SETTING LOCAL SPEED LIMITS
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SECTION 1: INTRODUCTION

Key points

Speed limits should be evidence-led and self-explaining and seek to reinforce people's assessment of what is a safe speed to travel. They should encourage self-compliance. Speed limits should be seen by drivers as the maximum rather than a target speed.

Traffic authorities set local speed limits in situations where local needs and conditions suggest a speed limit which is lower than the national speed limit.

This guidance is to be used for setting all local speed limits on single and dual carriageway roads in both urban and rural areas.

This guidance should also be used as the basis for assessments of local speed limits, for developing route management strategies and for developing the speed management strategies which can be included in Local Transport Plans.

1. The Department for Transport has a vision for a transport system that is an engine for economic growth, but one that is also more sustainable, safer, and improves quality of life in our communities.

2. It is clear how setting appropriate speed limits with the aim of achieving safe and appropriate driving speeds can play an important role in supporting this vision. This guidance sets out the framework that traffic authorities should follow when setting and reviewing local speed limits.

3. Effective speed management involves many components designed to work together to require, encourage and help road users to adopt appropriate and safe speeds below the speed limit. As well as being the legal limit, speed limits are a key source of information to road users, particularly as an indicator of the nature and risks posed by that road both to themselves and to all other 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 and encourage self-compliance. They should be seen by drivers as the maximum speed rather than as a target speed at which to drive in all circumstances.

4. The overall speed limit framework, including the setting of national limits for different road types, and which exceptions to these general limits can be applied, is the responsibility of the government. The three national speed limits are:

    - the 30 mph speed limit on street lit roads (sometimes referred to as Restricted Roads)

- the national speed limit of 60 mph on single carriageway roads
- the national speed limit of 70 mph on dual carriageways and motorways.

These national limits are not, however, appropriate for all roads. The speed limit regime enables traffic authorities to set local speed limits in situations where local needs and conditions suggest a speed limit which is different from the respective national speed limit.

5. Local speed limits are determined by traffic authorities having regard to guidance issued by the Department for Transport. This guidance applies to England and supersedes that previously contained in DfT Circular 01/2006, which is now cancelled.[1]

6. The guidance retains and builds upon many of the underlying principles of DfT Circular 01/2006, but provides additional evidence of the safety and wider benefits of setting appropriate speed limits. It also builds on the responses received to a consultation held by the Department in 2009.

7. It is aimed primarily at traffic authorities responsible for setting local speed limits, but is also designed to help improve the wider understanding of why and how local speed limits are determined.

8. The guidance is to be used for setting all local speed limits on single and dual carriageway roads in both urban and rural areas. It brings together some of the main features of other published guidance on speed limit related issues, including speed-related road traffic regulation and signing, street lighting, traffic calming, speed limits in villages, and 20 mph speed limits and zones.

9. The guidance should not, however, be used in isolation, but read in conjunction with the more comprehensive advice on these matters set out in the appropriate Traffic Advisory Leaflets and with the relevant legislation, including the Traffic Signs Regulations and General Directions 2002 (TSRGD 2002)[2].

10. This guidance introduces, in section 5, the Speed Limit Appraisal Tool, a web-based tool currently (July 2012) under development. It is being designed to help local authorities assess the full costs and benefits, of any proposed schemes and make robust, evidence-based decisions about which limits they put in place.

Priorities for action

[1] In Wales, *Setting Local Speed Limits in Wales*, Welsh Assembly Government Circular No: 24/2009, issued by the Welsh Assembly Government in October 2009, is in use and in Scotland, *Setting Local Speed Limits: Guidance for Local Authorities*: ETLLD Circular 1/2006 applies.

[2] Please note that all references to legislation within this Circular are references to that legislation as amended.

11. The guidance in this Circular should be used as the basis for:

- assessments of local speed limits;
- developing route management strategies; and
- developing speed management strategies.

12. Traffic authorities are asked to:

- **keep their speed limits under review** with changing circumstances;
- consider the **introduction of more 20 mph limits and zones, over time, in urban areas,** to ensure greater safety for pedestrians and cyclists, using the criteria in Section 6.

SECTION 2: BACKGROUND AND OBJECTIVES OF THE CIRCULAR

Key points

Traffic authorities continue to have the flexibility to set local speed limits that are appropriate for the individual road, reflecting local needs and taking account of all local considerations.

Local speed limits should not be set in isolation, but as part of a package with other measures to manage vehicle speeds and improve road safety.

Background

13. Setting speed limits at the appropriate level for the road, and ensuring compliance with these limits, play a key part in ensuring greater safety for all road users. The relationship between speed and likelihood of collision as well as severity of injury is complex, but there is a strong correlation. As a general rule for every 1 mph reduction in average speed, collision frequency reduces by around 5% (Taylor, Lynam and Baruya, 2000). For typical types of road traffic collisions the risk of death for drivers and pedestrians involved reduces with reduced vehicle speeds and it is particularly important to consider those speeds where the balance tips in favour of survival.

14. Reported road casualty statistics also show the role of *exceeding the speed limit* and *travelling too fast for the conditions* as contributory factors in road traffic collisions. In 2010 these two factors were reported to have contributed to nearly 400 road deaths. Other reported contributory factors such as *loss of control* or *careless, reckless or in a hurry* can often be related to excess or inappropriate speed, and even where the contributory factors are unrelated to the vehicle speed, higher speeds will often aggravate the outcome of the collision and injuries.

15. This updated guidance provides part of the framework for speed limits, where local authorities can set speed limits on their roads below the national limit, in response to local risk factors and conditions. It will help ensure appropriate and consistent speed limits, which will contribute to reducing the number of road deaths, as well as casualties overall; tackling pedestrian and cyclist casualties in towns and cities; improving the safety on rural roads; and reducing variations in safety from area to area and road to road.

16. The objectives of this guidance also fit into the context of some wider transport and cross-government priorities, which those responsible for setting local speed limits should bear in mind:

- Our vision is for a transport system that is an engine for economic growth but one that is also greener and safer and improves quality of life in our communities.
- We also want our roads to become safer, less congested and less polluted.
- We want to encourage sustainable local travel and economic growth by making public transport and cycling and walking more attractive and effective, promoting lower carbon transport and tackling local road congestion.
- We want to contribute to wider public health and safety outcomes by contributing to a reduction in road casualties.

Objectives of the Circular

17. The key objectives of this guidance are:
    - the provision of up-to-date and consistent advice to traffic authorities;
    - improved clarity which will aid greater consistency of speed limits across the country;
    - enabling the setting of more appropriate local speed limits, including lower or higher limits where conditions dictate;
    - achieving local speed limits that better reflect the needs of all road users, not just motorised vehicles;
    - ensuring improved quality of life for local communities and a better balance between road safety, accessibility and environmental objectives, especially in rural communities;
    - improved recognition and understanding by road users of the risks involved on different types of road, the speed limits that apply, and the reasons why;
    - improved respect for speed limits, and in turn improved compliance; and
    - continued reductions in the number of road traffic collisions, injuries and deaths in which excessive or inappropriate speed is a contributory factor.

18. Speed limits are only one element of speed management. Local speed limits should not be set in isolation. They should be part of a package with other speed management measures including engineering and road geometry that respect the needs of all road users and raise the driver's awareness of their environment; education; driver information; training and publicity. Within their overall network management responsibilities, these measures should enable traffic authorities to deliver speed limits and, as importantly, actual vehicle speeds that are safe and appropriate for the road and its surroundings. The measures should also help drivers to be more readily aware of the road environment and to drive at an appropriate speed at all times.

