



Llywodraeth Cynulliad Cymru
Welsh Assembly Government

Department for the Economy and Transport



Setting Local Speed Limits in Wales

Guidance

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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.
- Speed limits should encourage self-compliance and not be seen by drivers as being a target speed at which to drive in all circumstances.
- Highway 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 lower or higher depending upon the conditions and evidence.
- This guidance is to be used for setting all local speed limits on trunk and county roads, (excluding motorways) whether single or dual carriageways 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 speed management strategies dovetailing with Regional Transport Plans.
- Highway authorities are asked to review the speed limits on all of their A and B roads, and implement any necessary changes, by 31st December 2014 in accordance with this guidance.

Background

- 1.1 The Welsh Assembly Government is committed to reducing road traffic collisions and injuries, and developing safer environments for all road users, within a road system which strengthens rural communities and aids wider economic, social and environmental objectives in a sustainable way.
- 1.2 Speed limits play a fundamental role in effective speed management designed to encourage, help and require road users to adopt appropriate and safe speeds. They are a key indicator of the nature and risks posed by the road environment to both motorised and non-motorised road users. Speed limits should, therefore, be evidence led and seek to reinforce people's assessment of what is a safe speed to travel, encouraging self-compliance and not being seen by drivers as a target speed at which to drive in all circumstances.
- 1.3 The overall speed limit framework, including the setting of national limits for different road types, and to which exceptions to the general limits can be applied, is the responsibility of central government. Currently the three national speed limits for cars and motorcycles are:
 - 30mph on street lit roads (sometimes referred to as Restricted Roads);
 - 60mph on rural single carriageway roads;
 - 70mph on dual carriageways and motorways.

- 1.4 These national limits are not, however, appropriate to all roads and highway authorities can, based on local needs and considerations, set 'local speed limits' that differ from the respective national speed limit.
- 1.5 This guidance for highway authorities supersedes that previously contained in Circular Roads 1/93 (Department of Transport / Welsh Office 1993).
- 1.6 This guidance builds on many of the underlying principles of Circular Roads 1/93 reflecting some important developments in speed management policies / research and the relationship between speed and the risk of collisions, together with the severity of injury and actual speeds being driven on rural roads.
- 1.7 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, speed limits in rural communities, and 20mph speed limits and zones.
- 1.8 The guidance should be read in conjunction with the relevant legislation, including the Traffic Signs Regulations and General Directions 2002, together with comprehensive advice set out in the appropriate Traffic Advisory Leaflets.
- 1.9 Section 268 of the Transport Act 2000 enables a local highway authority to designate any of the roads for which it has direct responsibility as a Quiet Lane or Home Zone and introduces the concept of use orders and speed orders for these roads. As speed orders do not impose speed limits, but rather specify speeds below which measures can be introduced to constrain traffic, they are not dealt with explicitly within these guidelines.

Priorities for Action

- 1.10 This guidance should be used as the basis for:
 - future assessments of local speed limits;
 - developing route management strategies;
 - developing speed management strategies dovetailing with Regional Transport Plans.
- 1.11 Highway authorities are asked to:
 - review, in accordance with this guidance, the speed limits on all of their A and B roads, implementing and documenting any changes by 31st December 2014;
 - also consider the use of speed management measures, where appropriate on their other roads, in accordance with their statutory duty in respect of road safety;
 - address routes with problems of collisions and injuries, or where there is a widespread disregard for current speed limits.
- 1.12 This guidance will continue to be reviewed in the light of experience and future policy developments. The Welsh Assembly Government intends to monitor and evaluate the usefulness of its guidance to highway authorities and to review the results of its use on the ground. This information will be used to inform any future reviews of the Road Safety Strategy for Wales.

Section 2: Background and Objectives

Key points:

- Highway authorities continue to have the flexibility to set local speed limits that are right for individual roads, reflecting local needs and considerations.
- Local speed limits should ideally be considered as part of a package of measures to manage vehicle speeds.

2.1 The following is a list of publications that have defined government policy in relation to speed management:

- 1997 White Paper on the Future of Transport;
- New Directions in Speed Management (DETR 2000a);
- Tomorrow's Roads – Safer for Everyone¹;
- The Road Safety Strategy for Wales¹;
- Transport Act 2000; and
- TRL Speed Assessment Framework.

2.2 The key objectives of this guidance are:

- the provision of up-to-date and consistent advice to highway authorities;
- improved clarity and consistency of speed limits across Wales that will reflect a level of consistency with England;
- the setting of more appropriate local speed limits, including lower or higher speed limits where conditions dictate;
- local speed limits which 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 which 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.

2.3 Speed limits are, however, only one element of speed management. Ideally local speed limits should be part of a package of measures to manage speeds. For example this could include engineering, landscaping, education, driver information, training, and publicity work to respect the needs of all road users and raise the driver's awareness of their

¹ A new national road safety strategy incorporating casualty reduction targets for beyond 2010 is currently being prepared.

environment. Within their overall network management responsibilities, these measures should enable highway authorities to deliver speed limits and driven speeds that are safe and appropriate for the road and its surroundings.

- 2.4 If an unrealistically low speed limit is set in isolation, it is likely to be ineffective and lead to disrespect from drivers. This would require significant, but avoidable, enforcement costs and could also result in many drivers continuing to travel at unacceptable speeds, thus increasing the risk of injury collisions.

Section 3: The Underlying Principles of Local Speed Limits

Key points:

- The Welsh Assembly Government is responsible for determining local speed limits on the motorway and trunk road network. Local highway authorities are responsible for determining speed limits on the local road network.
- It is important that highway authorities and the police work together in determining 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 and communities must be fully taken into account.
- Highway authorities will wish to satisfy themselves that the benefits exceed the disbenefits before introducing or changing a local speed limit.
- The characteristics of the road and the needs of the vulnerable road user should be considered as factors when setting a speed limit.
- Mean speeds should be used as the basis for determining local speed limits.
- The minimum length of a speed limit should generally be not less than 600 metres although it may be appropriate to use shorter lengths in some circumstances.
- 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 at a bend.

- 3.1 This section identifies who is responsible for determining local speed limits, on which roads, together with the underlying principles which should guide such decisions.
- 3.2 The Welsh Assembly Government is responsible for determining local speed limits on the motorway and trunk road network, and local highway authorities for determining local speed limits on the local road network.
- 3.3 It is important that highway authorities and the police work together in determining, or considering, any changes to speed limits. Neighbouring highway authorities should also work together to ensure consistency of speed limits, especially where roads cross boundaries.

Considerations in Setting Local Speed Limits

- 3.4 A study of road traffic collisions and casualties should indicate whether an existing speed limit is appropriate for the type of road and mix of use by different road users. Community

concerns should also be considered. Improvements in the collision rate or quality of life may be achieved by other speed management measures, hence these alternatives should be considered before proceeding with a new speed limit.

- 3.5 Before introducing or changing a local speed limit, highway 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 highway authorities should include an assessment of the following factors:
- conditions and facilities for vulnerable road users, including the visual and physical impact of signing;
 - the level of community severance by moving traffic;
 - potential collision and casualty savings;
 - the level of public anxiety;
 - the environmental impact;
 - traffic flow and emissions;
 - journey time reliability;
 - 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 practicalities of enforcement.

