

DEPARTMENT FOR TRANSPORT

DfT Circular 01/2006
Department for Transport
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SETTING LOCAL SPEED LIMITS

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SECTION 1:

INTRODUCTION

Key points

Speed limits should be evidence-led, self-explaining and seek to reinforce people's assessment of what is a safe speed to travel. They should encourage self-compliance and not be seen by drivers as being a target speed at which to drive in all circumstances.

Traffic authorities set 'local speed limits' in situations where local needs and considerations deem it desirable for drivers to adopt a speed which is different from the national speed limit. Local speed limits could be reduced or increased, depending upon the conditions and evidence.

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 future assessments of local speed limits, for developing route management strategies and for developing the speed management strategies required as part of the Local Transport Plan process.

Traffic authorities are asked to review the speed limits on all of their A and B roads, and implement any necessary changes, by 2011 in accordance with this guidance.

1. Balancing the need to travel with the need to improve quality of life is a key objective of the Department for Transport. It is also reflected in our, and wider government, policies aimed at overcoming social exclusion and strengthening rural communities. The Department is committed to reducing road traffic collisions and injuries, and developing safer environments for all road users, within a road system which aids wider economic and environmental objectives in a sustainable way. The promotion of safe and considerate driving and encouraging road users to adopt appropriate speeds on our roads are major parts of this work.
2. Effective speed management involves many components designed to work together to encourage, help and require road users to adopt appropriate and safe speeds. Speed limits play a fundamental role. They are a key source of information to road users, particularly as an indicator of the nature and risks posed by that road to both themselves and other motorised and non-motorised road users. Speed limits should, therefore, be evidence-led, self-explaining and seek to reinforce people's assessment of what is a safe speed to travel. They should also encourage self-compliance and not be seen by drivers as being a target speed at which to drive in all circumstances.
3. The overall speed limit framework, including the setting of national limits for different road types, and which exceptions to the 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 to all roads. The speed limit regime enables traffic authorities to set 'local speed limits' in situations where local needs and considerations deem it desirable for drivers to adopt a speed which is different from the respective national speed limit.

4. Local speed limits are determined by traffic authorities having regard to guidance issued by the Department for Transport. This guidance supersedes that previously contained in Circular Roads 01/93 (DoT, 1993), which is now cancelled.¹
5. The guidance retains and builds upon many of the underlying principles of Circular Roads 01/93. However, it also reflects some of the important developments in speed management policies and research, including the extended knowledge of the relationship between speed and the risk of collision and severity of injury, and of the actual speeds being driven on rural roads. The guidance also gives some examples of the type of roads on which particular speed limits might be suitable and sets out key elements of speed limit legislation, including signing rules and requirements.
6. The guidance has been compiled with the help of a number of organisations both within and outside government². Although primarily aimed at traffic authorities responsible for setting local speed limits, it is also designed to help improve the wider understanding of why and how local speed limits are determined.
7. 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 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.
8. 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). Further information is also available in the Department's *A Road Safety Good Practice Guide* (DTLR, 2001).
9. The guidance is structured as follows:

Section 2 outlines the background to the guidance and its objectives.

¹ Circular Roads 01/93 remains extant in Wales pending publication of revised guidance by the Welsh Assembly Government

² Including Highways Agency, Department for Environment, Food and Rural Affairs, Countryside Agency, County Surveyors' Society, Association of Chief Police Officers, Scottish Executive, Welsh Assembly, Department for Regional Development Northern Ireland, Transport Research Laboratory and University College London

Section 3 identifies who is responsible for determining local speed limits on which roads and the underlying principles that should guide such decisions.

Section 4 summarises the legislative framework governing the setting of local speed limits, including street lighting and speed limit signing.

Section 5 provides specific guidance on the setting of local speed limits in urban areas.

Section 6 provides specific guidance on the setting of local speed limits in rural areas.

Section 7 provides guidance on the designation of Quiet Lanes and Home Zones.

Section 8 is a bibliography of the references to other documents contained in this advice.

Appendix A summarises the main changes to speed limit signing regimes in The Traffic Signs Regulations and General Directions 2002.

Appendix B identifies some of the main traffic calming measures suitable for urban roads.

Appendix C is a summary table of speed limits in urban areas.

Appendix D is a summary table of speed limits for single carriageway roads in rural areas.

Appendix E provides guidance on using the speed assessment framework to help set local speed limits on single carriageway roads in rural areas.

Priorities for action

10. The guidance in this Circular should be used as the basis for future assessments of local speed limits, for developing route management strategies and for developing the speed management strategies required as part of the Local Transport Plan process.
11. Traffic authorities are required to keep their speed limits under review with changing circumstances. It will not be possible to implement and bring about all of the objectives set out in this guidance overnight. Traffic authorities are, however, asked to review the speed limits on all of their A and B roads, and implement any necessary changes, by 2011 in accordance with this guidance. Consistent with their duty in respect of road safety, traffic authorities will wish to focus the use of speed management measures, including more appropriate speed limits, or a combination of these methods, on those roads or routes (not just on A and B roads) with the most pressing problems of collisions and injuries, or where there is a widespread disregard for current speed limits.
12. This guidance will continue to be reviewed in light of experience and future policy developments. The Department intends to monitor and evaluate its usefulness to traffic authorities and review the results of its use on the ground. This information will be assessed as part of the three-yearly review of the government's road safety strategy to be published in 2010.

SECTION 2:

BACKGROUND AND OBJECTIVES OF THE CIRCULAR

This section outlines the background to the guidance and its objectives.

Key points

Traffic authorities continue to have the flexibility to set local speed limits that are right 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.

Background

13. The 1997 White Paper, *The Future of Transport*, included a commitment to develop a speed management policy that would take account of the contribution of appropriate speeds to environmental and social objectives, as well as to road safety.
14. This resulted in *New Directions in Speed Management* (DETR, 2000a), a detailed review of speed management policies, which drew upon extensive speed-related research and evidence from the United Kingdom and around the world. The review concluded that a national framework was needed for determining speeds on all roads with limits that were rational, consistent, readily understood and appropriate for the circumstances. Traffic authorities therefore continue to have the flexibility to set local speed limits that are right for the individual road, reflecting local needs and taking account of all local considerations.
15. *New Directions in Speed Management* was published in conjunction with *Tomorrow's Roads – Safer for Everyone*, the government's road safety strategy (DETR, 2000b), which set out a framework for delivering further improvements in road safety for all road users and the following long-term casualty reduction targets to be achieved by 2010:
 - 40% reduction in the number of people killed or seriously injured
 - 50% reduction in the number of children killed or seriously injured
 - 10% reduction in the slight casualty rate, expressed as the number of people slightly injured per 100 million vehicle kilometres.
16. The road safety strategy is structured around ten main themes that reflect the needs of both motorised and non-motorised users. At its core is a major focus on three areas – driver behaviour, enforcement and a safer driving environment. This is often characterised as the 'three Es' – education, enforcement and engineering.

17. Research has in particular proven the correlation between speed and accident frequency and severity, and accident reductions. Much of this evidence has been demonstrated by and around mean vehicle speeds including, for example, how each 1 mph reduction in average speed reduces accident frequency by 5% (Finch *et al.*, 1993; Taylor *et al.*, 2000). 'Safer speeds' was therefore one of the ten themes in the road safety strategy, reflecting the important contribution that effective speed management can make towards delivery of the 2010 casualty reduction targets. The revision of this guidance was one of a number of speed management commitments in the road safety strategy.
18. Subsequently, the government undertook, in the Transport Act 2000, to examine the procedures and processes for developing and implementing a possible 'hierarchy' of rural roads for speed management purposes – that is to say, a system under which different speed limits would be set for different road types according to their function. The conclusion, reported to Parliament in 2001, was that a formal hierarchy of this type throughout the rural community would be costly both financially and in terms of environmental intrusion because of the additional signing that would be required to indicate the different speed limits. Moreover, given the necessary infrastructure and behavioural changes required, the road safety benefits would take too long to realise.
19. However, the report made a number of recommendations, including the development of a speed assessment framework as a tool to assist traffic authorities in assessing and making decisions on what is an appropriate speed limit on single carriageway rural roads. These are now being used to inform our work on rural speed management, and this guidance includes, and encourages, the use of such an assessment framework (paragraph 99 and Appendix E refers) to help traffic authorities reach more transparent decisions when the choice of appropriate speed limit is not clear.