19. Indeed, if a speed limit is set in isolation: for example,
    - without support from the local community, the police and other local services;

- without supporting education;
- or without consideration of engineering measures;
- or if it is set unrealistically low for the particular road function and condition,

it may be ineffective and lead to non-compliance with the speed limit. If substantial numbers of drivers continued to travel at unacceptable speeds, this would increase the risk of collisions and injuries, and would require significant and avoidable enforcement activity.

SECTION 3: 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**, including frequency, severity, types and causes;
- **road geometry and engineering** (e.g. bends, junctions, barriers);
- presence of **vulnerable road users**;
- **road function;**
- **existing traffic speeds**; and
- **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.

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, e.g. at a bend.

Responsibility for local speed limits

20. 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.

21. 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

22. 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 pedestrians, cyclists, equestrians or motorcyclists), 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.

23. 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.

24. 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.

25. 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

26. 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 conditions, and all vehicles moving at speeds below or as close as possible to the posted speed limit, in line with the conditions.

27. 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.

28. 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.

29. 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 etc.),
- **road function** (strategic, through traffic, local access etc.)
- **composition of road users** (including existing and potential levels of vulnerable road users),
- existing **traffic speed**;
- **road environment** (rural, level of road-side development, shop frontages, schools etc., impacts on residents),

30. 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, such as 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.

31. 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 pedestrians, cyclists and equestrians. 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.

32. 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. Any new limit should also be accompanied by education and publicity and, where appropriate, effective engineering changes to the road itself. Without these measures, the new limit is unlikely to be fully complied with.

33. 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.

34. 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.

35. 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.

36. 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.

37. 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.

38. 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.

39. 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, the provision of adequate footways can be a more effective means of improving pedestrian safety than lowering a speed limit over a short distance.

40. 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.

SECTION 4: THE LEGISLATIVE FRAMEWORK

Key points

All speed limits, other than those on restricted roads, should be made by order under Section 84 of the Road Traffic Regulation Act 1984.

Any speed limits below 30 mph, other than 20 mph limits or 20 mph zones, require individual consent from the Secretary of State.

Unless an order has been made and the road is signed to the contrary, a 30 mph speed limit applies where there is a system of street lighting furnished by means of lamps placed not more than 200 yards apart.

Traffic authorities have a duty to erect and maintain prescribed speed limit signs on their roads in accordance with the Traffic Signs Regulations and General Directions 2002 (TSRGD 2002).

If traffic authorities wish to deviate from what is prescribed in signing regulations, they must first gain the Secretary of State's authorisation.

Traffic authorities are not permitted to erect different speed limit signs relating to different classes of vehicle.

Vehicle-activated signs must not be used as an alternative to standard static signing, but as an additional measure to warn drivers of a potential hazard or to remind them of the speed limit in force.

Main speed limit legislation

41. Most road traffic law pertaining to speed limits is contained in the Road Traffic Regulation Act 1984 (RTRA 1984). Other relevant legislation includes the Highways Act 1980, in particular Sections 90A-F concerning the construction and maintenance of road humps and Sections 90G-I concerning other traffic-calming works.

42. Part VI of the RTRA 1984 deals specifically with speed limits, with Sections 81-84 dealing with different speed limits and the speed limit order-making process. Section 82(1)(a) defines a restricted road in England and Wales as a road on which there is provided "a system of street lighting furnished by means of lamps placed not more than 200 yards apart". Section 81 makes it an offence for a person to drive a motor vehicle at a speed of more than 30 mph on a restricted road.

43. The establishment of speed limits is also a method through which legal sanctions can be brought to bear on those who exceed the limit set on a

particular road. It is therefore important to preserve carefully all records relating to the making and validity of a speed limit and speed limit signs.

44. All speed limits, other than those on restricted roads, should be made by order under Section 84 of the RTRA 1984. This includes the making of a 30 mph speed limit on an unlit road.

45. All speed limits other than the national limits are made by speed limit order. Traffic authorities should comply with their own consultation procedures and must, as a minimum, follow the full consultation procedure set out in legislation, before any new speed limit is introduced. More detail about these requirements is in Appendix A.

Restricted roads

46. Section 82(2) RTRA 1984 (as amended) gives traffic authorities powers to remove restricted road status, and give restricted road status to roads which are not restricted. However, the Department's policy on the use of this power is that it should be used only to reinstate restricted road status in those cases where a road which has a system of street lighting has previously had its restricted road status removed.

47. If a road with street lighting has a 40 mph limit and this is to be reduced to 30 mph, the 40 mph order under Section 84 should be revoked. Assuming the street lamps are no more than 200 yards apart, the road will be a restricted road by virtue of section 82(1)(a) RTRA. Similarly, where a speed limit of 30 mph is imposed by order under Section 84 because there is no street lighting, that order should be revoked if street lighting is subsequently provided. The Department considers that it is best practice for traffic authorities to make an order under section 84 RTRA to create a 30mph speed limit on an unlit stretch of road.

48. Any speed limits below 30 mph, other than 20 mph limits or 20 mph zones, require individual consent from the Secretary of State.

Street lighting

49. Direction 11 of the Traffic Signs Regulations and General Directions 2002 (TSRGD 2002), as amended, defines the requirements for the placing of speed-limit repeater signs. This states that speed-limit repeater signs cannot be placed along a road on which there is carriageway lighting not more than 183 metres apart and which is subject to a 30 mph speed limit. This direction applies regardless of how the speed limit has been imposed.

50. The Department will not make exceptions to this rule. This means it should be assumed that, unless an order has been made and the road is signed to the contrary, a 30 mph speed limit applies where there are three or more lamps throwing light on the carriageway and placed not more than 183 metres apart.

Speed limit signing

51. While increased understanding and acceptance of why a speed limit applies on a certain road will help compliance, drivers are aided by clear, visible and regular signing which enables them unhesitatingly to know what speed limit is in force.

52. Under Section 85 of the RTRA 1984 it is the duty of the traffic authority to erect and maintain prescribed speed limit signs on their roads in accordance with the Secretary of State's directions. The Traffic Signs Regulations and General Directions 2002 prescribe the designs and conditions of use for traffic signs, including speed limit signing, in England, Scotland and Wales.

53. Traffic authorities should generally follow these Regulations when signing speed limits. If a traffic authority wishes to deviate from what is prescribed, it must first obtain the Secretary of State's authorisation, and signing that is not in line with the Regulations must not be installed without such authorisation. Authorisation applications should be sent to the Department for Transport.

54. Speed limit signs which do not comply with the Regulations or which have not been authorised by the Secretary of State are not lawfully placed. Where the sign is not lawfully placed, no offence is committed by a person exceeding the signed speed limit and any prosecutions are likely to fail accordingly. Traffic authorities should therefore remove any unlawful signs, bring them into compliance with the Regulations or obtain authorisation to make them lawful.

55. Lower maximum speed limits apply on certain roads to certain traffic classes of vehicles. These are set out in Schedule 6 of the RTRA 1984 and in the Highway Code. Drivers of these vehicles are expected to be aware of this and follow these special limitations without having to be reminded by specific speed limit signs for particular vehicles. Traffic authorities are not permitted to erect different speed limit signs relating to different classes of vehicle.