The Underlying Principles

- 3.6 The underlying aim of speed management policies should be to achieve a safe distribution of speeds which reflects the function of the road and the needs of the local community.
- 3.7 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.
- 3.8 The characteristics of the road, such as its geometry and adjacent land use, should be a key factor when setting a speed limit. Drivers are likely to respect lower limits where they can see there are potential hazards, for example in residential areas, shopping streets and outside schools.
- 3.9 Appropriate speed limits are those that complement the road geometry and environment, and the following factors are important:
- road function (strategic, through traffic, local community access etc);
 - road user composition (including existing and potential levels of pedestrian, cyclist, horse rider, motorcyclist and drivers / riders of different types of vehicle);
 - road geometry (width, sight-lines, bends, junctions and accesses etc);
 - community severance;
 - road environment (rural, residential, shop frontages, schools etc);
 - level of adjacent development.

- 3.10 The needs of vulnerable road users must be fully taken into account in order to further encourage their mobility 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, collision severity and the risk to vulnerable road users are also greater. In both situations speed management strategies should seek to protect local community life.
- 3.11 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.
- 3.12 Mean speeds should be used as the basis for determining local speed limits as these reflect what the majority of drivers perceive as an appropriate speed for the road. The aim should be for the mean speed driven on the road to be at or below the posted speed limit. Consequently, it may be necessary to consider additional measures to influence the speed distribution.
- 3.13 The minimum length of a speed limit should generally be not less than 600 metres to avoid too many changes along the route. 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 terminal points of speed limits need to take account of local circumstances, such as gradients, bends, hump-backed bridges or other hazards, access to industrial / residential estates and visibility of the terminal signs.
- 3.14 For consistency within routes, separate assessments should be made for each 600 metre length of road for which a different speed limit is being considered. 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.
- 3.15 Occasionally a shorter length of 40mph or 50mph speed limit may be appropriate as an intermediate transition between a national limit and a lower limit, for example on the outskirts of rural communities or urban areas with adjoining intermittent development. The use of such transitional limits should be restricted to where immediate speed reduction causes real difficulty or is likely to be less effective.
- 3.16 Speed limits should not be used to address isolated hazards such as a simple junction or bend, since speed limits are difficult to enforce over short lengths. Other measures such as warning signs, carriageway markings, junction improvements, super-elevation of bends, adequate footways and new or improved street lighting are likely to be more effective.
- 3.17 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, the roundabout itself should take the lower limit. If all the approach roads have the same limit, the roundabout should have that same limit.
- 3.18 An advisory speed limit recommends a maximum speed although this is not enforced. These are often set at roadworks, on sections of roads with bends or other hazards or in areas frequented by vulnerable road users such as outside schools. Advisory speed limits are generally signed in accordance with Diagram No 513.2 of the Traffic Signs Regulations and General Directions 2002.

Section 4: The Legislative Framework

Key points:

- All speed limits, other than those on restricted roads, should be made by order under Section 84 of the Road Traffic Regulation Act 1984.
- Any permanent speed limits below 30mph, other than 20mph limits or zones, require individual consent from the Welsh Assembly Government.
- For the purpose of determining whether or not a road is restricted, street lighting may extend not only to street lamps provided by highway authorities, but also to their provision by town or community councils with the consent of the respective highway authority.
- Unless an order has been made and the road is signed to the contrary, a 30mph speed limit applies where there are three or more street lamps illuminating the carriageway and placed not more than 183 metres apart.
- Highway authorities have a duty to erect and maintain prescribed speed limit signs on their roads in accordance with The Traffic Signs Regulations and General Directions 2002. Signing that is contrary to the Regulations must not be installed without first seeking authorisation.
- Highway 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 static speed limit signing, but as an additional measure to warn or remind drivers as appropriate.

Main Speed Limit Legislation

- 4.1 This section summarises the current legislative framework governing the setting of local speed limits and speed limit signing. Highway Authorities should comply with this and any subsequent legislative and technical advice.
- 4.2 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.
- 4.3 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 (183 metres) apart". Section 81 specifically makes it an offence for a person to drive a motor vehicle at a speed of more than 30mph on a restricted road.
- 4.4 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 associated signage.

- 4.5 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 30mph speed limit on an unlit road.
- 4.6 The Welsh Assembly Government's policy on the use of Section 82 (2) 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.
- 4.7 If a road with street lighting has a 40mph limit and this is to be reduced to 30mph, it is necessary to both revoke the 40mph order under Section 84 and apply Section 82 to reinstate restricted road status. Similarly, where a speed limit of 30mph is imposed by order under Section 84 because there is no street lighting, that order should be revoked if street lighting is subsequently provided.
- 4.8 Whilst the Welsh Assembly Government believes that it is legally permissible to use Section 82 to create a 30mph speed limit on an unlit stretch of road, it considers that the best practice is to use Section 84, since this is more in line with the common sense implication that the term 'restricted road' implies the presence of street lights. That said, current speed limits of 30mph on unlit roads that have been made using Section 82 are not in the Welsh Assembly Government's view illegal and there is no requirement to make retrospective speed limit orders. However, it is recommended that highway authorities use Section 84 for future orders.
- 4.9 Any permanent speed limits below 30mph, other than 20mph limits or zones require individual consent from the Welsh Assembly Government.

Street Lighting

- 4.10 For the purpose of determining whether or not a road is restricted, street lighting (as set out in paragraph 4.3) may extend not only to street lamps provided by highway authorities, but also their provision by town or community councils with the consent of the respective highway authority.
- 4.11 Direction 11 of The Traffic Signs Regulations and General Directions 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 a system of street lighting and which is subject to a 30mph speed limit. The definition of repeater signs includes the use of carriageway markings validating the speed limit.
- 4.12 The Welsh Assembly Government will not make exceptions to this rule. It should be assumed that, unless an order has been made and the road is signed to the contrary, a 30mph speed limit applies where there is a system of street lighting.

Speed Limit Signing

- 4.13 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.
- 4.14 Under Section 85 of the RTRA 1984 it is the duty of the highway authority to erect and maintain prescribed speed limit signs on their roads. The Traffic Signs Regulations and General Directions 2002 prescribe the designs and conditions of use for traffic signs including speed limit signing in England, Scotland and Wales.

- 4.15 Highway authorities must follow these Regulations when signing speed limits. Special authorisation must be sought if highway 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 Welsh Assembly Government.
- 4.16 All signs displaying a mandatory speed limit must either comply fully with the regulations, or have been specially authorised. Failure to provide signs in this manner effectively means that no offence is committed by the person exceeding the speed limit, resulting in failed prosecutions.
- 4.17 Lower maximum speed limits apply on certain roads to certain 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. Highway authorities are, therefore, not permitted to erect different speed limit signs relating to different classes of vehicle.
- 4.18 The main types of speed limit, traffic calming, safety camera and related signing, along with directions for their use, can be found in the Traffic Signs Regulations and General Directions 2002.
- 4.19 Appendix A details in principle the layout of speed limit signs.
- 4.20 Further detailed advice on the form and siting of speed limit signs is given in Chapter 3 of the Traffic Signs Manual and Traffic Advisory Leaflet 1/95 (DoT 1995).
- 4.21 Vehicle activated signs (VAS), triggered by approaching vehicles, have been developed to help address the problem of inappropriate speed. They must not be used as an alternative to static speed limit signing, but as an additional measure to warn drivers of a potential hazard or to remind them of the speed limit in force.
- 4.22 The legislation does not prescribe the use of countdown markers on the approach to speed limit terminal signs, and highway authorities must therefore apply for special authorisation before they can be installed.