Objectives of the Circular

20. 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
 - the setting of more appropriate local speed limits, including reduced or increased limits where conditions dictate
 - local speed limits that better reflect the needs of all road users, not just motorised vehicles
 - 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 self compliance

- continued reductions in the number of road traffic collisions, injuries and deaths in which excessive or inappropriate speed is a contributory factor.
21. Speed limits are, however, only one element of speed management. Local speed limits should not be set in isolation. They should be part of a package with other measures to manage speeds which includes engineering and landscaping standards that respect the needs of all road users and raise the driver's awareness of their environment, together with education, driver information, training and publicity. Within their overall network management responsibilities, these measures should enable traffic authorities to deliver speed limits and driven speeds that are safe and appropriate for the road and its surroundings, as well as help drivers to be more readily aware of the road environment and assess their own appropriate speeds at all times.
 22. Indeed, if a speed limit is set in isolation, or is unrealistically low, it is likely to be ineffective and lead to disrespect for the speed limit. As well as requiring significant, and avoidable, enforcement costs, this may also result in substantial numbers of drivers continuing to travel at unacceptable speeds, thus increasing the risk of collisions and injuries.

SECTION 3:

THE UNDERLYING PRINCIPLES OF LOCAL SPEED LIMITS

This section identifies who is responsible for determining local speed limits, on which roads, and the underlying principles which should guide such decisions.

Key points

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

Alternative speed management options should always be considered before a new speed limit is introduced.

The underlying aim should be to achieve a 'safe' distribution of speeds which reflects the function of the road and the impacts on the local community. The needs of vulnerable road users must be fully taken into account.

Traffic authorities will wish to satisfy themselves that the benefits exceed the disbenefits before introducing or changing a local speed limit.

Local speed limits are determined using a series of underlying principles.

What the road looks like to road users should be a key factor when setting a speed limit.

Mean speeds should be used as the basis for determining local speed limits. These are underpinned by extensive research demonstrating the well proven relationship between speed and accident frequency and severity, and also reflect what the majority of drivers perceive as an appropriate speed to be driven for the road.

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 such as a bend.

Responsibility for local speed limits

23. The Highways Agency is responsible for determining local speed limits on the trunk road and motorway network, and local traffic authorities are responsible for determining

local 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.

24. Reflecting wider road safety partnership working arrangements, it is important that traffic authorities and police forces work closely together in determining, or considering, any changes to speed limits. It is equally important that neighbouring traffic authorities work closely together, especially where roads cross boundaries, to ensure speed limits remain consistent.
25. All speed limits other than the national limits are made by speed limit order. Further details are set out in Section 4, The legislative framework. Traffic authorities should comply with their own consultation procedures and must, as a minimum, follow the full consultation procedure, set out in The Local Authorities’ Traffic Orders (Procedure) (England and Wales) Regulations 1996, before any new speed limit is introduced. Traffic authorities should therefore consult any local community likely to be affected by the proposals and, where appropriate, local community groups representing those likely to be affected, before making the speed limit order.

Considerations in setting local speed limits

26. A study of types of accidents, 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, or whether it needs to be changed. Concerns may also have been expressed by the local community. It may well be that a speed limit need not be changed if the accident rate can be improved or wider quality of life objectives achieved by other speed management measures. These alternative options should always be considered before proceeding with a new speed limit.
27. There will be roads, or stretches of road, that suffer from poor compliance with the existing speed limit. Where this happens and the speed limit is considered to be appropriate for the road, there may be a mismatch between the appearance of the road and the driver’s or rider’s perception of the risks of a collision. Or a lower speed limit may have been applied to reduce severance of a local community produced by fast-moving traffic. If local engineering and/or education solutions have been tried and the road is either unsuitable or inappropriate for major engineering changes, some form of enforcement may be necessary. However, it is again important that traffic authorities and police forces work closely together before any remedial action is taken.
28. Before introducing or changing a local speed limit, traffic authorities will wish to satisfy themselves that the benefits exceed the disbenefits. 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:
 - accident and casualty savings
 - traffic flow and emissions
 - journey times for motorised traffic
 - journey-time reliability

- the environmental impact
- the level of public anxiety
- the level of severance by fast-moving traffic
- conditions and facilities for vulnerable road users
- the cost of associated engineering or other physical measures and their maintenance
- the cost and visual impact of signing and possible environmental impact of engineering or other physical measures
- the cost of enforcement.

The underlying principles

29. The underlying aim of speed management policies should be to achieve a 'safe' distribution of speeds that reflects the function of the road and the impacts on the local community. This should imply a mean speed appropriate to the prevailing conditions, and all vehicles moving at speeds as close to the posted speed limit as possible.
30. As well as being a key indicator of whether a local speed limit is appropriate, the estimated collision and injury savings should also be an important factor when considering changes to a local speed limit.
31. A key factor when setting a speed limit is what the road looks like to the road users, such as its geometry and adjacent land use. 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.
32. A principal aim in determining appropriate speed limits should, therefore, be to provide a consistent message between the road geometry and environment, and for changes in speed limit to be reflective of changes in the road layout and characteristics. The following will be important factors when considering what is an appropriate speed limit:
 - road function (strategic, through traffic, local access etc.),
 - road geometry (width, sightlines, bends, junctions and accesses etc.),
 - road environment (rural, residential, shop frontages, schools etc.),
 - level of adjacent development, and
 - traffic composition (including existing and potential levels of pedestrian and cycle usage).
33. 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. Setting appropriate speed limits is a particularly important element in urban safety management, with significant benefits for pedestrians and cyclists. Similarly, as vehicle speeds are generally higher on rural roads, accident severity and the risk to vulnerable road users are also greater. In both situations speed management strategies should seek to protect local community life.

34. In order to influence driven speeds to below a new lower local limit, it is important that the limit is signed correctly and consistently. Any new limit should also be accompanied by education and, where appropriate, effective engineering changes to the road itself. Without these measures, the actual driven speeds are unlikely to be reduced to below the new limit.
35. On rural roads there is often a difference of opinion as to what constitutes a reasonable balance between risk of an accident, travel 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. With inappropriate speed for the conditions also come costs, the greatest of which is death and injury to people, increased community severance, and environmental impacts. 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 may achieve.
36. Mean speeds and 85th percentile speeds (the speed at or below which 85% of the traffic is travelling) are the most commonly recorded characteristics of 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. This is a change from the use of 85th percentile speed in Circular Roads 01/93 (DoT, 1993). As explained in paragraph 17, the use of mean speeds is underpinned by extensive research demonstrating the well proven relationship between speed and accident frequency and severity. They also reflect what the majority of drivers perceive as an appropriate speed to be driven for the road, and are felt to be easier for road users themselves to understand.
37. 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 should be to align the local speed limit so that the original mean speed driven on the road is at or below the new posted speed limit for that road.
38. 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. 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, hump-backed

bridges or other hazards, and also good visibility of the signs. Similarly, an extension may be required to provide good visibility of the speed limit signs. A limit may also need to be extended to cover any new access to an industrial or residential estate.

39. For consistency it is important that, 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.
40. Occasionally it may be appropriate to use a short length of 40 mph or 50 mph speed limit as an intermediate 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 causes real difficulty or is likely to be less effective.
41. 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 a bend, since speed limits are difficult to enforce over such a short length. Other measures, such as warning signs, carriageway markings, junction improvements, superelevation of bends and new or improved street lighting, are likely to be more effective. Similarly, the provision of adequate footways can be an effective means of improving pedestrian safety as an alternative to lowering a speed limit over a short distance.
42. Where several roads with different 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. If all the approach roads have the same limit, the roundabout should have that same limit.
43. As set out at paragraph 3, the main purpose of local speed limits is to provide for situations where it is considered appropriate for drivers to adopt a speed that is different from the national speed limit. However, that limit does not imply that it is a safe speed under all conditions, and drivers should be encouraged to adopt still lower speeds if conditions warrant.

SECTION 4:

THE LEGISLATIVE FRAMEWORK

This section summarises the legislative framework governing the setting of local speed limits and speed limit signing.