56. Vehicle-activated signs (VAS), triggered by an approaching vehicle, have been developed to help address the problem of inappropriate speed. They must not be used as an alternative to standard static signing, but as an additional measure to warn drivers of a potential hazard or to remind them of the speed limit in force. VAS have proved particularly effective in rural areas, including at the approaches to junctions and bends. The Department has provided guidance in the form of Traffic Advisory Leaflet 1/03 (DfT, 2003).

57. The legislation does not prescribe the use of countdown markers on the approach to speed limit terminal signs, and research has shown that they generally have little or no effect on vehicle speeds and can add to sign clutter.

58. Chapter 3 of the Traffic Signs Manual (Department for Transport, 2008) provides guidance to local traffic authorities on best practice when signing speed limits. It includes tables and pictures to illustrate where speed limit signs should be placed. This complements TSRGD 2002, which sets out the mandatory requirements for signing.

Traffic Regulation Orders

59. Traffic Orders are required to legally implement speed limits and make them enforceable. Part VI of the Road Traffic Regulation Act (RTRA) 1984 deals specifically with speed limits and includes the powers under which Traffic Authorities may make speed limit orders.

60. The Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996 sets out the procedure to be followed when making these (and other) orders. Traffic Authorities will need to comply with the consultation and publicity requirements before making an order, and with the publicity and traffic signing requirements once an order has been made.

61. Traffic Authorities may find it more efficient to produce speed limit orders for 20 mph zones or limits, or to introduce speed limit changes as a result of rural speed limit reviews where these cover a number of roads, through one order covering all those roads covered by the new speed limit. If they decide to proceed in this manner it is particularly important to ensure that the order is comprehensive and correct, and that the consultation and publicity is directed at those likely to be affected.

62. Further key pieces of legislation and regulations relating to speed limit, traffic-calming, camera and related signing are referred to in Appendix A.

SECTION 5: THE SPEED LIMIT APPRAISAL TOOL

This section will contain a description of the speed limit appraisal tool which will be launched later in 2012 and will be available on the DfT website.

The Tool is being designed to help local authorities assess the full costs and benefits of any proposed schemes and make robust, evidence-based decisions about which limits they put in place. It will include effects which cannot be monetised such as quality of life, as well as casualty and other traffic effects.

Local authority representatives and other interested parties are involved in its development and we issued a Call for Evidence, which closed on 30 April, to provide an opportunity for interested parties, including Local Authorities, road safety interest groups and academics, to submit relevant evidence on speed limit changes to assist in developing the tool.

Text on the Tool will be added to this section when its development has progressed further.

SECTION 6: URBAN SPEED LIMITS

Key points

Speed limits in urban areas affect everyone, not only as motorists, but as pedestrians, cyclists and residents. As well as influencing safety they can influence quality of life, the environment and the local economy.

Traffic authorities are encouraged to adopt the Institution of Highways and Transportation's[3] urban safety management guidelines (see IHT, 2003), in which road hierarchies are adopted that reflect a road's function and the mix of traffic that it carries.

The national speed limit on street lit roads is 30 mph.

Traffic authorities can, over time, introduce 20 mph zones or limits into:

- Major streets where business on foot is more important than slowing down road traffic and
- Lesser residential roads in cities, towns and villages, particularly where this would be reasonable for the road environment, there is community support and streets are being used by pedestrians and cyclists.

Where they do so, general compliance should be achievable without an excessive reliance on enforcement.

Roads suitable for a 40 mph limit are generally higher quality suburban roads or those on the outskirts of urban areas where there is little development. Usually, the movement of vehicles is the primary function.

In exceptional circumstances, 50 mph limits can be implemented on special roads and dual carriageways, radial routes or bypasses where the road environment and characteristics allow this speed to be achieved safely.

63. Urban roads by their nature are complex as they need to provide for safe travel on foot, bicycle and by motorised traffic. Lower speeds benefit all urban road users, and setting appropriate speed limits is therefore an important factor in improving urban safety. Traffic authorities are encouraged to adopt the urban safety management guidelines published by the Institution of Highways and Transportation (IHT, 2003), in which road hierarchies are adopted that reflect a road's function and the mix of traffic that it carries. Within this approach the principle should be to ensure that the appropriate traffic travels on the appropriate roads, and at an appropriate speed. This can help balance what can be competing demands for higher or lower speed limits.

[3] IHT are now called Chartered Institution of Highways and Transportation, CIHT.

64. It is on urban roads that the majority of road casualties occur, including 87% of all pedestrian and 83% of all pedal cyclists casualties (DfT, 2010). Collisions typically involve pedestrians and cyclists, including children, and knowledge of the relationship between vehicle speed and injury severity in any collision must inform decisions on speed limits. Research has shown that the risk of a pedestrian dying in a collision with a car increases slowly up to an impact speed of around 30mph, but at speeds above 30 mph the risk of death increases rapidly (Rosén and Sander, 2009).

65. The standard speed limit in urban areas is 30 mph, which represents a balance between mobility and safety factors. However, for residential streets and other town and city streets with high pedestrian and cyclist movement, local traffic authorities should consider the use of 20 mph schemes. On dual carriageways where the road environment and characteristics allow, traffic authorities can also implement 40 mph and, in exceptional circumstances, 50 mph limits. Generally, efforts should be made to promote the use of suitable routes for urban through traffic and to manage the speed of traffic requiring access to residential streets using traffic calming and associated techniques.

66. In many urban centres, main traffic routes often have a mixture of shopping, commercial and/or residential functions. These mixed priority routes are complex and difficult to treat, but the most successful measures have included speed management to keep speed at appropriate levels in the context of both 20 and 30 mph limits and a reassignment of space to the different functions, taking into account the needs of pedestrians, cyclists or equestrians. Sometimes a decision about a road's primary or most important function needs to be taken.

6.1 20 MPH SPEED LIMITS AND ZONES

67. 20 mph zones and limits are now relatively wide-spread, with an estimated over 2,000 schemes in operation in England, the majority of which are 20 mph zones.

68. **20 mph zones** require traffic calming measures (e.g. speed humps, chicanes) or repeater speed limit signing and/or roundel road markings at regular intervals, so that no point within a zone is more than 50 m from such a feature. In addition, the beginning and end of a zone is indicated by a terminal sign. Zones usually cover a number of roads.

69. **20 mph limits** are signed with terminal and at least one repeater sign, and do not require traffic calming. 20 mph limits are similar to other local speed limits and normally apply to individual or small numbers of roads but are increasingly being applied to larger areas.

70. There is clear evidence of the effect of reducing traffic speeds on the reduction of collisions and casualties, as collision frequency is lower at lower speeds; and where collisions do occur, there is a lower risk of fatal

injury at lower speeds. Research shows that on urban roads with low average traffic speeds any 1 mph reduction in average speed can reduce the collision frequency by around 6% (Taylor, Lynam and Baruya, 2000). There is also clear evidence confirming the greater chance of survival of pedestrians in collisions at lower speeds.

71. Important benefits of 20 mph schemes include quality of life and community benefits, and encouragement of healthier and more sustainable transport modes such as walking and cycling (Kirkby, 2002). There may also be environmental benefits as, generally, driving more slowly at a steady pace will save fuel and reduce pollution, unless an unnecessarily low gear is used. Walking and cycling can make a very positive contribution to improving health and tackling obesity, improving accessibility and tackling congestion, and reducing carbon emissions and improving the local environment.