Section 5: Speed Limits in Urban Areas

Key points:

- Lower speeds benefit all users of urban roads, especially vulnerable road users.
- Highway authorities are encouraged to adopt the Institution of Highways and Transportation's Urban Safety Management Guidelines. The guidelines propose the use of a road hierarchy approach which reflects a road's function, the mix of vehicular traffic that it carries and its use by vulnerable road users.
- The national speed limit in urban areas is currently 30mph.
- Highway authorities are encouraged to consider any new speed limits or modifications to existing limits on an individual case-by-case basis.
- The Welsh Assembly Government encourages and supports 20mph speed limits and zones at appropriate locations. 20mph limits may even be introduced on trunk roads in exceptional circumstances, generally over short lengths and for limited times of the day.
- 40 mph speed limits may be used where the highway features provide suitable facilities to accommodate the movements of all road users who normally use that length of road. 40mph speed limits will tend to be located on generally higher quality suburban roads or those on the outskirts of towns and villages where there is limited development.
- 50mph speed limits can be implemented on urban dual carriageways, radial routes or bypasses where the road environment and characteristics are appropriate. Generally vulnerable road users will not use or seek to cross these routes.

Scope

- 5.1 This section provides specific guidance on the setting of local speed limits in urban areas. Highway authorities should comply with this guidance and any subsequent legislation and technical advice.
- 5.2 Urban roads by their nature are complex as they should seek to cater for a wide variety of user activities and should provide for safe travel on foot, by pedal cycle and by motorised vehicle. Lower speeds benefit all urban road users and setting appropriate speed limits is, therefore, an important factor in improving urban safety. Highway authorities are encouraged to adopt the Urban Safety Management Guidelines published by the Institution of Highways and Transportation. These Guidelines propose the use of a road hierarchy approach which reflects a road's function, the mix of vehicular traffic that it carries and its use by vulnerable road users. Within this approach the principle should be to ensure that the traffic travels on suitable roads at an appropriate speed.
- 5.3 The national speed limit in urban areas is currently 30mph, representing a balance between the mobility and safety of road users, especially the more vulnerable groups. Local speed limits of 20mph are encouraged where appropriate, particularly in situations

where there is a risk to vulnerable road users. Highway authorities can also implement 40mph and 50mph limits on urban roads where conditions are suitable.

5.4 Whenever considering the introduction of new speed limits or modifications to existing limits, highway authorities should review proposals on an individual case-by-case basis.

5.5 For further information on appropriate urban speed limits, other than 30mph limits, see paragraphs 5.6 to 5.17 inclusive and Appendix C.

20mph Speed Limits and Zones

5.6 Highway authorities may implement 20mph speed limits and zones where appropriate, particularly in residential areas, and this is encouraged and supported by the Welsh Assembly Government. Such limits may either be full time or restricted to specified hours of the day.

5.7 20mph speed limits may be used on trunk roads in exceptional circumstances, generally over short lengths and for limited times of the day.

5.8 To be successful, 20mph speed limits and zones should ideally be self enforcing. Highway authorities should take account of the level of police enforcement required before installing either of these measures and must always formally consult the police when considering their use.

5.9 Where highway authorities introduce 20mph speed limits for part of the day (e.g. around school hours), care should be taken to ensure that signing is clear and unambiguous to drivers.

5.10 20mph speed limits should only be used for individual roads or for a small network of roads. Research indicates that 20mph speed limits should only be used where mean vehicle speeds are 24mph or below or where traffic calming measures are planned as part of the speed management strategy.

5.11 20mph zones have a proven casualty reduction benefit and are usually used in town centres, residential areas and in the vicinity of schools. Their purpose is to create conditions in which drivers naturally drive at around 20mph largely due to vulnerable road user activity.

40 and 50mph Speed Limits

5.12 Whilst 30mph is the current national standard speed limit for urban areas, 40 and 50mph speed limits may be used in appropriate circumstances.

5.13 Roads suitable for 40mph are generally of a higher quality than 30mph roads and they tend to be located on the outskirts of towns and villages. In addition, they will generally be of good width, layout and alignment, and will often be bounded by limited development usually set back from the road.

5.14 The movement of vulnerable road users will be catered for by the provision of footways and/or cycleways to at least one if not both sides of the carriageway. Pedestrian / cycle crossing places will exist at locations where movements are likely to occur and these crossings will often be of a controlled nature.

5.15 50mph speed limits may be used where appropriate on urban dual carriageways, radial routes or bypasses where the design and layout of the road is intended to cater for

vehicular traffic only. These roads will generally have either segregated junctions or positive traffic control at intersections and there will be little or no roadside development.

- 5.16 The nature of the roads will tend to discourage vulnerable road user movements along and across the road. Where vulnerable road users are likely to seek to cross a 50mph road, positive controls should exist or be provided probably located at intersections.
- 5.17 When considering the use of 40 and 50mph speed limits, highway authorities should always assess the potential impact on local communities, including segregation of communities and the effect on vulnerable road users.

Speed Limit Signing

- 5.18 The signing that may be used to indicate the presence and nature of a speed limit, including repeater signs, is specified in legislation and technical advice.
- 5.19 In general the signing arrangements associated with speed limits are:
- Where the road is lit by a system of street lamps placed not more than 200 yards (183 metres) apart provided by the highway authority or by a town or community council with the consent of the respective highway authority, 30mph speed limit terminal signs only may be provided. If a system of street lighting, as specified, does not exist then 30mph repeater signs are required at regular intervals along the road(s) covered by the limit. Carriageway markings indicating the speed limit are considered to be a repeater sign and consequently 30mph markings are not permitted on roads subject to a 30mph speed limit, where a conforming system of street lighting exists;
 - A 20mph speed limit is indicated by terminal speed limit signs and 20mph repeater signs at regular intervals along the road(s) covered by the limit;
 - Terminal 20mph signs are used at zone boundaries, along with speed reducing features within the zone. No additional speed limit or traffic calming signs are required within a 20mph zone;
 - For 40 and 50mph speed limits terminal signing and repeater signs are required. For details of the necessary layouts for such signing, see Appendix A.

Section 6: Speed Limits in Rural Areas

Key points:

- The current national speed limit on rural single carriageway roads is 60mph and a limit of 70mph applies on rural dual carriageways.
- 40 and 50mph speed limits may be used where appropriate, and the speed limit in rural towns and villages should generally be 30mph. Highway authorities should, however, consider each location on a case-by-case basis.
- Highway authorities are encouraged to adopt the Institution of Highways and Transportation's Rural Safety Management Guidelines.
- Speed limits should be appropriate for the nature of the road and its use by all types of road user. Factors that should be considered include its strategic importance, if it has a local access or recreational function and if it passes through or severs a local community. In addition, its geometry, the topography of the area and its use by vehicles and vulnerable road users should also be considered.
- The TRL Speed Assessment Framework may be used in borderline cases where the choice of the appropriate speed limit is not clear.
- Generally the minimum length of a speed limit should be 600 metres. Highway authorities may, however, lower this to 400 metres and, in exceptional circumstances, to 300 metres.