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.

Street lighting (for the purposes of determining whether or not a road is a restricted) is not necessarily limited to street lamps, but may extend to lighting provided by authorities or parish councils.

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.

Traffic authorities have a duty to erect and maintain prescribed speed limit signs on their roads in accordance with the Secretary of State's directions.

Special authorisation must be sought if traffic authorities wish to deviate from that which is prescribed. Signing that is contrary to the Regulations must not be installed without first seeking 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

44. 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, where Sections 90A-F cover road humps and Sections 90G-I cover other traffic-calming works.
45. 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 which is provided with

“a system of street lighting furnished by means of lamps placed not more than 200 yards apart”. Section 81 specifically makes it an offence for a person to drive a motor vehicle at a speed of more than 30 mph on a restricted road.

46. 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.
47. 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.
48. Section 82(2) 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.
49. If a road with street lighting has a 40 mph limit and this is to be reduced to 30 mph, it is necessary to both revoke the 40 mph order under Section 84 and apply Section 82 to reinstate restricted road status. 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.
50. Whilst the Department believes that it is legally permissible to use Section 82 to create a 30 mph speed limit on an unlit stretch of road, it believes that the best practice is to use Section 84, since this is more in line with the commonsense implication that the term ‘Restricted road’ implies the presence of street lights. That said, current speed limits of 30 mph on unlit roads that have been made using Section 82 are not in the Department’s view illegal and there is no requirement to make retrospective speed-limit orders. However, the Department recommends that traffic authorities use Section 84 for future orders.
51. Any speed limits below 30 mph, other than 20 mph limits or 20 mph zones (section 5.1 refers), require individual consent from the Secretary of State.

Street lighting

52. As set out in paragraph 45, it is generally recognised that a ‘system’ of street lighting could be three or more lamps spaced not more than 183 metres apart. However, street lighting (for the purposes of determining whether or not a road is a restricted) is not necessarily limited to street lamps, but may extend to lighting provided by authorities or parish councils.
53. Direction 11 of The Traffic Signs Regulations and General Directions 2002 (TSRGD 2002) 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.

54. 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

55. Whilst increased understanding and acceptance of speed limits will help compliance, drivers are ultimately aided by clear, visible and regular signing which enables them to unhesitatingly know what speed limit is in force.
56. 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 (TSRGD 2002) prescribe the designs and conditions of use for traffic signs, including speed limit signing in England, Scotland and Wales.
57. Traffic authorities must follow these Regulations when signing speed limits. Special authorisation must be sought if traffic authorities wish to deviate from that which is prescribed, and signing that is contrary to the Regulations must not be installed without first seeking authorisation. Special authorisation applications should be sent to the Speed Policy Branch at the Department for Transport or to the relevant government office.
58. Care should be taken to ensure that all signs displaying a mandatory speed limit either comply fully with the regulations or have been specially authorised. Signs that do not strictly follow the Regulations or have not been specially authorised are not lawfully placed. A person who fails to comply with a speed restriction shown in a traffic sign is generally charged with an offence under Section 36 of the Road Traffic Act 1988. However, where the sign is not lawfully placed, no offence is committed by the person speeding under that section, resulting in failed prosecutions. Traffic authorities should therefore remove any such signs, bring them into compliance with the Regulations or obtain special authorisation.
59. 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 therefore not permitted to erect different speed limit signs relating to different classes of vehicle.
60. The main types of speed limit, traffic-calming, camera and related signing can be found at the following diagram numbers within TSRGD 2002:
- 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
61. The main directions for the use and placing of speed limit restrictions can be found at:
- 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.
62. TSRGD 2002 (as amended) included a number of changes to speed limit signing regimes. Appendix A to this document summarises the key changes. DfT Circular 02/2003 gives fuller details of all the changes.
63. Further detailed advice on the form and siting of speed limit signs is given in Chapter 4 of the Traffic Signs Manual (DfT, 2004), including the correct signing of side road junctions. Traffic Advisory Leaflet 01/95 (DoT, 1995a) provides a guide to good practice on the placing of speed limit signs, including repeaters, and traffic authorities should use this to inform their speed-limit signing requirements to ensure there are no enforcement difficulties.
64. 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. TSRGD 2002 now allow greater flexibility on how and where VAS may be used (Regulation 58 TSRGD 2002), and the Department has provided guidance in the form of Traffic Advisory Leaflet 01/03 (DfT, 2003).
65. The legislation does not prescribe the use of countdown markers on the approach to speed limit terminal signs, and traffic authorities must therefore apply for special authorisation before they can be installed.
66. Research has shown that countdown markers have little or no effect on vehicle speeds and can add to sign clutter. The Department does not as a general rule give approval to

countdown markers. However, it is willing to consider applications if there is a particular problem with road users seeing terminal gateway speed limit signs in good time. Traffic authorities seeking approval must provide appropriate evidence of insurmountable problems, including photographic evidence; evidence that other measures have been taken to make existing signs clearly visible to the motorist (including the removal of vegetation and/or moving the existing gateway signs); and evidence of support for the use of countdown markers by the local police force.

SECTION 5:

URBAN SPEED MANAGEMENT

This section provides specific guidance on the setting of local speed limits in urban areas.

Key points

Lower speeds benefit all urban road users.

Traffic authorities are encouraged to adopt the Institution of Highways and Transportation's urban safety management guidelines (see IHT, 1990, 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 in urban areas is 30 mph.

The Department encourages and supports 20 mph limits and zones in situations where there is a particular risk to vulnerable road users.

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.

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 to be done safely.

67. Urban roads by their nature are complex in needing 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, 1990, 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.
68. The standard speed limit in urban areas is 30 mph, representing a balance between mobility and safety of road users, especially the more vulnerable groups. Local speed limits of 20 mph are, however, encouraged in situations where there is a particular risk to vulnerable road users. Traffic authorities can also implement 40 mph and, in exceptional circumstances, 50 mph limits on special roads and dual carriageways where the road environment and characteristics allow.
69. It is on urban roads that the majority of casualties occur, including over 86% of pedestrian and pedal cyclists casualties (*Road Casualties Great Britain 2004: Annual Report*; DfT, 2005). The type of road user casualty involved differs substantially from one location to another. In town centres and shopping streets, casualties are often

concentrated at specific locations. On residential streets, collisions are more scattered, but nonetheless usually include a high proportion of pedestrians and cyclists (DTLR, 2001) and also involve a higher proportion of children than on other roads. Efforts should therefore be made to promote use of more suitable routes for through traffic and to manage the speed of traffic requiring access to residential streets using traffic calming and associated techniques (see Traffic Advisory Leaflet 03/90; DoT, 1990).

70. 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 and a reassignment of space to the different functions, taking into account the needs of vulnerable road users.
71. A summary table of urban speed limits can be found at Annex C.

5.1 20 MPH SPEED LIMITS AND ZONES

72. Many traffic authorities are now implementing 20 mph zones and 20 mph speed limits, and this is encouraged and supported by the Department.
73. Since July 1999, the Road Traffic Regulation Act (Amendment) Order 1999 (SI 1999 No. 1608) has given traffic authorities the powers to introduce both 20 mph speed limits and 20 mph zones without obtaining the consent of the Secretary of State. Details of the relevant amendments to legislation can be found in Circular Roads 05/99 (DETR, 1999).
74. Traffic Advisory Leaflet 09/99 (*20 mph Speed Limits and Zones*) (DETR 1999a) gives advice on how and where to implement 20 mph speed limits and 20 mph zones. They should not be implemented on roads with a strategic function or on main traffic routes.
75. Successful 20 mph zones and 20 mph speed limits should be generally self-enforcing. Traffic authorities should take account of the level of police enforcement required before installing either of these measures. 20 mph speed limits are unlikely to be complied with on roads where vehicle speeds are substantially higher than this and, unless such limits are accompanied by the introduction of traffic calming measures, police forces may find it difficult to routinely enforce the 20 mph limit. Traffic authorities should therefore always consult the local police force when considering possible 20 mph limits or zones, and thereafter as part of the formal consultation process.