72. Based on this positive effect on road safety, and a generally favourable reception from local residents, traffic authorities can, over time, introduce 20 mph zones or limits into:
    - Major streets where business on foot is more important then slowing down road and
    - Lesser residential roads in cities, towns and villages, particularly where this would be reasonable for the road environment, there is community support and streets are being used by pedestrians and cyclists.

73. Successful 20 mph zones and 20 mph speed limits are generally self-enforcing, i.e. the existing conditions of the road together with measures such as traffic calming or signing, publicity and information as part of the scheme, lead to a mean traffic speed compliant with the speed limit. To achieve compliance there should be no expectation on the police to provide additional enforcement beyond their routine activity, unless this has been explicitly agreed.

74. Evidence from successful 20 mph schemes shows that the introduction of 20 mph zones generally reduces mean traffic speed by more than is the case when a signed-only 20 mph limit is introduced. Historically, more zones than limits have been introduced.

75. A comprehensive and early consultation of all those who may be affected by the introduction of a 20 mph scheme is an essential part of the implementation process. This needs to include local residents, all tiers of local government, the police and emergency services and any other relevant local groups (including for example, groups representing pedestrians, cyclists, drivers, or equestrians). Further details about consultations are set out in Appendix A.

76. It is important to consider the full range of options and their benefits, both road safety and wider community and environmental benefits and costs, before making a decision as to the most appropriate method of introducing a 20 mph scheme to meet the local objectives and the road conditions.

20 mph zones

77. 20 mph zones are very effective at reducing collisions and injuries. Research has shown that overall average annual collision frequency may fall by around 60%, and the number of collisions involving injury to children may be reduced by up to two-thirds. Zones may also bring further benefits, such as a modal shift towards more walking and cycling and overall reductions in traffic flow, where research has shown a reduction by over a quarter (Webster and Mackie, 1996). There is no evidence of migration of collisions and casualties to streets outside the zone. (Grundy et al, 2008; Grundy et al, 2009).

78. 20 mph zones are predominantly used in urban areas, both town centres and residential areas, and in the vicinity of schools. They should also be used around shops, markets, playgrounds and other areas with high pedestrian or cyclist traffic, though they should not include roads where vehicle movement is the primary function. It is generally recommended that they are imposed over an area consisting of several roads.

79. A 20 mph zone is indicated by 20 mph zone entry and exit signs (TSRGD, diagrams 674 and 675). The statutory provisions (direction 16(1) TSRGD) require that no point within the zone must be further than 50 metres from a traffic calming feature (unless in a cul-de-sac less than 80 metres long).

80. The Department has recently made significant changes to facilitate and reduce the cost for providing 20 mph zones in England. Traffic authorities can now place any of the following:

    a) repeater speed sign (TSRGD diagram 670)
    b) a speed roundel road marking (TSRGD diagram 1065)
    c) or a combination of both of these signs
    d) traffic calming features

81. At least one traffic calming feature as defined in direction 16(2) TSRGD must be placed in a 20 mph zone and the features and signing must still be placed at intervals not greater than 100 metres: it is not the intention to remove physical features, but to ensure that the most appropriate measure is used to ensure the continuity of the zone. Local authorities should only consider placing the speed limit sign or a roundel marking, in addition to physical features within a zone, where speeds are already constrained to near the limit.

82. These new arrangements should significantly reduce the requirement for signing and traffic calming features. Traffic authorities can now incorporate wider areas within a 20 mph zone, by effectively signing 20mph speed limits on distributor roads where traffic calming features are not suitable, or for small individual roads or stretches of road, where mean speeds are already at or below 24 mph. Where a 20 mph zone leads into a 20 mph limit, it is important to use the correct signing to

indicate this. It is not appropriate to use the sign that indicates the end of a 20 mph zone and the start of a different, higher speed limit. Instead, a standard 20 mph terminal sign (TSRGD 2002, diagram 670) must be used.

20 mph speed limits

83. Research into signed-only 20 mph speed limits shows that they generally lead to only small reductions in traffic speeds. Signed-only 20 mph speed limits are therefore most appropriate for areas where vehicle speeds are already low. This may, for example, be on roads that are very narrow, through engineering or on-road car parking. If the mean speed is already at or below 24 mph on a road, introducing a 20 mph speed limit through signing alone is likely to lead to general compliance with the new speed limit.

84. 20 mph limits covering most streets in Portsmouth have demonstrated that it is possible to introduce large-scale 20 mph limits in some built-up environments. Traffic speeds in most of the streets treated were relatively low (less than 20 mph) to start with. The early evidence suggests that it is likely that some speed and casualty reductions have taken place and this is consistent with previous research that has indicated that 20 mph limits without traffic calming reduce mean speeds by about 1 mph on average. A minority of streets in Portsmouth had average speeds of 25 mph or higher before the 20 mph speed limits were introduced and here the reductions in average speed tended to be greater, but insufficient to make the resulting speeds generally compliant with the new 20 mph limits. City-wide schemes may also contribute to changing travel and driving behaviour positively in the longer run, and the objectives of the Portsmouth speed limits spread well beyond improving road safety. Schemes need to aim for compliance with the new speed limit.

85. The implementation of 20 mph limits over a larger number of roads, which the previous Speed Limit Circular (01/2006) advised against, should be considered where mean speeds at or below 24 mph are already achieved over a number of roads. Traffic authorities are already free to use additional measures in 20 mph limits to achieve compliance, such as some traffic calming measures and vehicle activated signs, or safety cameras. Average speed cameras may provide a useful tool for enforcing compliance with urban speed limits. Further work is required to ensure the technology is suitable for the specific conditions of urban roads with shorter distances between side streets and access roads.

86. A 20 mph speed limit is indicated by terminal speed limit signs, and amendments to TSRGD (January 2012) require at least one upright repeater speed limit sign to be placed. Traffic authorities should ensure sufficient repeater signs are placed to inform road users of the speed limit in force. Chapter 3 of the Traffic Signs Manual provides guidance on the placing of repeater signs.

87. Every English authority has a traffic sign authorisation which permits them to place a speed roundel road marking, without the requirement for an upright sign, to reduce unnecessary signing. These roundels can only be placed in addition to at least one upright speed limit repeater sign.

88. The amendments regulations to TSRGD (January 2012) have also provided thresholds below which speed repeater signs are no longer required by Direction 11 of TSRGD, but may still be placed if considered necessary. These thresholds are determined by carriageway length and the applicable speed limit.

89. Where traffic calming measures are placed, they should be signed in line with regulations (TSRGD 2002, diagram 557.1–4 and 883).

Variable 20 mph limits

90. Traffic authorities have powers to introduce 20 mph speed limits that apply only at certain times of day. These variable limits may be particularly relevant where for example a school is located on a road that is not suitable for a full-time 20 mph zone or limit, for example a major through road. To indicate these limits, variable message signs are available (TSRGD, Regulation 58). To reduce costs and sign clutter, the Department will consider authorising the placing of a single variable message sign on the approaching traffic lane (rather than signs on both sides of the road) on a case by case basis.

91. The Secretary of State has provided a special authorisation for every English traffic authority to place an advisory part-time 20mph limit sign, with flashing school warning lights. This can be a more cost-effective solution, where appropriate, and reduces the requirement for signing.