Scope

- 6.1 This section provides specific guidance on the setting of local speed limits in rural areas. Highway authorities should comply with this guidance and any subsequent legislation and technical advice.
- 6.2 The current national speed limit (for cars and motorcycles) on rural single carriageway roads is 60mph with a 70mph speed limit on rural dual carriageways.
- 6.3 Speed limits should be considered as only one part of rural safety management and highway authorities are encouraged to adopt the Institution of Highways and Transportation's Rural Safety Management Guidelines. The guidelines propose the use of a road hierarchy approach which reflects the road's function, the mix of vehicular traffic, use by vulnerable road users, its characteristics, its surroundings and the potential safety and environmental impacts.
- 6.4 When considering the provision of a speed limit or modifications to an existing limit, highway authorities should seek a balance between the needs of differing road users. Factors to be considered include:
 - the appropriateness of the current speed limit;
 - the numbers and types of collisions;

- the road's function and traffic mix;
- local access needs;
- any recreational functions;
- community severance and social factors;
- its use by vulnerable road users;
- vehicular use;
- the road environment;
- the road's geometry.

6.5 Highway authorities are encouraged to consider any new speed limits or modifications to existing limits on an individual case-by-case basis.

Speed Limits on Single Carriageway Rural Roads

6.6 In most instances the road's function, usage and characteristics (see paragraphs 6.4 and 6.12) should enable highway authorities to determine an appropriate limit for the individual length of single carriageway rural road. An assessment framework has been developed by TRL as a means of helping decisions in borderline cases where the choice of speed limit is not clear, or for those roads with high collision rates. A web link to the assessment framework is contained in Appendix D.

6.7 The Assessment Framework uses mean speeds and differentiates between two tiers of roads based on their traffic function:

- Upper Tier – those roads with primarily a through function where mobility is important, typically A and B roads;
- Lower Tier – those roads with a local or access function where quality of life benefits are important, typically C and unclassified roads.

6.8 The number and types of road traffic collisions on the affected length of road is a key factor to be considered when setting speed limits. Collision thresholds can provide a guide to those collisions that may occur on a road carrying a given level of traffic and acknowledges a balance between safety and mobility. The suggested speed limits, relative to collision thresholds, for the two tiers are:

Upper Tier A and B roads

- 60mph: High quality strategic roads. When using the Assessment Framework the collision rate should be below a threshold of 35 injury collisions per 100 million vehicle kilometres;
- 50mph: Lower quality strategic roads. When using the Assessment Framework the collision rate should be above a threshold of 35 injury collisions per 100 million vehicle kilometres and/or mean speed is already below 50mph;
- 40mph: where highway authorities consider this to be justified on the basis of, for example, road geometry, the level of development, environmental issues or use by vulnerable road users;
- 30mph: generally the norm in villages;

- 20mph: generally only in exceptional circumstances.

Lower Tier C and Unclassified Roads

- 60mph: only the best quality roads with a mixed function (i.e. partial traffic flow and local access). In the longer term these roads should ideally be assessed using the guidance for upper tier roads;
- 50mph: lower quality roads with a mixed function. When using the Assessment Framework the collision rate should be below a threshold of 60 injury collisions per 100 million vehicle kilometres;
- 40mph: roads with a predominantly local, access or recreational function, or it forms part of a recommended route for vulnerable road users. When using the Assessment Framework the collision rate should be above 60 injury collisions per 100 million vehicle kilometres;
- 30mph: generally the norm in villages;
- 20mph: where appropriate, for example in residential areas and in the vicinity of schools.

6.9 It is important to note that the above does not imply that speed limits should automatically be reduced, especially if the collision records are above the thresholds. Whilst the collision rate is an important factor in determining what speed limit is appropriate, the types of collision are an equally important factor. Highway authorities should review the types of collision that have historically occurred during the preceding 5 years, with particular reference to collisions which may have been speed related.

Dual Carriageway Rural Roads

6.10 Rural dual carriageways will generally be subject to the standard national speed limit, currently 70mph. However, a lower limit may be appropriate if a collision history or specific local circumstances indicate that this cannot be achieved safely. An example of local circumstances is where vulnerable road user activities occur and/or where a significant collision history exists which cannot be resolved by other engineering means.

Rural Towns, Villages and Other Residential Communities

6.11 Fear of traffic can affect people's quality of life within communities and the speed limit in rural towns and villages should be similar to those applying to urban areas, i.e. generally 30mph with 20mph speed limits or zones where appropriate. However, the speed limits in rural communities should be considered on a case-by-case basis.

6.12 Traffic Advisory Leaflet 1/04 sets out current advice on achieving lower speed limits in villages. This includes a broad definition of what constitutes a village, namely 20 or more houses (on one or both sides of the road) over a minimum length of 600 metres. Highway authorities are encouraged to use their discretion in deciding what speed limit is appropriate, taking into account other key buildings, features and issues, including:

- schools;
- pre-school groups;
- shops, cafés, public houses, restaurants and filling stations;
- banks and post offices;

- bus stops;
- tourist attractions;
- community halls;
- residential and nursing homes;
- day care centres;
- doctors' surgeries;
- playing fields, sports facilities and children's playgrounds;
- levels of deprivation.

- 6.13 It may also be appropriate to consider the use of 20mph limits or zones in rural communities, as detailed in paragraphs 5.6 to 5.11 inclusive.
- 6.14 In situations where the broad definition of a village is not met and there is a lesser degree of development, or where engineering measures are not practical or cost effective to achieve a 30mph limit, but a reduction from the national speed limit is considered to be appropriate, highway authorities should consider alternative lower limits of 40 or 50mph.
- 6.15 In some circumstances it may be appropriate to consider a 'buffer' speed limit of 40mph prior to the 30mph terminal speed limit signs at the entrance to a community, in particular where there are outlying houses or features beyond the community boundary or roads with high approach speeds. For the latter, highway authorities might also need to consider other speed management measures to support the speed limit message and encourage compliance.
- 6.16 Generally the minimum length of a speed limit should be 600 metres. However, highway authorities may lower this to 400 metres, and in exceptional circumstances, to 300 metres. Shorter lengths are not recommended.

Speed Limit Signing

- 6.17 The signing that may be used to indicate the presence and nature of a speed limit, including repeater signs, is specified in legislation and technical advice.
- 6.18 The signing arrangements associated with speed limits on rural roads are:
- where the national speed limit for a rural single carriageway road applies and no street lighting exists, terminal signing only is required as referred to in Appendix A;
 - for 40 and 50 mph speed limits terminal signing and repeater signs are required. For details of the necessary layouts for such signing, see Appendix A.
- 6.19 For details of signing arrangements for 30mph speed limits, together with 20mph speed limits and zones, see Section 5.