20 mph zones

76. 20 mph zones are predominantly used in urban areas – both town centres and residential areas – and in the vicinity of schools. It is generally recommended that they be imposed over an area consisting of several roads.
77. The purpose of this type of area-wide traffic management is to create conditions in which drivers naturally drive at around 20 mph because of the general nature of the location, or as a result of traffic calming measures being put in place.

78. 20 mph zones are very effective at reducing collisions and injuries. This is confirmed in research that shows that the number of accidents involving injury to children may be reduced by up to two-thirds (Webster and Mackie, 1996).
79. A 20 mph zone is indicated by specially designed 20 mph zone entry and exit signs (TSRGD 2002 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). Direction 16 of TSRGD 2002 also gives full details of the traffic calming measures that meet the definition required for a 20 mph zone.
80. No additional speed limit or traffic calming signs are required within a 20 mph zone, as vehicle speeds will be low enough to render it unnecessary.

20 mph speed limits

81. 20 mph speed limits should be used for individual roads, or for a small number of roads.
82. Research into 20 mph speed limits carried out by TRL (Mackie, 1998) showed that, where speed limits alone were introduced, reductions of only about 2 mph in 'before' speeds were achieved. 20 mph speed limits are, therefore, only suitable in areas where vehicle speeds are already low (the Department would suggest where mean vehicle speeds are 24 mph or below), or where additional traffic calming measures are planned as part of the strategy.
83. A 20 mph speed limit is indicated by terminal speed limit signs, and 20 mph repeater signs are required at regular intervals along the road(s) covered by the limit.

5.2 TRAFFIC CALMING MEASURES

84. Traffic calming involves the installation of proven physical or psychological measures to encourage lower traffic speeds. There are many measures available to traffic authorities to help them reduce vehicle speeds and ensure compliance with the speed limit in force.
85. A full list of the guidance that has been provided to traffic authorities on the measures available can be found in Section 8, Bibliography. Appendix B to this document provides a brief synopsis of the most popular and effective measures, including:
 - road humps
 - road narrowing measures
 - gateways
 - road markings
 - rumble devices.
86. Appendix B also sets out the consultation requirements that must be followed before installation of traffic calming measures can take place.

5.3 40 AND 50 MPH SPEED LIMIT

87. Whilst 30 mph is the standard speed limit for urban areas, a 40 mph limit may be used where appropriate and, in exceptional circumstances, a 50 mph limit may be considered.
88. 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 and equestrians.
89. In exceptional circumstances a 50 mph limit may also be used on higher quality roads where there is little or no roadside development, and this can be done safely. The roads most suited to these higher urban limits are special roads or those such as primary distributors with segregated junctions and pedestrian facilities. They are usually dual carriageway ring or radial routes or bypasses which 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.

SECTION 6:

RURAL SPEED MANAGEMENT

This section provides specific guidance on the setting of local speed limits in rural areas.

Key points

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

The majority of drivers do not reach or exceed the 60 mph limit on many single carriageway roads because it is often difficult to do so because of the characteristics and environment of the road.

Nonetheless in 2004 some 46% of serious road casualties, and more than half of road deaths, occurred on rural roads.

Speed can be a major factor in the severance of local communities.

The speed limit on single carriageway rural roads should take into account traffic and road user mix, the road's geometry and general characteristics, its surroundings, and the potential safety and environmental impacts.

Building upon the Institution of Highways and Transportation's rural safety management guidelines (IHT, 1999), traffic authorities are encouraged to adopt a two-tier hierarchical approach that differentiates between single carriageway roads with a strategic or local access function.

Higher speed limits should be restricted to 'upper tier' or high quality strategic single carriageway roads where there are few bends, junctions or accesses.

Lower speed limits would be appropriate on 'lower tier' single carriageway roads passing through a local community, or having a local access or recreational function. They would also be appropriate where there are significant environmental considerations or where there is a high density of bends, junctions or accesses, or the road is hilly.

A speed assessment framework has been developed to help achieve an appropriate and consistent balance between safety and mobility objectives on single carriageway rural roads. Traffic authorities are initially encouraged to consider its use on those roads with high accident rates or simply as a way of helping decisions in borderline cases where the choice of the appropriate speed limit is not clear-cut.

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, an accident history indicates that this cannot be achieved safely.

It is government policy that, where appropriate, a 30 mph speed limit should be the norm in villages.

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

90. The vast majority of the rural road network, including C and Unclassified roads, is subject to the national speed limit of 60 mph on single carriageway roads and 70 mph on dual carriageways. The majority of drivers do not, however, reach or exceed the speed limit on many single carriageway roads because it is often difficult to do so. This is especially evident on the C and Unclassified roads where the geometric characteristics include many narrow roads, bends, junctions and accesses.
91. Nonetheless, in 2004 46% of serious road casualties, and more than half of road deaths, occurred on rural roads. The reduction in road casualties on rural roads has been at a notably slower rate than on urban roads. It is also here that environmental and landscape factors, along with a wide variety of other road uses, need to be especially considered. Speed can also be a major factor in the severance of local communities from essential facilities and lead to a reduced quality of life. Consequently, there is a need to improve speed management in rural areas and in particular to help drivers further to understand underlying risks and tackle the problems caused by inappropriate speed. Traffic authorities should particularly intervene on roads where there is a case for encouraging use by, or safeguarding the needs of, vulnerable road users.
92. As elsewhere, speed limits should be considered as only one part of rural safety management, and what the road looks like to the road users, the road function, traffic mix, and road and rural characteristics should be taken into account. Traffic authorities are encouraged to adopt the rural safety management guidelines published by the Institution of Highways and Transportation (IHT, 1999). Building upon these, traffic authorities are encouraged to adopt a two-tier (upper and lower) hierarchical approach which differentiates between roads with a strategic or local access function. Using this approach, higher limits should be restricted to 'upper tier' or high quality strategic roads where there are few bends, junctions or accesses. Similarly, lower limits would be appropriate on 'lower tier' roads with a predominantly local, access or recreational function. They would also be appropriate where there are significant environmental considerations such as in National Parks or Areas of Outstanding National Beauty, or where there is a high density of bends, junctions or accesses, or the road is hilly.
93. This guidance seeks to assist traffic authorities by helping to define the appropriate traffic speed on different types of rural road, taking into account traffic and road user mix, geometry, general characteristics of the road and its surroundings, and the potential safety and environmental impacts.
94. Where accident rates are high, traffic authorities should seek cost-effective improvements to reduce these rates by targeting the particular types of accidents taking place. 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 accident 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 accidents along the route.

95. Traffic authorities should also consider the use of vehicle-activated signs (VAS), which have proved particularly effective at the approaches to isolated hazards, junctions and bends in rural areas.
96. In rural areas every effort should be made to achieve an appropriate balance between speeds, speed limits, road function and design, the differing needs of road users, and other characteristics. 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. The aim should be to align the local speed limit so that the original mean speed driven on the road is at or below the new posted speed limit for that road.
97. Widespread implementation of speed management over the whole minor rural road network could require a costly and environmentally sensitive increase in the level of signing. Traffic authorities should seek to ensure that a sensible balance is achieved.

6.1 SINGLE CARRIAGEWAY RURAL ROADS AND THE SPEED ASSESSMENT FRAMEWORK

98. In most instances the road function, characteristics and environment and actual speeds being driven should enable traffic authorities to determine the appropriate limit on single carriageway rural roads.
99. However, an assessment framework has been developed by TRL to help achieve an appropriate and consistent balance between safety and mobility objectives on single carriageway rural roads (Taylor *et al.*, 2002). Providing a method of assessment of options for speed limits, the assessment framework is designed to help decision-makers weigh up, in a more transparent way, the advantages and disadvantages of each speed limit option and reach a well-founded conclusion.
100. The assessment framework methodology is based on the presumption that single carriageway rural roads should operate at speeds near to those that give the minimum total costs taking safety, mobility and environmental impact into account. The framework is designed to take into account safety benefits and mobility costs and also allows environmental and accessibility factors to be described in ways that make transparent how the balance between the costs and benefits changes with different choices of speed limit. The assessment framework, which includes an electronic spreadsheet, automatically calculates the safety and mobility costs associated with different speed limit options. Although the framework provides a consistent approach, it is not rigid or prescriptive and allows local conditions and constraints to be taken into account.
101. As recommended in paragraph 36, mean speeds should be used where the assessment framework is being applied. Local issues in relation to particular routes can be further reflected through final decisions on the acceptable mean speed for each limit, on the importance given to local environmental or social factors, and on the choice of additional engineering or educational measures.