6.2 TRAFFIC CALMING MEASURES

92. Traffic calming involves the installation of specific physical measures to encourage lower traffic speeds. There are many measures available to traffic authorities to help reduce vehicle speeds and ensure compliance with the speed limit in force. These are required at regular intervals in 20 mph zones and may be used in 20 mph limits. As set out above, speed limit traffic signs and/or speed roundel markings can now also be used by traffic authorities in England.

93. The Highways (Road Humps) Regulations 1999, The Highways (Traffic Calming) Regulations 1999, and Direction 16 of TSRGD 2002 (as amended) give details of the traffic calming measures that meet the requirements for a 20 mph zone.

94. These calming measures range from more substantive engineering measures to lighter touch road surface treatments and include, for example:

- road humps;
- road narrowing measures, including e.g. chicanes, pinch-points or overrun areas;
- gateways;
- road markings; and
- rumble devices.

95. A recent review of 20 mph zone and limit implementation (Atkins, 2009) shows that the vast majority of traffic calming measures in use are speed humps, tables, cushions or rumble devices, so called vertical deflections, but traffic authorities will want to consider the full set of available measures.

6.3 40 MPH AND 50 MPH SPEED LIMITS

96. 30 mph is the standard speed limit for urban areas, but a 40 mph limit may be used where appropriate and, in exceptional circumstances, a 50 mph limit may be considered.

97. Roads suitable for 40 mph are generally higher-quality suburban roads or those on the outskirts of urban areas where there is little development. They should have good width and layout, parking and waiting restrictions in operation, and buildings set back from the road. These roads should, wherever possible, cater for the needs of non-motorised road users through segregation of road space. Alternatively, traffic authorities should consider whether there are convenient alternative routes available and ensure that any roads with a 40 mph limit have adequate footways and crossing places as necessary for pedestrians, cyclists or equestrians.

98. In exceptional circumstances a 50 mph limit may also be used on higher-quality roads where there is little or no roadside development and such speeds can be achieved safely. The roads most suited to these higher urban limits are special roads or those with segregated junctions and pedestrian facilities, such as primary distributors. They are usually dual carriageway ring or radial routes or bypasses that have become partially built up. Traffic authorities should, however, always assess the potential impact upon the local community and non-motorised road users before considering such a limit.

Table 1 Speed limits in urban areas – summary

Speed limit (mph)	Where limit should apply
20 (including 20 mph zone)	In streets that are primarily residential and in other town or city streets where pedestrian and cyclist movements are high, such as around schools, shops, markets, playgrounds and other areas, where vehicle movement is not the primary function.
30	In other built-up areas (where vehicle movement is

	deemed more important), with development on both sides of the road.
40	On higher quality suburban roads or those on the outskirts of urban areas where there is little development, with few cyclists, pedestrians or equestrians. On roads with good width and layout, parking and waiting restrictions in operation, and buildings set back from the road. On roads that, wherever possible, cater for the needs of non-motorised users through segregation of road space, and have adequate footways and crossing places.
50	On dual carriageway ring or radial routes or bypasses that have become partially built up, with little or no roadside development.

SECTION 7: RURAL SPEED MANAGEMENT

Key points

The national speed limit on the rural road network is 60 mph on single carriageway roads and 70 mph on dual carriageways.

Rural dual carriageways with segregated junctions and facilities for vulnerable road users would generally be suitable for 70 mph limits. However, a lower limit may be appropriate if, for example, a collision history indicates that this cannot be achieved safely.

In 2010, 68% of road deaths in Britain occurred on rural roads, and 49% of road deaths occurred on single rural carriageway roads subject to the National Speed Limit of 60 mph limit.

The speed limit on single carriageway rural roads should take into account the history of collisions, the road's function, existing mean traffic speed, use by vulnerable road users, the road's geometry and engineering, and the road environment including level of road-side development.

It is government policy that a 30 mph speed limit should be the norm in villages. It may also be appropriate to consider 20 mph zones and limits in built-up village streets.

It is recommended that the minimum length of a village speed limit should be 600 metres. However, traffic authorities may lower this to 400 metres, and in exceptional circumstances to 300 metres.

99. The vast majority of the rural road network is subject to the national speed limit of 60 mph on single carriageway roads, and 70 mph on dual carriageways. On many of these roads, the majority of drivers are travelling below – sometimes significantly below – the speed limit because of the characteristics of the roads. This is especially evident on the C and Unclassified roads where the geometric characteristics include many narrow roads, bends, junctions and accesses.

100. Rural roads account for 68% of all road deaths, and 82% of car occupant deaths in particular, but only around 42% of the distance travelled. Of all road deaths in Britain in 2010, 49% occurred on National Speed Limit rural single carriageway roads (DfT, 2010). The reduction in road casualties and especially deaths on rural roads is one of the key road safety challenges. Research has assessed the risk of death in collisions at various impact speeds for typical collision types on rural roads. This research suggests that the risk of a driver dying in a head on collision involving two cars travelling at 60 mph is around 90%, but that this drops

rapidly with speed, so that it is around 50% at 48 mph (Richards and Cuerden, 2009).

101. Inappropriate speed, at levels below the legal limit but above those appropriate for the road at the time (e.g. resulting from weather conditions or presence of vulnerable road users), is a particular problem for rural roads. *Exceeding the speed limit* or *travelling too fast for the conditions* are reported as contributory factors in 16% of collisions on rural roads. Specifically, inappropriate speed is recorded as a contributory factor in 20% of crashes on minor rural roads with a 60 mph limit.

102. Speed limit changes are therefore unlikely to fully address this problem and should therefore be considered only as one part of rural safety management. Where collision and casualty rates are high, traffic authorities should first seek to understand the particular types of crashes taking place and their causes, to allow them to choose effective solutions to reduce the risk.

103. To help in this process the *Accident Analysis on Rural Roads: A Technical Guide* (TRL, 2004) has been developed, which provides information on typical collision rates and typical proportions of different collision types on different types of rural road. This can be used to assess where there are above-average collision rates and provides help to traffic authorities in identifying the types of site or route specific intervention measures that might be appropriate to manage speeds and reduce collisions along the route.

104. Traffic authorities may wish to note the Road Safety Foundation's risk ratings for A roads in Britain. This rates the risk, based on frequency of death and serious injury in relation to amount of traffic on the particular road, into five categories ranging from low-risk, safe roads to high-risk roads.[4]

105. The Road Safety Foundation has assessed the safety of the trunk road network, assessing the protection levels that the design and engineering features of roadsides, medians and junctions on these roads offer in case of a crash. This assessment uses a star-based European Road Assessment Programme (EuroRAP) Road Protection Score, and has found that two-thirds of single carriageway trunk roads achieve only a 2-star (out of 4) rating. Even though this assessment has only been applied to trunk roads it suggests that engineering measures may often be more appropriate to manage speed and reduce collisions on rural single carriageway roads.

106. If high collision rates persist despite these measures, then lower speed limits may also be considered. Again, to achieve a change in motorists' behaviour and compliance with the limit, supporting physical measures, driver information and publicity or other measures are likely to be required.

[4] Please see www.eurorap.org for detailed maps.

Such measures could include, for example, the use of vehicle-activated signs (VAS), which have proved particularly effective at the approaches to isolated hazards, junctions and bends in rural areas (Winnett and Wheeler, 2003). There should be no expectation on the police to provide additional enforcement to ensure compliance with a new limit beyond their routine activity, unless this has been explicitly agreed.