Section 7: Bibliography

Legislation

- Highways Act 1980
- Road Traffic Regulation Act 1984
- Road Traffic Acts 1988 and 1991
- The Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996, SI 1996/2489
- Department for Transport, Highway (Road Humps) Regulations 1999, SI 1999/1025
- Department of the Environment, Transport and the Regions, SI 1999/1026. The Highways (Traffic Calming) Regulations 1999
- Road Traffic Regulation Act (Amendment) Order 1999, SI 1999/1608 – 20mph Speed Limits
- The Traffic Signs Regulations and General Directions 2002 (with amendments to General Directions in 2004, Regulations in 2006 and both in 2005 and 2008)
- Road Traffic Regulation Act 1984 as amended by the Transport Act 2000
- Traffic Management Act 2004
- Road Safety Act 2006

Circulars

- DETR Circular 05/99, 20mph speed limits
- DfT Circular 1/06, setting local speed limits on roads in England

Traffic Advisory Leaflets

- 3/90 Urban Safety Management Guidelines IHT 1990
- 3/93 Traffic Calming Special Authorisation. DoT 1993
- 11/93 Rumble Devices DoT 1993
- 12/93 Overrun Areas DoT 1993
- 13/93 Gateways DoT 1993
- 1/94 VISP (Village Speed Control Working Group) – A Summary DoT 1994
- 2/94 Entry Treatments DoT 1994
- 1/95 Speed Limit Signs: A Guide to Good Practice DoT 1995
- 7/95 Traffic Islands for Speed Control DoT 1995
- 2/96 75mm High Road Humps DoT 1996
- 7/96 Highways (Road Humps) Regulations DoT 1996
- 2/97 Traffic Calming on Major Roads: A49, Craven Arms, Shropshire DoT 1997
- 12/97 Chicane Schemes DoT 1997

- 1/98 Speed Cushion Schemes DfT 1998
- 9/99 20mph Speed Limits and Zones DfT 1999
- 14/99 Traffic Calming on Major Roads: A Traffic Calming Scheme at Costessey, Norfolk. DfT 1999
- 1/00 Traffic Calming in Villages on Major Roads DfT 2000
- 10/00 Road humps: discomfort noise and ground-borne vibration DfT 2000
- 11/00 Village Traffic Calming-Reducing Accidents DfT 2000
- 12/00 Urban street activity in 20mph zones – Ayres Road area Old Trafford DfT 2000
- 8/02 Home Zones – Public Participation DfT 2002
- 1/03 Vehicle Activated Signs DfT 2003
- 1/04 Village Speed Limits DfT 2004
- 2/04 Rural traffic calming – Bird Lane, Essex DfT 2000
- 3/04 Quiet Lanes DfT 2004
- 1/05 Rumblewave surfacing DfT 2005
- 2/05 Traffic Calming Bibliography DfT 2005
- 2/06 Speed Assessment Framework DfT 2006
- 1/07 Fire and Ambulance Services Traffic Calming: A Code of Practice DfT 2007

Policy / Research / Other Documents

- DETR (2000a) New Directions in Speed Management: A Review of Policy DETR 2000
- DETR (2000b) Tomorrows Roads – Safer for Everyone. The Government's Road Safety Strategy and Casualty Reduction Targets for 2010.
- Welsh Assembly Government (2003) Road Safety Strategy for Wales
- DfT (2003 & 2007) Tomorrows Roads – Safer for Everyone, the first and second three year reviews
- Finch DJ, Kompfer P, Lockwood CR and Maycock G (1993) Speed, Speed Limits and Accidents. TRL
- Taylor MC, Lynam DA and Baruya A (2000) The effects of driver speed on the frequency of road accidents. TRL Report 421
- Webster DC and Mackie A (1996) TRL Project Report 215 – Review of Traffic Calming Schemes in 20mph zones
- Mackie A.(1998) TRL Report 363 – Urban Speed Management Methods. Crowthorne
- IHT (1990, 2003) Urban Safety Management Guidelines. IHT London
- IHT (1999) Rural Safety Management Guidelines. IHT London
- Taylor MC, Baruya A, Kennedy JV (2002) The Relationship between Speed and Accidents on Rural Single Carriageway Roads TRL Report 511
- Lynam D, Hill J, Barker J (2004) Developing a Speed Management Assessment Framework of Rural Single Carriageway Roads TRL PPR 025, 2004

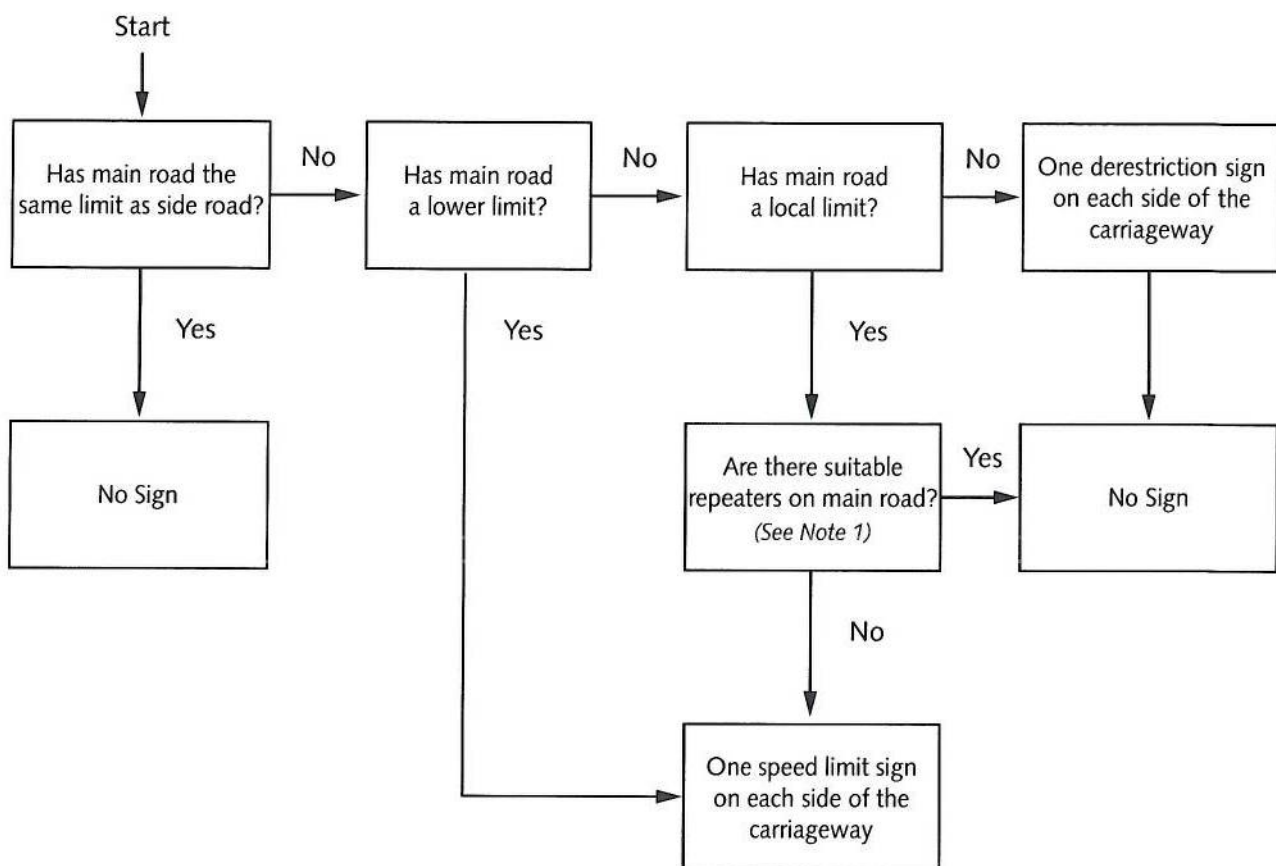
- Collision Analysis on Rural Roads – a Technical Guide, TRL PPR 026, 2004
- Home Zone Design Guidelines IHIE 2002
- Transport in the Urban Environment IHT 1997
- Design Manual for Roads and Bridges TA 87/04 Traffic Calming on Trunk Roads DfT 2004

