeded, compliance with those air quality limits could be an important factor in the choice of speed limit. But depending on the individual circumstances the imposition of a speed limit will not always be the solution. And the visible characteristics of a road affect the speed that a driver chooses: to be effective, the reasons for a limit need to be apparent.

25) It may well be that a speed limit need not be changed if the collision rate can be improved or wider quality of life objectives can be achieved through other speed management measures, or other measures. These alternative measures should always be considered before proceeding with a new speed limit.

26) Where there is poor compliance with an existing speed limit on a road or stretch of road the reasons for the non-compliance should be examined before a solution is sought. If the speed limit is set too low for no clear reason and the risk of collisions is low, then it may be appropriate to increase the limit.

If the existing limit is in place for a good reason, solutions may include engineering measures or changes to the road environment to ensure it better matches the speed limit, or local education and publicity. Enforcement may also be appropriate, but should be considered only after the other measures and jointly with the police force.

### **The underlying principles**

27) The aim of speed management policies should be to achieve a safe distribution of speeds consistent with the speed limit that reflects the function of the road and the road environment. This should imply a mean speed appropriate to the prevailing road environment, and all vehicles moving at speeds below or at the posted speed limit, while having regard to the traffic conditions.

28) The estimated collision and injury savings should also be an important factor when considering changes to a local speed limit. Another key factor when setting a speed limit is what the road looks like to the road users. Drivers are likely to expect and respect lower limits, and be influenced when deciding on what is an appropriate speed, where they can see there are potential hazards, for example outside schools, in residential areas or villages and in shopping streets.

29) A principal aim in determining appropriate speed limits should, therefore, be to provide a consistent message between speed limit and what the road looks like, and for changes in speed limit to be reflective of changes in the road layout and characteristics.

30) The following will be important factors when considering what is an appropriate speed limit:

- history of collisions, including frequency, severity, types and causes
- road geometry and engineering (width, sightlines, bends, junctions, accesses and safety barriers and so on)
- road function (strategic, through traffic, local access et cetera)
- composition of road users (including existing and potential levels of vulnerable road users);
- existing traffic speeds
- road environment, including level of road-side development and possible impacts on residents (e.g. severance, noise, or air quality)

While these factors need to be considered for all road types, they may be weighted differently in urban or rural areas. The impact on community and environmental outcomes should also be considered.

31) Before introducing or changing a local speed limit, traffic authorities will wish to satisfy themselves that the expected benefits exceed the costs. Many of the costs and benefits do not have monetary values associated with them, but traffic authorities should include an assessment of the following factors:

- collision and casualty savings
- conditions and facilities for vulnerable road users
- impacts on walking and cycling and other mode shift
- congestion and journey time reliability
- environmental, community and quality of life impact

Quality of life impact may include emissions, severance of local communities, visual impact, noise and vibration and costs, including of engineering and other physical measures including signing, maintenance and cost of enforcement.

The speed limit appraisal toolkit, found at section 5, will help assess the full costs and benefits of any proposed schemes.

32) Different road users perceive risks and appropriate speeds differently, and drivers and riders of motor vehicles often do not have the same perception of the hazards of speed as do people on foot, on bicycles or on horseback. Fear of traffic can affect peoples' quality of life and the needs of vulnerable road users must be fully taken into account in order to further encourage these modes of travel and improve their safety. Speed management strategies should seek to protect local community life.

33) In order to ensure compliance with a new lower local limit, as well as make it legally enforceable, it is important that the limit is signed correctly and consistently. The introduction of a new Speed Limit Order must coincide with the signing of the new limit. Traffic Authorities must ensure that speed limits meet the legislative process and the requirements of the TSRGD. Any new limit should also be accompanied by publicity and, where appropriate, effective engineering changes to the road itself. Without these measures, the new limit is unlikely to be fully complied with.

34) On rural roads there is often a difference of opinion as to what constitutes a reasonable balance between the risk of a collision, journey efficiency and environmental impact. Higher speed is often perceived to bring benefits in terms of shorter travel times for people and goods.

However, evidence suggests that when traffic is travelling at constant speeds, even at a lower level, it may result in shorter and more reliable overall journey times, and that journey time savings from higher speed are often overestimated (Stradling et al., 2008). The objective should be to seek an acceptable balance between costs and benefits, so that speed-management policies take account of environmental, economic and social effects as well as the reduction in casualties they are aiming to achieve.

35) Mean speed and 85th percentile speed (the speed at or below which 85% of vehicles are travelling) are the most commonly used measures of actual traffic speed. Traffic authorities should continue to routinely collect and assess both, but mean speeds should be used as the basis for determining local speed limits.

36) For the majority of roads there is a consistent relationship between mean speed and 85th percentile speed. Where this is not the case, it will usually indicate that drivers have difficulty in deciding the appropriate speed for the road, suggesting that a better match between road design and speed limit is required. It may be necessary to consider additional measures to reduce the larger than normal difference between mean and 85th percentile speeds or to bring the speed distribution more in line with typical distributions. The aim for local speed limits should be to align the speed limit to the conditions of the road and road environment.

37) The minimum length of a speed limit should generally be not less than 600 metres to avoid too many changes of speed limit along the route. In exceptional circumstances this can be reduced to 400 metres for lower speed limits, or even 300 metres on roads with a purely local access function, or where a variable 20 mph limit is introduced, for example outside a school. Anything shorter is not recommended.

The length adopted for a limit will depend on the limit applied and also on the conditions at or beyond the end points.

The terminal points of speed limits need to take account of the particular local circumstances, such as steep gradients, sharp bends, junctions, access roads, humpbacked bridges or other hazards, and also good visibility of the signs, and an extension of the speed limit may be needed to ensure this.

38) For consistency within routes, separate assessments should be made for each length of road of 600 metres or more for which a different speed limit might be considered appropriate. When this is completed, the final choice of appropriate speed limit for individual sections might need to be adjusted to provide reasonable consistency over the route as a whole.

39) Occasionally it may be appropriate to use a short length of 40 mph or 50 mph speed limit as a transition between a length of road subject to a national limit and another length on which a lower limit is in force, for example on the outskirts of villages or urban areas with adjoining intermittent development. However, the use of such transitional limits should be restricted to sections of road where immediate speed reduction would cause risks or is likely to be less effective.

40) Speed limits should not be used to attempt to solve the problem of isolated hazards, for example a single road junction or reduced forward visibility such as at a bend, since speed limits are difficult to enforce over such a short length. Other measures, such as warning signs including vehicle activated signs, carriageway markings, junction improvements, superelevation of bends and new or improved street lighting, are likely to be more effective in addressing such hazards. Similarly, crossings or, in rural areas, the provision of adequate footways can be a more effective means of improving pedestrian safety than lowering a speed limit over a short distance.

41) Where several roads with different speed limits enter a roundabout, the roundabout should be restricted at the same level as the majority of the approach roads. If there is an equal division, for example where a 30 mph road crosses one with a limit of 40 mph, the roundabout itself should take the lower limit.