102. The assessment framework differentiates between two tiers of roads based upon their traffic function:
- upper tier – those with primarily a through function, where mobility is important, typically the A and B roads; and
 - lower tier – those with a local or access function, where quality of life benefits are important, typically the C and Unclassified roads.
103. Following investigations of the relationship between speed and accidents on rural single carriageway roads, TRL Report 511 (Taylor *et al.*, 2002) successfully classified rural road sections into four groups reflecting their operational characteristics. Drawing upon the accident rate information available for these groups and the minimum total cost at a particular speed, TRL Published Project Report 025 (TRL, 2004) sets the following accident thresholds for upper and lower tier roads, which reflect expected levels associated with a road carrying a given level of traffic and an appropriate balance between safety and mobility:
- upper tier roads – 35 injury accidents per 100 million vehicle kilometres
 - lower tier roads – 60 injury accidents per 100 million vehicle kilometres.

The speed assessment framework operates on the principles that the speed limit choice should be guided by whether the accident rate on a section of road is above or below the respective 35 or 60 injury accident thresholds.

104. The framework is designed to assist local decision making and promote greater consistency. The principles of the framework and a user guide can be found at Appendix E. The Department has also produced Traffic Advisory Leaflet 02/06, *Speed Assessment Framework: Balancing safety and mobility objectives on rural single carriageway roads* (DfT, 2006), giving fuller details of how the assessment framework works and advice on how to apply it. The framework spreadsheet itself can be downloaded from the TRL web site, www.trl.co.uk. For many cases, the principles will indicate the most likely appropriate limit without use of the detailed spreadsheet.
105. The framework has been trialled during development using data from a cross-section of single carriageway rural roads supplied by a number of traffic authorities. Initial trials using the assessment framework proved the practical value of the methodology, resulting in speed limits for upper tier roads which were generally accepted as reasonable by local safety officers in relation to speed, accident risk and road character. The trials also demonstrated that the detailed spreadsheet was useful for assessing roads where the decision to change a speed limit was marginal or where more detailed data were needed on cost trade-offs – but its use is not essential for simpler cases. A number of traffic authorities provided similar feedback on the methodology as part of the consultation on the draft of this guidance.
106. The assessment framework is still relatively new. In the first instance, traffic authorities should consider its application to those roads with high accident rates or simply as a way of helping decisions in borderline cases where the choice of the appropriate speed limit is not clear-cut.

107. The Department intends to monitor the use of the assessment framework on the ground and, subject to the above results being confirmed through wider use and the framework successfully delivering more appropriate speed limits, it should ultimately be used more widely across the single carriageway rural road network to help determine the most appropriate limits according to road function and type, taking into account accident rates.
108. In this instance, and subject to meeting local needs and considerations, recommended speed limits for the two tiers toward which, over a period of time, traffic authorities are encouraged to move are:

Upper tier A and B roads

- 60 mph: high quality strategic roads with few bends, junctions or accesses. When the assessment framework is being used, the accident rate should be below a threshold of 35 injury accidents per 100 million vehicle kilometres.
- 50 mph: lower quality strategic roads which may have a relatively high number of bends, junctions or accesses. When the assessment framework is being used, the accident rate should be above a threshold of 35 injury accidents per 100 million vehicle kilometres and/or the mean speed already below 50 mph.
- 40 mph: where there is high number of bends, junctions or accesses, substantial development, where there is a strong environmental or landscape reason, or where the road is used by considerable numbers of vulnerable road users.
- 30 mph: should be the norm in villages where appropriate.

Lower tier C and Unclassified roads

- 60 mph: only the best quality roads with a mixed function (i.e. partial traffic flow and local access) with few bends, junctions or accesses (in the longer term these roads should be assessed using the upper tier criteria).
- 50 mph: lower quality roads with a mixed function where there are a relatively high number of bends, junctions or accesses. When the assessment framework is being used, the accident rate should be below a threshold of 60 injury accidents per 100 million vehicle kilometres.
- 40 mph: roads with a predominantly local, access or recreational function, or where the road forms part of a recommended route for vulnerable road users. When the assessment framework is being used, the accident rate should be above 60 injury accidents per 100 million vehicle kilometres.
- 30 mph: should be the norm in villages where appropriate.

A summary table can be found at Appendix D.

109. 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 already be inappropriately set or too low, and an increased limit should be considered.

6.2 DUAL CARRIAGEWAY RURAL ROADS

110. Rural dual carriageways are not covered by the speed assessment framework. Roads 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, an accident history indicates that this cannot be achieved safely.

6.3 VILLAGES

111. 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, where appropriate, a 30 mph speed limit should be the norm in villages.
112. Traffic Advisory Leaflet 01/04 (DfT, 2004) sets out current 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.
113. 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.
114. The above criteria should give an adequate visual message to drivers to reduce their speed. However, many drivers are unlikely to reduce their speed to the new 30 mph limit if it is over a very short stretch of road, particularly if the end of the limit can be seen at the entry point. It is therefore recommended that the minimum length is at least 600 metres to avoid too many changes in speed limits along a route. 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. Shorter lengths are, however, not recommended.
115. 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.
116. Where the speed limit commences at the village boundary, the village nameplate sign and speed limit roundel may be mounted together using the format prescribed in diagram 2402.1 of TSRGD. The combined sign should be located as near as practicable

to the start of the development, so that drivers see housing at the same time as the signs, reinforcing the visual message for reduced speed.

117. 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. Further guidance on the use of gateway and entry treatments is included in Appendix B of this guidance. Advice can also 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).
118. 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.
119. It may also be appropriate in some larger villages to consider 20 mph limits or zones, or Home Zones if lighting and other considerations allow. Such limits should not, however, be considered on roads with a strategic function or on main traffic routes.

SECTION 7:

QUIET LANES AND HOME ZONES

This section provides guidance on the designation of Quiet Lanes and Home Zones.

Key points

A road in a Quiet Lane network or in a Home Zone is a place where the whole of the space is available for a range of different uses.

The speed of vehicles must be low enough to satisfy the local authority that any permitted activities may be enjoyed safely by people of all ages and abilities.

In Quiet Lanes and Home Zones, objectives for improving and maintaining the quality of life for local residents should take precedence over general objectives to ease traffic movements.

120. A road in a Quiet Lane network or in a Home Zone is a place where the whole of the space is available for a range of different uses. The speed of vehicles must therefore be low enough to satisfy local traffic authorities that any permitted activities (see Use Orders at paragraph 128) may be enjoyed safely by people of all ages and abilities. In Quiet Lanes and Home Zones, objectives for improving and maintaining the quality of life for residents should take precedence over general objectives to ease vehicle movements.
121. The aim of Quiet Lanes is to maintain the character of minor rural roads by seeking to contain rising traffic growth that is widespread in rural areas. There are three key elements to a Quiet Lanes scheme:
 - community involvement to encourage a change in user behaviour
 - area-wide direction signing to discourage through traffic
 - entry signing to indicate that those entering an area may expect to encounter people using the whole of the road space for a range of activities.
122. The Department considers that only minor roads or networks of minor roads that have low flows of motorised vehicles travelling at low speeds and are suitable for shared use by walkers, cyclists, equestrians and motorists are appropriate for designation as Quiet Lanes. They should be rural in character, though they do not necessarily have to be in a rural area.
123. For guidance on Quiet Lanes, see the Countryside Agency technical guidance: www.countryside.gov.uk/LAR/Recreation/Greenways/quietlanes/index.asp and the Department's Traffic Advisory Leaflet 03/04 (DfT, 2004b).