107. The aim of speed management actions is to deliver a balance between safety objectives for all road users and mobility objectives to ensure efficient travel, as well as environmental and community outcomes. So every effort should be made to achieve an appropriate balance between actual vehicle speeds, speed limits, road design and other measures. This balance may be delivered by introducing one or more speed management measures in conjunction with the new speed limits, and/or as part of an overall route safety strategy.

108. While routine enforcement should normally only be considered after other speed management measures have been considered, there may be occasions where the use of average speed cameras may offer a solution through calming traffic speed over a stretch of road. The Department has received a small sample of evaluation data of average speed cameras at non-roadworks sites from some local partnerships, and this data suggests a reduction in the percentage of motorists exceeding the speed limit from 55% before installation of cameras, to 18% afterwards, and an average reduction of killed and seriously injured casualties (KSI) per km of around 69%, and of personal injury collisions (PIC) of around 38%, (not adjusted for national trends and regression to mean effect).[5]

7.1 DUAL CARRIAGEWAY RURAL ROADS

109. Dual carriageway roads with segregated junctions and separate facilities for vulnerable road users are generally subject to and suitable for the National Speed Limit of 70 mph. However, a lower limit may be appropriate if, for example, a collision history indicates that this speed cannot be achieved safely and this risk of collisions cannot be addressed through other engineering measures.

7.2 SINGLE CARRIAGEWAY RURAL ROADS

110. In most instances, consideration of collision history, road function, mix of road users including presence of vulnerable road users, road geometry, engineering and environment, and actual traffic speed should enable traffic authorities to determine the appropriate limit on single carriageway rural roads.

[5] Comprehensive before and after data were obtained for 11 permanent average speed camera sites on A roads with speed limits of 40, 50, 60, and 70 mph, where safety cameras were installed between 2000 and 2006, based on an informal data request. It should be noted that this is not a representative sample, has not been centrally and independently validated and should therefore only be seen as indicative of possible effects of average speed cameras.

111. Roads may have primarily either a through traffic function or a local access function. Both need to be provided safely. Mobility benefits will be more important for roads with a through-traffic function, while environmental and community benefits are likely to be of greater importance for the local access roads.

112. There may be many roads below A and B classification that serve a mixed through-traffic and access function. Where that traffic function is currently being achieved without a high collision rate, these roads should be judged as through-traffic roads. If, however, for all or parts of these roads there is a substantial potential risk to vulnerable road users, these sections should be assessed as roads with a local access function.

113. Within routes, separate assessments should be made for each section of road of 600 metres or more for which a separate 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 consistency over the route as a whole.

114. The choice of speed limits should take account of whether there is substantial roadside development and whether the road forms part of a recognised route for vulnerable road users.

115. Table 2 sets out recommended speed limits for roads with a predominant traffic flow function. If walking, cycling, horse riding, community or environmental factors are particularly important on any road section, consideration should be given to using the lower limit.

Table 2 Speed limits for single carriageway roads[6] with a predominant traffic flow function

Speed limit (mph)	Where limit should apply:
60	Recommended for most high quality strategic A and B roads with few bends, junctions or accesses.
50	Should be considered for lower quality A and B roads that may have a relatively high number of bends, junctions or accesses. Can also be considered where mean speeds are below 50 mph, so lower limit does not interfere with traffic flow.
40	Should be considered where there are many bends, junctions or accesses, substantial development, a strong environmental or landscape reason, or where there are considerable numbers of vulnerable road

[6] For speed limits in villages, please refer to Section 7.3.

	users.

116. For C and Unclassified roads with important access and recreational function, the following speed limits are deemed appropriate and traffic authorities should use these as guidance when reviewing the speed limits on these roads:

- The national speed limit of 60 mph is only appropriate for the best quality C and Unclassified roads with a mixed (i.e. partial traffic flow) function with few bends, junctions or accesses. In the longer term, these roads should be assessed against through-traffic criteria. For lower quality C and Unclassified roads with a mixed function and high numbers of bends, junctions or accesses 50 mph may be appropriate.
- A speed limit of 40 mph may be considered for roads with a predominantly local, access or recreational function, for example in national parks or areas of outstanding natural beauty (AONB), or if it forms part of a recommended route for vulnerable road users. It may also be appropriate if there is a particular collision problem.

117. It is important to note that the above does not imply that speed limits should automatically be reduced. Indeed, in some cases the assessment may suggest that the existing speed limit may be too low, and a higher speed limit should be considered, as it is likely to be achievable safely.

118. We would welcome applications for zonal rural speed limits, usually 40 mph zones, for example in national parks or AONBs or on other networks of minor rural roads where speeds are already in line with such a limit. Such zones would include entry treatment and painted repeater roundels. The Department is keen to consider the effectiveness of such zones in reducing speeds and signing requirements.

7.3 VILLAGES

119. Fear of traffic can affect people's quality of life in villages and it is self-evident that villages should have comparable speed limits to similar roads in urban areas. It is therefore government policy that a 30 mph speed limit should be the norm in villages.

120. Traffic Advisory Leaflet 01/04 (DfT, 2004) sets out policy on achieving lower speed limits in villages, including a broad definition of what constitutes a village. For the purpose of applying a village speed limit of 30 mph, a definition of a village can be based on the following simple criteria relating to frontage development and distance:

- 20 or more houses (on one or both sides of the road); and
- a minimum length of 600 metres.

121. If there are just fewer than 20 houses, traffic authorities should make extra allowance for any other key buildings, such as a church, shop or school.

122. The above criteria should give adequate visual message to drivers to reduce their speed. It is recommended that the minimum length for the new limit is at least 600 metres to avoid too many changes in speed limits along a route, and to aid compliance. Traffic authorities may, however, lower this to 400 metres when the level of development density over this shorter length exceeds the 20 or more houses criterion and, in exceptional circumstances, to 300 metres.

123. In some circumstances it might be appropriate to consider an intermediate speed limit of 40 mph prior to the 30 mph terminal speed limit signs at the entrance to a village, in particular where there are outlying houses beyond the village boundary or roads with high approach speeds. For the latter, traffic authorities might also need to consider other speed management measures to support the message of the speed limit and help encourage compliance so that no enforcement difficulties are created for the local police force. Where appropriate, such measures might include a vehicle-activated sign, centre hatching or other measures that would have the effect of narrowing or changing the nature and appearance of the road.

124. Where the speed limit commences at the village boundary, the village nameplate sign (prescribed in diagram 2402.1 of TSRGD 2002) and speed limit roundel may be mounted together. The combined sign should be located at the point where the speed limit starts, and it may be helpful if drivers can see housing at the same time as the signs, reinforcing the visual message for reduced speed.

125. If there are high approach speeds to a village, or the start of the village is not obvious, village gateway treatments can also be an effective way to slow drivers down. Advice can be found in Traffic Advisory Leaflets 13/93 *Gateways* (DoT, 1993a), 01/94 *VISP – A Summary* (DoT, 1994a) and 01/04 *Village Speed Limits* (DfT, 2004).

126. It may also be appropriate to consider 20 mph limits or zones in built-up village streets which are primarily residential in nature, or where pedestrian and cyclist movements are high. Such limits should not, however, be considered on roads with a strategic function or where the movement of vehicles is the primary function.