Useful Websites

- www.wales.gov.uk
- www.roadsafetywales.co.uk
- www.dft.gov.uk
- www.trl.co.uk

Appendix A: Speed Limit Signing Guidance

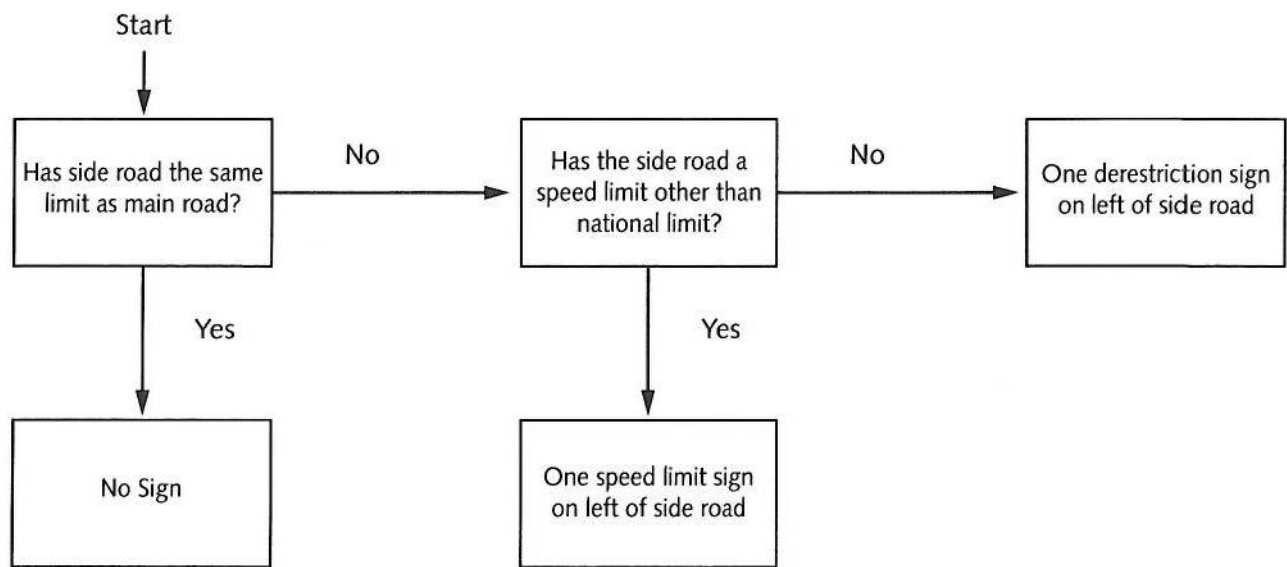
Figure A.1 – Speed Limit and Derestriction Signs at Side Road Junctions to Face Vehicles Entering Main Road



Notes

1. For details of the requirements for repeater signs, see Traffic Advisory Leaflet 1/95.
2. See also note 2 on Figure A.3.
3. 'Derestriction' means 'National Speed Limit applies'.

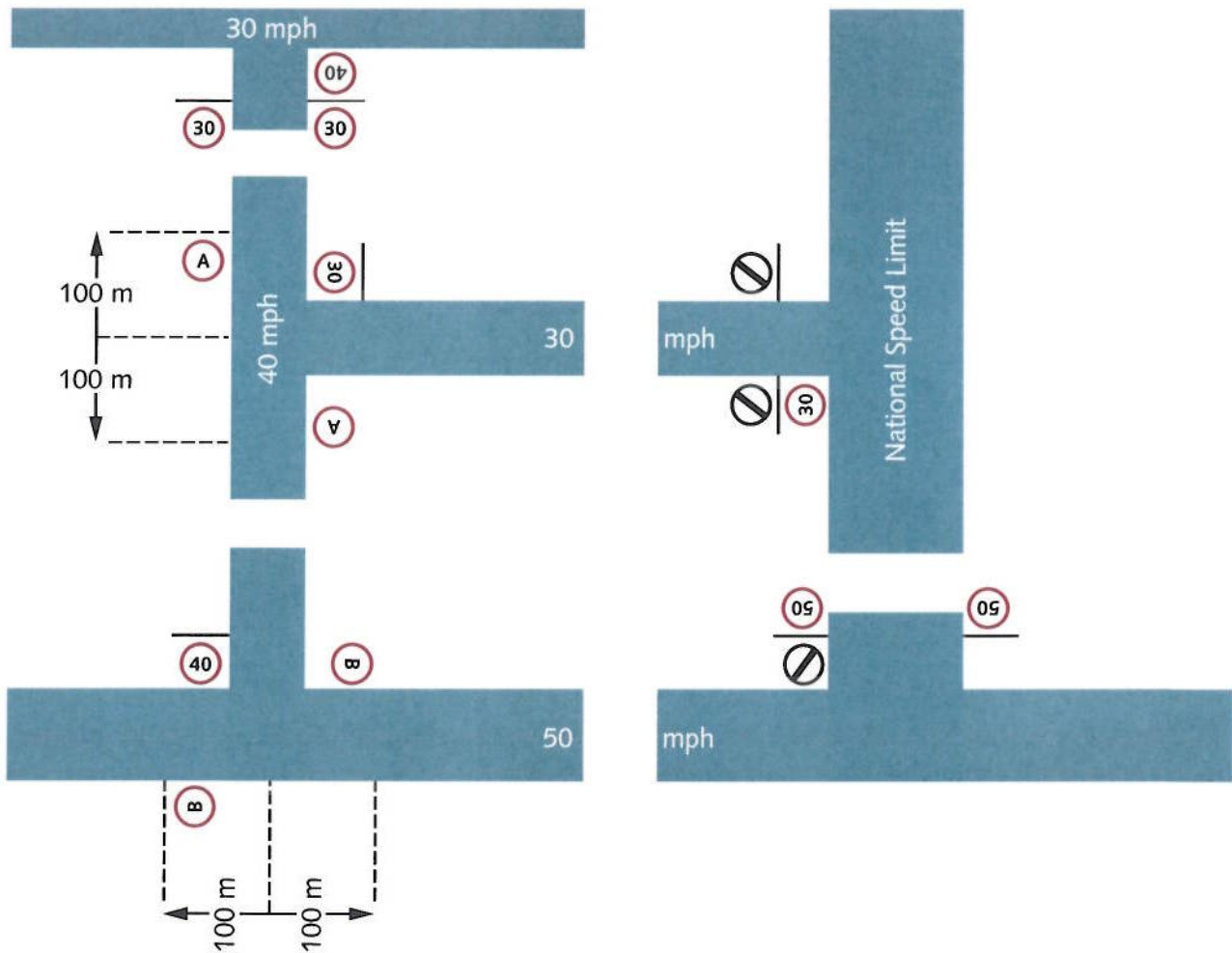
Figure A.2 – Speed Limit and Derestriction Signs at Side Road Junctions to Face Vehicles Entering Side Road



Notes

1. 'Derestriction' means 'National Speed Limit applies'.
2. See also note 2 on Figure A.3.

Figure A.3 – Typical Layout for Speed Limit Signs at Side Road Junctions on Single Carriageway Roads



Key

- | | | | |
|--|--------------------|--|-------------------------|
| | } Terminal Signing | | - Derestriction Signing |
| | | | - 40 Repeaters |
| | | | - 50 Repeaters |

Notes

1. This is diagrammatic, not to scale and is not an exhaustive description of all situations.
2. No side road signs need be illuminated.
3. Wherever it is specified that one sign shall be placed on the left-hand side of side road there is an option to place a similar sign on the other side of the road as well.
4. For details of the requirements for repeater signs, see Traffic Advisory Leaflet 1/95.
5. 'Derestriction' means 'National Speed Limit applies'.