124. Home Zones aim to improve the quality of life in residential roads by making them places for people, instead of just being thoroughfares for vehicles. The key elements to a Home Zone are:
- community involvement to encourage a change in user behaviour
 - for the road to be designed in such a way as to allow it to be used for a range of activities and to encourage very slow vehicle speeds (usually involving sensitively designed traffic calming).
125. The Department considers that only roads which are predominantly residential and either have very low traffic speeds already (well below 20 mph), or have measures applied to bring speeds down to these levels, are appropriate for consideration for designation as a Home Zone. A Home Zone can be designed as part of a new residential development, or retrofitted into an existing residential community.
126. For guidance on Home Zones see the Department's Traffic Advisory Leaflets 10/01 (DETR, 2001b) and 08/02 (DfT, 2002), the Department's publication *Home Zones: Challenging the Future of our Streets* (DfT, 2006) and the Institute of Highway Incorporated Engineers *Home Zone Design Guidelines* (IHIE, 2002). Details of Home Zone schemes can be found on the following web site: www.homezones.org.uk.
127. In England and Wales Section 268 of the Transport Act 2000 enables a local traffic authority to designate any road for which they are the traffic authority as a Quiet Lane or a Home Zone. It also introduced the concept of use orders and speed orders for designated roads. It should be noted that such orders would **only** be applicable in designated Quiet Lanes or Home Zones and in no other situation.
128. Use Orders will permit the road to be used for purposes other than passage. These activities are subject to requirements not to obstruct the lawful use of the road by others, or to deny reasonable access to premises. The local traffic authority and the community involved should agree on activities which will have a legal right to occur on the road once the order is made.
129. Speed Orders will enable the local traffic authority to set a specified speed with a view to introducing speed-reducing and speed-control measures in order to hold traffic speeds below that specified speed. It is important to note that the new provisions do not alter traffic authorities' existing powers. The measures could include traffic calming measures but are not limited to them, and the normal procedures must be followed to authorise any traffic calming measures, as the speed orders themselves do not confer such authorisation. Measures could also include non-physical measures, for example publicity campaigns or community speed pledges.
130. Specified speed is a new concept in regulations and is associated with vehicular speeds, but local traffic authorities should bear in mind that speed orders do not impose speed limits at the specified speed. The speed specified in a speed order is that below which the measures taken are intended to constrain the traffic. If wanted for enforcement purposes, speed limits will need to be set by traffic regulation order for individual roads, and any local speed limits below 20 mph require the approval of the Secretary of State.

131. In 2006 the Department for Transport laid regulations and published guidance on the procedures for designating roads as Quiet Lanes and Home Zones, and enabling use orders and speed orders, in England.

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APPENDIX A: SUMMARY OF MAIN CHANGES TO SPEED LIMIT SIGNING REGIMES IN THE TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS 2002 (TRSGD 2002)

Boundary sign diagram 2402.1

Where this is used as part of a gateway treatment, a speed limit terminal sign may be co-located with the boundary sign. It may also be mounted on a rectangular or non-rectangular backing board (either grey or yellow).

Speed limits at road works

Direction 10(3) requires the placing of speed limit signs to diagram 670 or 671 at the end of road works (in addition to the 'End of road works restrictions' signs to diagram 7006 or 7001 combined with an 'End' plate to diagram 645) if the stretch of road covered by the temporary restrictions includes a point at which the permanent speed limit has been changed. This avoids any confusion where the speed limit has been lowered at road works but the original speed limit is being reinstated. However, there is no requirement to sign the limit at the end of the works if the limit is the same as at the start of the works.

Temporary new 30 mph speed limit sign (diagram 7032)

A new temporary sign has been included to inform drivers of a newly-imposed 30 mph speed limit where it is adjacent to an existing 30 mph road. It is intended for use on a lit street where the road speed limit had previously been higher (i.e. the road is reverting to its Restricted road status). This temporary sign can be used for up to 6 months.

Informatory 30 mph and camera warning sign (diagram 880)

The sign to diagram 880 is a sign to inform drivers of the presence of enforcement cameras on a road where a 30 mph speed limit is in force and a system of street lighting is in operation. The sign cannot be used as a repeater sign.

Other camera signs (diagrams 878 and 879)

Signs to diagram 878 can be used to indicate traffic signal cameras, speed cameras, traffic signal and speed cameras, traffic enforcement cameras, police cameras, police enforcement cameras and bus lane cameras. Signs to diagram 879 are camera symbol repeater signs and can be placed on routes and in areas where enforcement cameras are from time to time in use.

Carriageway speed limit roundel markings

Speed limit carriageway markings can be used without special authorisation from the Department, provided they are used in conjunction with upright speed limit signing. They may not be used as 30 mph repeater signs on roads with a system of street lighting. In exceptional circumstances the Department will consider special authorisation for carriageway roundels without upright speed limit signing in Areas of Outstanding Natural Beauty, but traffic authorities are expected to consider how the roundels will be maintained, as the roundels can become worn and obscured by adverse weather conditions, which could affect enforcement.

Full details of the changes to speed limit signing regimes in The Traffic Signs Regulations and General Directions 2002 are set out in Circular 02/03 (DfT, 2003).

APPENDIX B:

TRAFFIC CALMING MEASURES SUITABLE FOR URBAN ROADS

Road humps

Road humps are the most effective traffic calming measure available for reducing speed. They are also the most severe, as they force the driver to slow down. There are many different types of road hump, including round top, flat top, raised junctions (speed tables) and speed cushions.

Speed cushions have been introduced in order to overcome concerns about discomfort and delay expressed by bus companies and the emergency services resulting from the use of flat and round top road humps. Their design allows these larger, wider vehicles to straddle the cushion, thereby reducing delay and discomfort.

Concerns have also been expressed about the potential for low vehicles to ground on road humps and cushions. Following research into this, a maximum height of 75 mm is recommended; this may need to be lower for very short or narrow cushions (see Traffic Advisory Leaflet 02/96; DoT 1996a).

Traffic Advisory Leaflet 7/96 *Highways (Road Humps) Regulations 1996* (DoT, 1996b) gives guidance on the use of road humps, and Traffic Advisory Leaflet 01/98 (DETR, 1998) specifically deals with speed cushions.

Road narrowing measures

Narrowing the carriageway is also considered an effective way of reducing vehicle speeds and is less intrusive for the driver, but nevertheless requires drivers to negotiate an obstacle, thus encouraging them to slow down.

Chicanes, build-outs, overrun areas and traffic islands all have the effect of reducing the width of the carriageway. Chicanes achieve the biggest reduction in vehicle speeds, with traffic islands achieving the least reduction.

Guidance on the use of chicanes can be found in Traffic Advisory Leaflet 12/97 (DETR, 1997), on the use of overrun areas in Traffic Advisory Leaflet 12/93 (DoT, 1993c) and guidance on traffic islands can be found in Traffic Advisory Leaflet 07/95 (DfT, 1995b).

Gateways (rural) and entry treatments (urban)

Gateways are typically used in rural areas on the approach to villages and other areas where vulnerable road users can be expected. One definition of a gateway is 'combinations of natural or man-made features at the entry to, or exit from, areas where the rules or drivers' expectations change, such as the introduction of speed limits' (Institution of Highways and Transportation, 1997).

The Highways (Traffic Calming) Regulations 1999 (SI 1999 No. 1026) provide for a gateway to be used 'to indicate the presence in a length of highway of traffic calming works'. These works may be prescribed by the traffic calming or road hump regulations or specially authorised.

Gateway features may be constructed on the verge, footway or cycle track. One of the main features will usually be vertical elements at the sides of the road as a strong visual cue for drivers. It is also possible for a gateway to span the carriageway. In common with all traffic calming features, a gateway may include paving, grass or other cover; pillars, planters, walls, rails or fences; trees, shrubs and other plants.

Traffic Advisory Leaflet 13/93 (DoT, 1993d) provides information and guidance on the use of gateways.

Entry treatments are normally used at side roads so that drivers leaving a major road are in no doubt that they are entering a road of a different character. Entry treatments at the beginning of a 20 mph zone are a good example of this. They also often raise the surface of the road to meet the level of the footway, thus not only creating a more pedestrian-friendly environment but also a speed-reducing feature. Traffic Advisory Leaflet 02/94 (DoT, 1994b) gives guidance on their use, also Traffic Advisory Leaflet 09/99 *20 mph Speed Limits and Zones* (DETR, 1999a).