127. In situations where the above criteria for a village are not met and there is a lesser degree of development, or where engineering measures are not practicable or cost-effective to achieve a 30 mph limit, but a reduction from the national 60 mph speed limit is considered appropriate, traffic authorities should consider alternative lower limits of 40 or 50 mph.

128. A recommendation to use the framework for the assessment of speed limit options on rural single carriageway roads, in place since the publication of the previous Speed Limit Circular (01/2006), is withdrawn.

SECTION 8: REFERENCES/BIBLIOGRAPHY

Legislation

Highways Act 1980. London: HMSO

Road Traffic Act 1988. London: TSO

Road Traffic Regulation Act 1984. London: HMSO

Statutory Instrument 2002 No. 3113, The Traffic Signs Regulations and General Directions 2002. TSO: London

Statutory Instrument 1999 No. 1608, The Road Traffic Regulation Act 1984 (Amendment) Order 1999. London: TSO. (This relates to 20 mph speed limits.)

Statutory Instrument 1999 No. 1026, The Highways (Traffic Calming) Regulations 1999. London: TSO

Statutory Instrument 1999 No. 1025, The Highways (Road Humps) Regulations 1999. London: TSO

Statutory Instrument 1996, No. 2489, The Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996. London: TSO

Transport Act 2000. London: TSO

Circulars

Department for Transport (2003), Circular 02/03, *The Traffic Signs Regulations and General Directions 2002*. London: TSO

Traffic Advisory Leaflets

Department for Transport (2002), Traffic Advisory Leaflet 8/02. *Home Zones – Public Participation*. London: DfT

Department for Transport (2003), Traffic Advisory Leaflet 1/03. *Vehicle Activated Signs*. London: DfT

Department for Transport (2004a), Traffic Advisory Leaflet 1/04, *Village Speed Limits*. London: DfT

Department for Transport (2004b), Traffic Advisory Leaflet 3/04. *Quiet Lanes*. London: DfT

Department for Transport (2005a), Traffic Advisory Leaflet 1/05. *Rumblewave Surfacing*. London: DfT

Department for Transport (2005b), Traffic Advisory Leaflet 2/05. *Traffic Calming Bibliography*. London: DfT

Department for Transport (2006), Traffic Advisory Leaflet 2/06. *Speed Assessment Framework: Balancing safety and mobility objectives on rural single carriageway roads.* London: DfT

Department of the Environment, Transport and the Regions (1997), Traffic Advisory Leaflet 12/97. *Chicane Schemes*. London: DETR

Department of the Environment, Transport and the Regions (1998), Traffic Advisory Leaflet 1/98. *Speed Cushion Schemes*. London: DETR

Department of the Environment, Transport and the Regions (1999a), Traffic Advisory Leaflet 09/99, *20 mph Speed Limits and Zones*. London: DETR

Department of the Environment, Transport and the Regions (1999b), Traffic Advisory Leaflet 14/99. *Traffic Calming on Major Roads: A Traffic Calming Scheme at Costessey, Norfolk*. London: DETR

Department of the Environment, Transport and the Regions (2000), Traffic Advisory Leaflet 1/00, *Traffic Calming in Villages on Major Roads*. London: DETR

Department of the Environment, Transport and the Regions (2001a), Traffic Advisory Leaflet 5/01, *Traffic Calming Bibliography*. London: DETR

Department of the Environment, Transport and the Regions (2001b), Traffic Advisory Leaflet 10/01, *Home Zones – Planning and Design*. London: DETR

Department of Transport (1990), Traffic Advisory Leaflet 3/90. *Urban Safety Management Guidelines from IHT*. London: DoT

Department of Transport (1993a), Traffic Advisory Leaflet 3/93, *Traffic Calming Special Authorisation*. London: DoT

Department of Transport (1993b), Traffic Advisory Leaflet 11/93, *Rumble Devices*. London: DoT

Department of Transport (1993c), Traffic Advisory Leaflet 12/93, *Overrun Areas*. London: DoT

Department of Transport (1993d), Traffic Advisory Leaflet 13/93. *Gateways*. London: DoT

Department of Transport (1994a), Traffic Advisory Leaflet 1/94, *VISP – A Summary*. London: DoT

Department of Transport (1994b), Traffic Advisory Leaflet 2/94, *Entry Treatments*. London: DoT

Department of Transport (1995a), Traffic Advisory Leaflet 1/95. *Speed Limit Signs: A Guide to Good Practice*. London: DoT

Department of Transport (1995b), Traffic Advisory Leaflet 7/95. *Traffic Islands for Speed Control*. London: DoT

Department of Transport (1996a), Traffic Advisory Leaflet 2/96. *75 mm High Road Humps*. London: DoT

Department of Transport (1996b), Traffic Advisory Leaflet 7/96. *Highways (Road Humps) Regulations 1996*. London: DoT

Department of Transport (1997), Traffic Advisory Leaflet 2/97, *Traffic Calming on Major Roads: A49, Craven Arms, Shropshire*. London: DoT

Policy, research and other documents

Atkins (2009), *Interim Evaluation of the Implementation of 20 mph Speed Limits in Portsmouth – Summary Report*.

Department for Transport (2005), *Home Zones: Challenging the Future of Our Streets.* London: DfT

Department for Transport (2007), Local Transport Note 1/07, *Traffic Calming*. London: TSO

Department for Transport (2008), Traffic Signs Manual, Chapter 3, *Regulatory Signs* and Chapter 4, *Warning Signs*. London: TSO

Department for Transport (2011), *Reported Road Casualties Great Britain 2010: Annual Report*. London: http://www.dft.gov.uk/statistics/releases/road-accidents-and-safety-annual-report-2010/

Department for Transport, Local Government and the Regions (2001), *A Road Safety Good Practice Guide*. London: DTLR

Department of the Environment, Transport and the Regions (2000a), *New Directions in Speed Management: A Review of Policy*. London: DETR

Department of the Environment, Transport and the Regions (2000b), *Tomorrow's Roads – Safer for Everyone. The Government's Road Safety Strategy and Casualty Reduction Targets for 2010*. London: DETR

Finch, D. J., Kompfer, P., Lockwood, C. R. and Maycock, G. (1994), Project Report 58, *Speed, Speed Limits and Accidents*, Crowthorne: TRL

Grundy C, Steinbach R, Edwards P, Wilkinson P and Green J. (2008) *20 mph Zones and Road Safety in London: A report to the London Road Safety Unit*. London: London School of Hygiene and Tropical Medicine

Grundy, C., *et al*. (2009) *Effect of 20 mph traffic speed zones on road injuries in London, 1986–2006: controlled interrupted time series analysis*. British Medical Journal 339: b4469

Highways Agency (2002), TR 2136 Issue C, *Functional Specification for the Optical Performance of Discontinuous Variable Message Signs*. Bedford: HA

Highways Agency (2004), Document TA 87/04, *Design Manual for Roads and Bridges Trunk Road Traffic Calming*. Bedford: HA

Institute of Incorporated Highway Engineers (2002), *Home Zone Design Guidelines*. London: IHIE

Institution of Highways and Transportation (1997), *Transport in the Urban Environment*. London: IHT

Institution of Highways and Transportation (1999) *Rural Safety Management Guidelines*. London: IHT

Institution of Highways and Transportation (2003) *Urban Safety Management Guidelines*. London: CIHT

Kirkby, T (2002), *Memorandum by Kingston upon Hull City Council (RTS 152) – 20 mph zones in Kingston upon Hull*, Select Committee on Transport, Local Government and the Regions, Appendices to the Minutes of Evidence.