Appendix B: Glossary

Word / Phrase	Definition
85 th Percentile Speeds (also see Mean Speeds)	If the speeds of all motorists are ranked from slowest to fastest, the "85 th percentile speed" separates the slower 85% from the fastest 15%
A Roads	Main roads connecting larger conurbations and providing a strategic traffic flow function
Advisory Speed Limit	Non mandatory suggested maximum speed limit provided in particular circumstances
Areas Of Outstanding National Beauty	Landscape whose distinctive character and natural beauty are so outstanding that it is in the nation's interest to safeguard them (Designated as such by the National Parks and Access to the Countryside Act 1949)
B Roads	Secondary level roads connecting local communities and the A road network
C Roads	Minor local distributor and access roads often connecting communities
Collision Rate	Number of collisions relating to a length of road and traffic flow normally expressed in million vehicle kilometres
Community Severance	Splitting of community by the presence of a road and/or travel behaviour on that road
Countdown Markers	Non prescribed sign used to indicate distance to a speed limit boundary
Dual Carriageway	Highway divided down the middle by a barrier that separates opposing flows of traffic
Equestrians	Persons involved with horse activities
Exceptional	A set of circumstances or conditions which, in the opinion of the highway authority, deviate widely from the norm
Excessive Speed	Travelling speed greater than the posted speed limit
Gradients	Rate of increase or decrease in the elevation of a surface
Highway Authorities	In Wales this means the 22 local authorities with responsibility for local roads and the Welsh Assembly Government having responsibility for trunk roads and motorways
Highway Code	Driving standards booklet providing rules and guidance on the use of roads. Applicable in England, Scotland and Wales
Inappropriate Speed	A travelling speed not be-fitting the prevailing conditions and circumstances. An inappropriate speed may be less than the posted speed limit
Mean Speeds (also see 85 th percentile speeds)	The sum of a series of speed readings divided by the number of speed readings taken

Word / Phrase	Definition
Motorised Road Users	Drivers / riders / passengers using cars, motorcycles, buses etc.
National Speed Limit	The standard speed limit established by the government for different types of roads
Non-Motorised Road Users	Include pedestrians, pedal cyclists, horse-riders etc
Recreational Function	In this context, a road that primarily provides access to areas where persons will travel to undertake leisure activity (e.g. national parks)
Regional Transport Plans	Plans to develop policies which are implemented by local authorities for a specific time period
Restricted Road	A 30mph road by virtue of a system of street lighting furnished by means of lamps placed not more than 200 yards (183 metres) apart (Road Traffic Regulation Act 1984)
Road Geometry	Size, shape, width, surface, alignment, gradient and geometry of the highway
Rural Areas	The countryside including villages, hamlets and small towns
Rural Road	A road within a rural area, generally subject to a speed limit greater than 40mph
Single Carriageway	Most common type of road with no physical separation (i.e. central reservation) between opposing flows of traffic
Speed Limits	Maximum permitted speed allowed by law on a specific length of road set by speed limit order or national standards
Sustainable	Meeting the needs of today without compromising the needs of tomorrow
Trunk Road	The trunk road network in Wales is a system of strategic routes of national importance that caters for the through movement of long distance traffic. It is uniquely the part of the transport system for which the Welsh Ministers as the trunk road authority have direct responsibility
Unclassified Roads	Minor roads with lower traffic densities than on A, B or C roads
Urban Areas	Built up areas such as cities or towns
Urban Road	A road within an urban area, generally subject to a speed limit of 40mph or less
Vehicle Activated Signs	Generic term for a type of road traffic sign which displays a message conditional upon the presence, or speed, of a road vehicle
Village	Generally 20 or more houses, on one or both sides of the road, over a minimum length of 600 metres
Vulnerable Road User	Vulnerable road users include pedestrians, pedal cyclists, motor cyclists, horse-riders, children, the elderly, people with physical disabilities and/or mobility, sight, hearing or learning difficulties

Appendix C: Speed Limits in Urban Areas

Speed Limit (mph)	Characteristics
20	Generally used in town centres, residential areas and in the vicinity of schools where there is a high presence of vulnerable road users.
30	The current national speed limit for roads located in urban areas.
40	<p>A speed limit that may be used on urban roads of a higher quality. The road will normally be of good width and layout, and will often be bounded by limited development generally set back from the road.</p> <p>These roads will often tend to be located on the outskirts of towns and village communities.</p> <p>The needs of pedestrians and pedal cyclists will normally be catered for by facilities at the sides of the carriageways and pedestrian/cyclist crossing places will exist at appropriate locations.</p>
50	This speed limit should only be used on high standard urban dual carriageways, radial routes or bypasses where the design and layout of the road is intended for vehicular traffic only. There should be little or no roadside development and generally negligible need for vulnerable road users to use or cross these roads.

Fuller details are set out in Section 5.

Appendix D: Speed Assessment Framework

For Use When Considering Borderline Cases On Single Carriageway Roads In Rural Areas

1. Speed limits should be considered as only one part of rural safety management. The first priority where collision rates are high should be to seek cost effective improvements to reduce these rates, targeting the collision types that are over-represented.
2. If high rates persist, despite these measures, then lower speed limits may also be considered. However, speed limits on their own without supporting physical measures, driver information and publicity or other measures will not necessarily change driver behaviour and, therefore, result in substantial numbers of drivers continuing to travel at unacceptable speeds. This may lead to significant enforcement costs. So every effort should be made to achieve an appropriate balance between speeds, speed limits, the needs of vulnerable road users and the local community, road design and other measures. This balance may be delivered by introducing one or more speed management measures in conjunction with a new or modified speed limit and/or as part of an overall route safety strategy.
3. The Speed Assessment Framework documentation can be found at the following web address and in Traffic Advisory Leaflet 2/06.

www.trl.co.uk/research_development/improving_safety/user_safety/speed_management_assessment_framework_spreadsheet.htm
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;
 - mean speed;
 - local flexibility of choice within a consistent overall procedure.
5. The Assessment Framework combines safety and mobility costs to show how the 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 a primarily through traffic (upper tier) or 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 collision 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 collision reduction measures that might be applied. To help in this process a technical guide "Collision Analysis on Rural Roads" has been developed (downloadable from the TRL website) which provides information on typical collision rates and typical proportions of different collision types on different types of rural road. These can be used to judge whether other site or route specific measures might be appropriate, which would reduce either speeds or collisions 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 introducing any new speed limit is to gain agreement with the local police.
11. The aim of the Framework approach is to achieve a consistent application of speed limit policy throughout the country. However, 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 community and environmental factors and on the choice of additional measures that could change the appropriate speed limit regime recommended.