Road markings

The use of road markings can also have some effect in persuading drivers that a slower speed is appropriate. Measures include centre hatching, changing the colour of the road surface, dragon's teeth that are sometimes used as part of a gateway feature, and carriageway roundels that are used in conjunction with upright speed limit signs as an additional measure to emphasise the speed limit in force.

Rumble devices

Rumble devices are also sometimes used. These may be in the form of rumble strips or areas that have a vibratory and audible effect which alerts the driver that extra care is needed. It should be noted that, because of the vibration and noise, these should not be placed close to residential areas. Traffic Advisory Leaflet 11/93 (DoT, 1993b) gives further advice on their use. A new type of rumble device known as rumblewave surfacing has recently been developed. This has a sinusoidal profile and provides similar noise and vibration within vehicles but less external noise, making it more suitable for use near residential areas. Traffic Advisory Leaflet 01/05 (DfT, 2005a) gives further advice on rumblewave surfacing.

The consultation process

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 highway 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 highway 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

For all other traffic calming, the consultation process is outlined in The Highways (Traffic Calming) Regulations 1999 (SI 1999 No. 1026) as follows (Regulation 4):

“Where a highway 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 highway authority thinks fit.”

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.

APPENDIX C: SPEED LIMITS IN URBAN AREAS

Table 1: Speed limits in urban areas	
Speed limit (mph)	Characteristics
20	In town centres, residential areas and in the vicinity of schools where there is a high presence of vulnerable road users.
30	The standard limit in built-up areas with development on both sides of the road.
40	Higher quality suburban roads or those on the outskirts of urban areas where there is little development. Should be few vulnerable road users. Should have good width and layout, parking and waiting restrictions in operation, and buildings set back from the road. Should wherever possible cater for the needs of non-motorised users through segregation of road space, and have adequate footways and crossing places.
50	Usually most suited to special roads, dual carriageway ring or radial routes or bypasses which have become partially built up. Should be little or no roadside development.

Full details are set out in Section 5.

APPENDIX D: SPEED LIMITS FOR SINGLE CARRIAGEWAY ROADS IN RURAL AREAS*

Table 2: Speed limits for single carriageway roads in public areas		
Speed limit (mph)	Upper tier – roads with predominant traffic flow function	Lower tier – roads with important access and recreational function
60	<p>Recommended for most high quality strategic A and B roads with few bends, junctions or accesses.</p> <p>When the assessment framework is being used, the accident rate should be below a threshold of 35 injury accidents per 100 million vehicle kilometres with this speed limit.</p>	<p>Recommended only for the best quality C and Unclassified roads with a mixed (i.e. partial traffic flow) function with few bends, junctions or accesses.</p> <p>In the longer term, these roads should be assessed against upper tier criteria.</p>
50	<p>Should be considered for lower quality A and B roads which may have a relatively high number of bends, junctions or accesses.</p> <p>When the assessment framework is being used, the accident rates should be above a threshold of 35 injury accidents per 100 million vehicle kilometres at higher speeds.</p> <p>Can also be considered where mean speeds are below 50 mph, so lower limit does not interfere with traffic flow.</p>	<p>Should be considered for lower quality C and Unclassified roads with a mixed function where there are a relatively high number of bends, junctions or accesses.</p> <p>When the assessment framework is being used, the accident rate should be below a threshold of 60 injury accidents per 100 million vehicle kilometres.</p>
40	<p>Should be considered where there is a high number of bends, junctions or accesses, substantial development, where there is a strong environmental or landscape reason, or where there are considerable numbers of vulnerable road users.</p>	<p>Should be considered for roads with a predominantly local, access or recreational function, or if it forms part of a recommended route for vulnerable road users.</p> <p>When the assessment framework is being used, the accident rate should be above a threshold of 60 injury accidents per 100 million vehicle kilometres.</p>
30	Should be the norm in villages.	

**Recommended speed limits to which traffic authorities are encouraged to move over a period of time, subject to their meeting local needs and considerations.*

Full details are set out in Section 6.

APPENDIX E:

SPEED ASSESSMENT FRAMEWORK – NEW APPROACH TO SPEED LIMIT SETTING FOR SINGLE CARRIAGEWAY ROADS IN RURAL AREAS

1. Speed limits should be considered as only one part of rural safety management. The first priority where accident rates are high should be to seek cost-effective improvements to reduce these rates, targeting the accident types that are over-represented.
2. If high rates persist despite these measures, then lower speed limits may also be considered. But lower speed limits on their own without supporting physical measures, driver information and publicity or other measures will not necessarily change driver behaviour and therefore will result in substantial numbers of drivers continuing to travel at unacceptable speeds. This may lead to significant enforcement cost. So every effort should be made to achieve an appropriate balance between 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.
3. An assessment framework has been developed by TRL (Taylor *et al.*, 2002) to help decision-makers weigh up, in a more transparent way, the advantages and disadvantages of each speed limit option and reach a well-founded conclusion for these roads.
4. The basis for the speed assessment framework procedure is:
 - a firm theoretical basis for choosing speed limits for road functions, taking account of safety, mobility and environmental factors
 - roads classified into two tiers based on road function
 - closer integration of speed limit choice, with more general rural road safety management measures
 - driver choice of desired speed to be reflected by mean speed
 - local flexibility of choice within a consistent overall procedure.
5. The assessment framework combines safety and mobility costs to show how the overall total cost and the balance between the component costs change if different choices of speed limit are made. For a particular road type, total cost is similar over a relatively wide speed range, with mobility benefits being exchanged for safety benefits as speeds decrease.
6. A simple two-tier functional hierarchy should be used, with roads having either primarily a through traffic function (upper tier) or a local access (lower tier) function. Both need to be provided safely. Mobility benefits will be more important for the upper

tier than for the lower tier roads, whilst environmental benefits are likely to be of greater importance for the lower tier roads.

7. There may be many roads below A and B classification which serve a mixed through-traffic and access function. Where that traffic function is currently being achieved without a high accident rate, these roads should be judged against the criteria for upper tier 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 against the criteria for lower tier roads.
8. Decisions on speed limits should take account of other accident reduction measures that might be applied. To help in this process, a technical guide has been developed, *Accident Analysis on Rural Roads* (TRL, 2004) (downloadable from the TRL web site www.trl.co.uk), which provides information on typical collision rates, and typical proportions of different accident types, on different types of rural road. These can be used to judge whether other site- or route-specific measures might be appropriate that would reduce either speeds or accidents along the route.
9. Mean speed should be used for the assessment. 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.
10. The aim should be to align the speed limit to the prevailing conditions, and all vehicles moving at speeds as close to the posted speed limit as possible. An important step in the procedure is to gain agreement with local enforcement agencies that the mean speed of drivers on the road with any new speed limits is acceptable.
11. The aim of the framework approach is to achieve a consistent application of speed limit policy throughout the country. But local issues in relation to particular routes can be reflected in the functional tier to which the road is assigned, and also through final decisions on acceptable mean speeds for each limit, on the importance given to local environmental factors, and on the choice of additional measures that could change the appropriate speed limit regime recommended.