Lynam, D., Hill and J., Barker, J. (2004) Published Project Report 025 – *Developing a Speed Management Assessment Framework for Rural Single Carriageway Roads*. Crowthorne: TRL

Mackie, A. (1998) TRL Report 363 – *Urban Speed Management Methods*, Crowthorne: TRL

Richards, D. and Cuerden, R. (2009), Road Safety Web Publication 9, *The Relationship between Speed and Car Driver Injury Severity,* Transport Research Laboratory, London: DfT

Road Safety Foundation (2009), RSF Report 1/09 - *Eurorap 2009 Results, Measuring and mapping the Safety of Britain's Motorways and A Roads,* Basingstoke: Road Safety Foundation

Road Safety Foundation (2010), RSF Report 1/10 - *Protect and Survive – Star Rating England's Trunk Road Network for Safety*, Basingstoke: Road Safety Foundation

Rosén, E. and Sander, U. (2009), Pedestrian fatality risk as a function of car impact speed. *Accident Analysis and Prevention* Volume 41, Issue 3, Amsterdam: Elsevier

Stradling, S., Broughton, P., Kinnear, N., O'Dolan, C., Fuller, R., Gormley, M. and Hannigan, B. (2008), Understanding Inappropriate High Speed: A Quantitative Analysis. *Road Safety Research Report* No. 93, London: DfT

Taylor, M. C., Baruya, A., Kennedy, J. V. (2002). TRL Report 511 – *The Relationship Between Speed and Accidents on Rural Single Carriageway Roads*. Crowthorne: TRL

Taylor, M. C., Lynam, D. A. and Baruya, A. (2000), TRL Report 421 – *The Effects of Drivers' Speed on the Frequency of Road Accidents*. Crowthorne: TRL

Transport Research Laboratory (2004), Published Project Report 025 – *Accident Analysis on Rural Roads: A Technical Guide*. Crowthorne: TRL

Webster, D. C. and Mackie, A. M (1996) TRL Project Report 215 – *Review of Traffic Calming Schemes in 20 mph Zones*. Crowthorne: TRL

Winnett, M.A. and Wheeler A.H. (2003). *Vehicle-activated signs – a large scale evaluation*. TRL Report TRL548. Crowthorne: TRL

APPENDIX A: KEY PIECES OF SPEED LIMIT, SIGNING AND RELATED LEGISLATION AND REGULATIONS

1. Key speed limit, safety camera, and traffic calming signs diagrams in Traffic Signs Regulations and General Directions, (TSRGD) 2002 include:

    - diagram 670 – 'Maximum speed limit' sign
    - diagram 671 – 'National speed limits apply'
    - diagrams 674 and 675 – 20 mph 'Speed limit zone' signs
    - diagrams 878, 879 and 880 – 'Camera warning' signs
    - diagram 883 – 'Traffic calmed area' sign
    - diagram 1062 – 'Road hump' marking
    - diagram 1065 – Carriageway roundel road marking
    - diagram 2402.1 and 2403.1 – Town or village gateway sign (boundary sign) (may be combined on the same post or backing board with a speed limit sign)
    - diagram 7032 – Temporary 'New 30 mph speed limit' sign
    - diagrams 557.1 to 557.4 – 'Road hump' signing

2. The main directions for the use and placing of speed limit restrictions in TSRDG 2002 are:
    - directions 8 and 9 – Beginning of speed limit restrictions
    - direction 10 – Ending of speed limit restrictions
    - direction 11 – Placement of speed limit repeater signs
    - direction 16 – Speed limits of 20 mph
    - directions 41 and 42 – Mounting and backing of signs.

3. Further detailed advice on the form and siting of speed limit signs is given in Chapter 3 of the Traffic Signs Manual (DfT, 2008).

<u>Speed Limit Orders</u>

4. Part IV of the Road Traffic Regulation Act (RTRA) 1984 deals specifically with speed limits and sections 81-84 deal with different speed limits and the speed limit order-making process. Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996 sets out the process of making traffic orders, which includes speed limit orders. Traffic authorities will need to refer to these Regulations in full. They set out the persons and organisations to be consulted before traffic orders are made, listed in the table below.

> **"Consultation**
> **6.**—(1) An order making authority shall, before making an order in a case specified in column (2) of an item in the table below, consult the persons specified in column (3) of the item.

TABLE

(1) *Item*	(2) *Case*	(3) *Consultee*
1.	Where the order relates to, or appears to the order making authority to be likely to affect traffic on, a road for which another authority is the highway authority or the traffic authority	The other authority
2.	Where the order relates to, or appears to the order making authority to be likely to affect traffic on, a Crown road	The appropriate Crown authority
3.	Where the order relates to, or appears to the order making authority to be likely to affect traffic on, a road subject to a concession	The concessionaire
4.	Where the order relates to, or appears to the order making authority to be likely to affect traffic on, a road on which a tramcar or trolley vehicle service is provided	The operator of the service
5.	Where the order relates to, or appears to the order making authority to be likely to affect traffic on,- (a) a road outside Greater London which is included in the route of a local service; or (b) a road in Greater London which is included in the route of a London bus service	In case (a) the operator of the service In case (b) the operator of the service and Transport for London
6.	Where it appears to the authority that the order is likely to affect the passage on any road of- (a) ambulances; or (b) fire-fighting vehicles	In case (a) the chief officer of the appropriate NHS trust or NHS Foundation Trust In case (b) the fire and rescue authority
7.	All cases	(a) The Freight Transport Association (b) The Road Haulage Association (c) Such other organisations (if any) representing persons likely to be affected by any provision in the order as the order making authority thinks it appropriate to consult

5. The regulation also sets out the requirements for publication of the proposal before making an order through a notice and further adequate publicity.

Consultation for traffic calming measures

6. Full consultation must take place before any traffic calming measures are installed. For road humps, the process is outlined in The Highways (Road Humps) Regulations 1999 (SI 1999 No. 1025) as follows (Regulation 3):

   "Where the Secretary of State or a local traffic authority proposes to construct a road hump, he or they shall, as well as consulting the chief officer of police as required by section 90C(1) of the Act, also consult -
   (a) where the proposal is by the local traffic authority in England which is the council of a County, any district council in whose district the highway is situated;
   (b) in all cases, the chief officer of the fire brigade for the area in which the highway concerned is situated and the chief officer of any body providing ambulance services under the National Health Service Act 1977**(a)** and operating in that area;
   (c) in all cases, organisations appearing to him or them to represent persons who use the highway to which the proposal related, or to represent persons who are otherwise likely to be affected by the road hump."

Section 90C re requirements re consultation periods, dealing with objections and the publication of notices

7. For all other traffic calming, the consultation process is outlined in The Highways (Traffic Calming) Regulations 1999 as follows (Regulation 4):

   "Where a traffic authority proposes to construct a traffic calming work in a highway they shall –
   (a) consult the chief officer of police for the area in which the highway is situated; and
   (b) consult such persons or organisations representing persons who use the highway or who are otherwise likely to be affected by the traffic calming work as the traffic authority thinks fit."

8. It should be noted that, despite there being no requirement to consult all the emergency services for traffic calming measures other than road humps, it is strongly recommended that both the ambulance service and the Fire and Rescue Service are included in any consultation for all traffic calming as a matter of course.