Selection Procedure

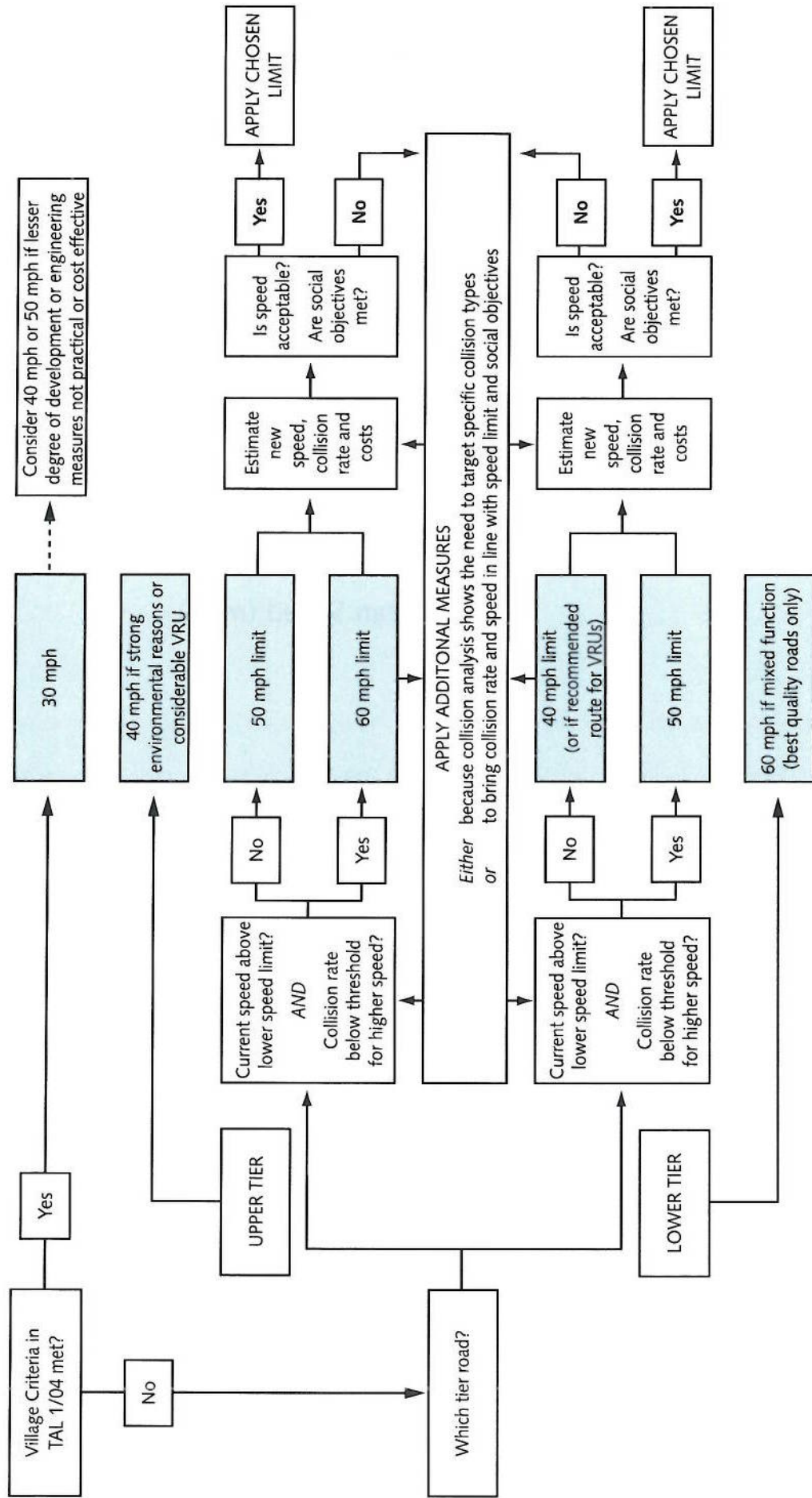
12. Within routes, separate assessments should be made for each section of road of 600 metres or more for which a separate speed limit might be considered appropriate. When this is completed, the final choice of appropriate speed limit for individual sections might need to be adjusted to provide consistency 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 D1*. It includes the following steps:
 - Step 1 – consider if 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 collision rate (i.e. injury collisions per 100 million vehicle km);
 - Step 4 – check the collision rates against acceptable thresholds;
 - Step 5 – if the collision rate is high, check the proportion of different collision types against the investigatory thresholds recommended in 'Collision Analysis on Rural Roads' and consider whether site or route treatment is appropriate before deciding the speed limit;

Step 6 – if a speed limit lower than the current one is indicated, estimate the mean speed and collision 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 collision 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 6mph above the mean speed for roads with a 50mph limit and about 8mph above mean speed on roads with a 60mph 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 collision rate is below the appropriate threshold of injury collisions 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 collision rates by speed and speed limit are illustrated in *Figures D2 and D3*. If walking, cycling, equestrians, community or environmental factors are particularly important on the road section, consideration should be given to using the lower limit even if the collision 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 1/04 should be followed;
 - if the section does not meet the definition in the Traffic Advisory Leaflet 1/04 for a village, but the level of development is at least half the density implied in Traffic Advisory Leaflet 1/04 (over a minimum of 600 metres), a speed limit of 40mph should be considered.
18. Other factors that would strengthen the case for a 40mph limit are a high incidence of bends or junctions, a high collision rate, specific development in terms of schools and public houses and vulnerable road user movements.

Figure D.1 – Flowchart for Choice of Speed Limit in Borderline Cases on Single Carriageway Roads in Rural Areas



VRU = Vulnerable Road Users

Figure D.2 – Speed limit zones in terms of mean speed and collision rate for upper tier roads

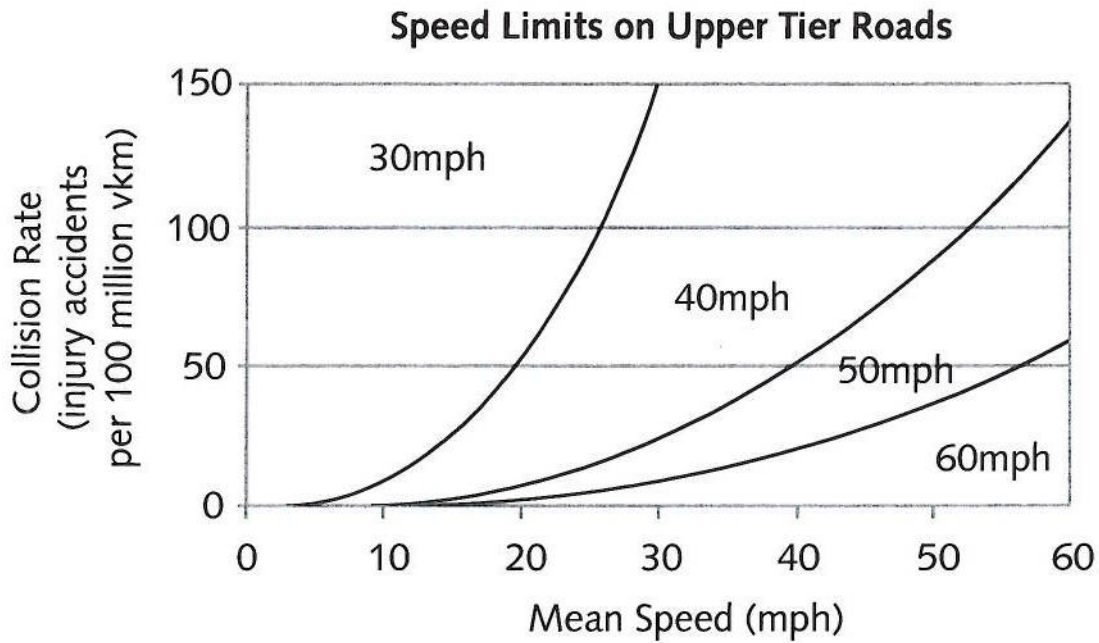


Figure D.3 – Speed limit zones in terms of mean speed and collision rate for lower tier roads