Selection procedure

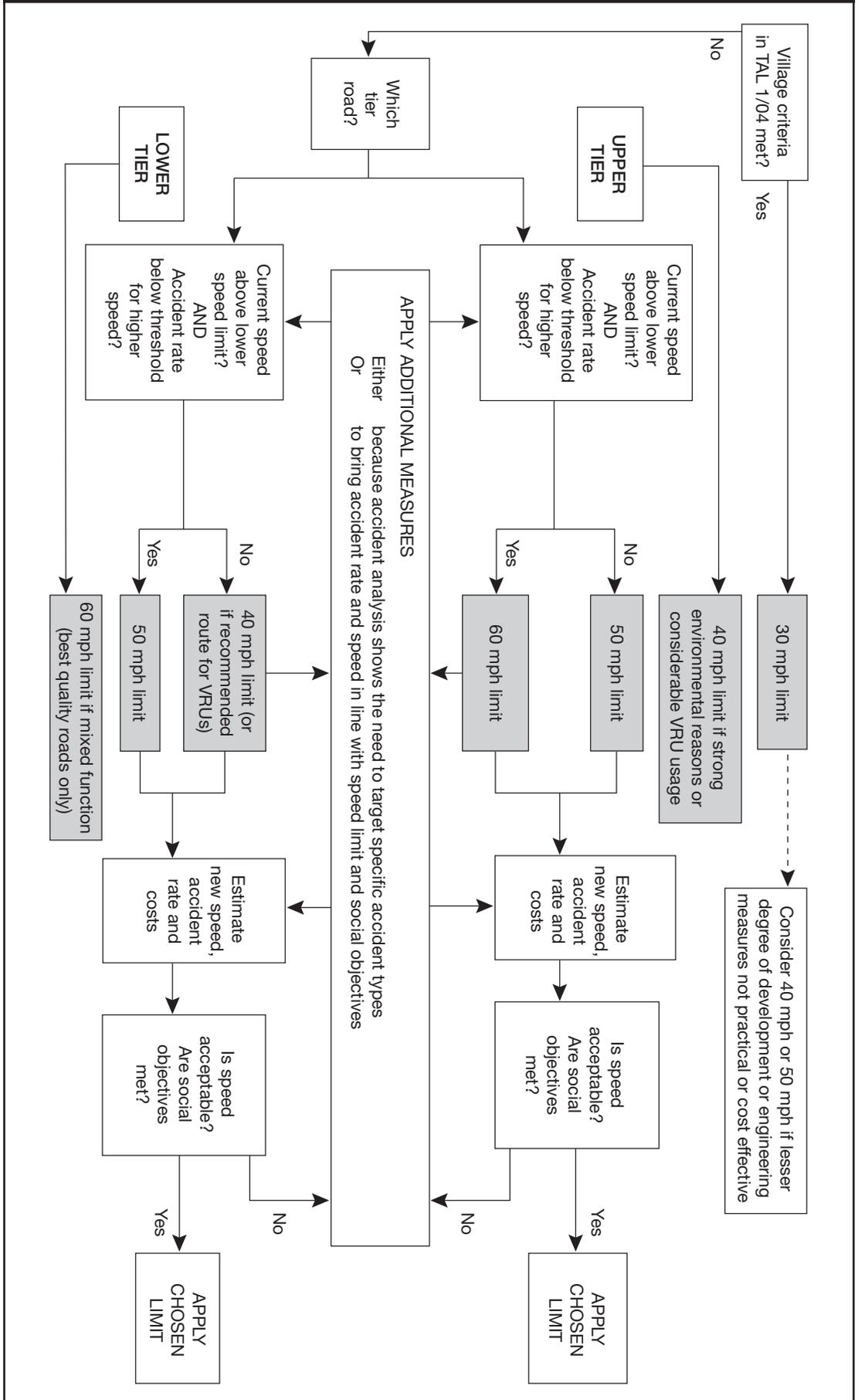
12. Within routes, separate assessments should be made for each section of road of 600 metres or more for which a separate speed limit might be considered appropriate. When this is completed, the final choice of appropriate speed limit for individual sections might need to be adjusted to provide consistency over the route as a whole.
13. A flow chart for the decisions to be made for selecting speed limits for rural single carriageway roads is given in Figure 1. It includes the following steps:

Step 1 – Consider whether the level of development requires special treatment.

Step 2 – Consider which functional tier is appropriate for the road.

Step 3 – Measure the current mean speed and accident rate (as all injury accidents per 100 million vehicle km).

Figure 1: Flow chart for choice of speed limit on single carriageway rural roads



Step 4 – Check the accident rates against acceptable thresholds.

Step 5 – If the accident rate is high, check the proportion of different accident types against the investigatory thresholds recommended in *Accident Analysis on Rural Roads* (TRL, 2004) and consider whether site or route treatment is appropriate before deciding speed limit.

Step 6 – if a speed limit lower than the current one is indicated, estimate the mean speed and accident rate and the influence on social factors that would result from implementing the new limit.

Step 7 – Check that these values are acceptable; if not, consider whether further measures are necessary to bring speed and accident rates into balance.

14. For mean speeds to be acceptable, they should be no higher than the posted limit after it has been implemented. Research shows that, for a typical distribution of vehicle speeds on single carriageway rural roads, the 85th percentile speed is about 6 mph above the mean speed for roads with a 50 mph limit, and about 8 mph above mean speed on roads with a 60 mph limit. Setting acceptable mean speeds at or below the limit is therefore consistent with current enforcement thresholds.
15. The choice of speed limits within each tier should take account of the following:
 - whether the accident rate is below the appropriate threshold of injury accidents per 100 million vehicle kilometres
 - whether there is substantial development
 - whether the road forms part of a recognised route for vulnerable road users.
16. The bands of appropriate accident rates by speed and speed limit are illustrated in Figures 2 and 3. If walking, cycling, equestrians or environmental factors are particularly important on the road section, consideration should be given to using the lower limit, even if the accident rate is below the threshold shown.
17. The influence of development should be taken into account through the following factors:
 - If the road section qualifies for village status, the advice in Traffic Advisory Leaflet 01/04 (DfT, 2004) should be followed.
 - If the section does not meet the definition of Traffic Advisory Leaflet 01/04 (DfT, 2004) for a village, but the level of development is at least half the density implied (over a minimum of 600 metres), a speed limit of 40 mph should be considered.

Other factors that would strengthen the case for a 40 mph limit are: a high incidence of bends or junctions, or a high accident rate, and specific development in terms of schools, public houses and use by vulnerable road users.

Figure 2: Speed limit zones in terms of mean speed and accident rate for upper tier roads

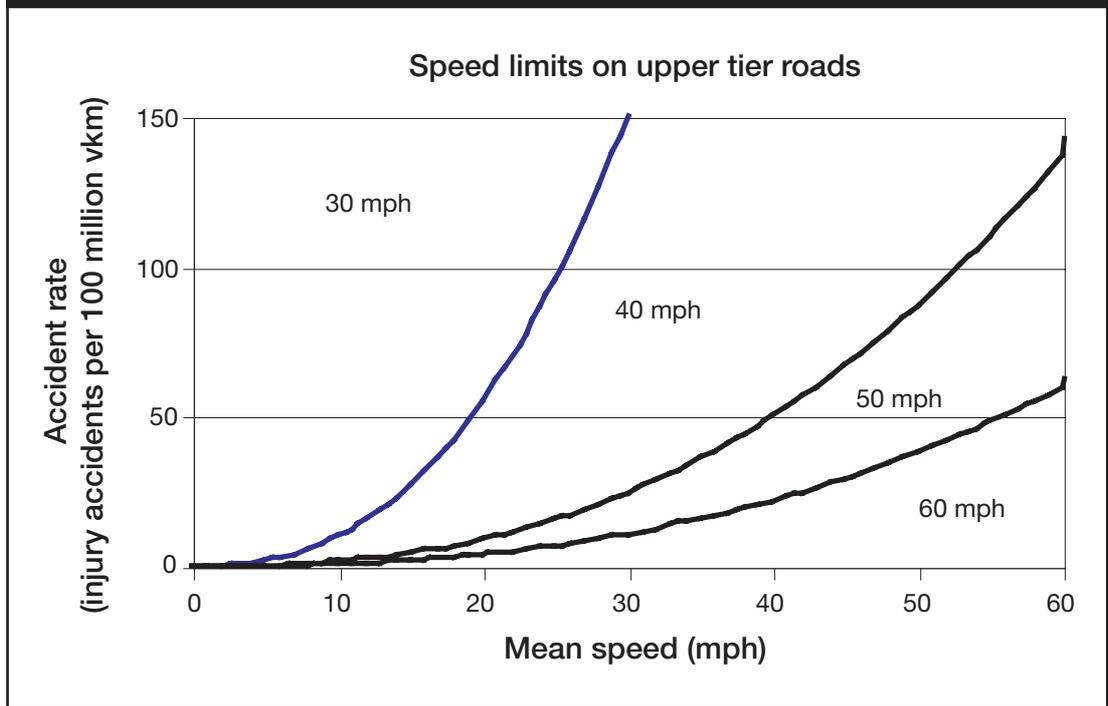


Figure 3: Speed limit zones in terms of mean speed and accident rate for lower tier roads



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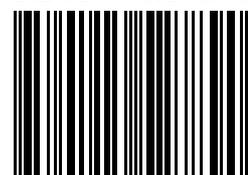
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