



SCOTTISH EXECUTIVE

Enterprise, Transport & Lifelong Learning Department
Bus, Freight & Roads Division

Victoria Quay
Edinburgh EH6 6QQ

To: Chief Executives, Scottish Local Authorities
Chief Executive, Transport Scotland
Chief Officers of Transportation, Scottish Local Authorities
Chief Constables

Telephone: 0131-244 0923
Fax: 0131-244 7281
Angus.MacInnes@scotland.gsi.gov.uk
<http://www.scotland.gov.uk>

Your ref:
Our ref:

9 August 2006

Dear Sir/Madam

ETLLD CIRCULAR NO. 1/2006: SETTING LOCAL SPEED LIMITS

The attached circular provides new guidance on setting local speed limits. It supersedes the guidance set out in SOID Circular No. 1/93, which is hereby cancelled.

The guidance in Circular 1/2006 has been developed in association with the UK Government, the Society of Chief Officers of Transportation in Scotland, the Association of Chief Police Officers in Scotland and other interests. It applies to the setting of local speed limits, other than 20 mph speed limits, on single and dual carriageway roads in Scotland.

Consistent with your duty in respect of road safety, speed management measures, including more appropriate speed limits, should be focussed on those roads or routes with the most pressing problems of accidents and injuries, or where there is a widespread disregard for current speed limits. However, you are requested to review formally the speed limits on all Class A and B roads in your area by 2011, in accordance with the revised guidance.

For further information about this Circular, which is also published on the Scottish Executive website, please contact Ian Robertson, Scottish Executive Enterprise, Transport and Lifelong Learning Department, Bus, Freight and Roads Division, Area 2-D, Victoria Quay, Edinburgh EH6 6QQ (telephone 0131 244 0848, e-mail Ian.c.robertson@scotland.gsi.gov.uk).

Yours faithfully

ANGUS MACINNES



SETTING LOCAL SPEED LIMITS

GUIDANCE FOR LOCAL AUTHORITIES

ETLLD Circular 1/2006



SCOTTISH EXECUTIVE

SETTING LOCAL SPEED LIMITS

Contents:

- 1. Introduction**
 - 2. Background and Objectives**
 - 3. Responsibility and Underlying Principles**
 - 4. The Legislative Framework**
 - 5. Urban Speed Management**
 - 5.1. 20 mph Speed Limits and Zones**
 - 5.2. Traffic Calming Measures**
 - 5.3. 40 and 50 mph Speed Limits**
 - 6. Rural Speed Management**
 - 6.1. Single Carriageway Rural Roads and the Speed Assessment Framework**
 - 6.2. Dual Carriageway Rural Roads**
 - 6.3. Villages**
 - 7. Home Zones**
 - 8. References/Bibliography**
-
- | | |
|----------------|--|
| Annex A | Summary of main changes to speed limit signing regimes in the Traffic Signs Regulations and General Directions 2002 |
| Annex B | Traffic calming measures suitable for urban roads |
| Annex C | Speed limits in urban areas |
| Annex D | Speed limits for single carriageway roads in rural areas |
| Annex E | Speed Assessment Framework – new approach to speed limit setting for single carriageway roads in rural areas |
| Annex F | SEDD Circular No 6/2001, 20 mph Speed Limits |
| Annex G | ETLLD Circular No 1/2004, 20 mph Speed Limits Around Schools on Roads with Speed Limits Higher than 30 mph |

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

This guidance is to be used for setting all local speed limits on single and dual carriageway roads, other than 20 mph limits, in both urban and rural areas

This guidance should also be used as the basis for future assessments of local speed limits and for developing route management strategies

Traffic Authorities are asked to review the speed limits on all of their A and B roads by 2011 in accordance with this guidance.

1. The Scottish Executive's vision of safe, integrated and reliable transport is set out in its white paper, *Scotland's Transport Future*. Balancing the need to travel with the need to improve quality of life is a key objective and is also reflected in our, and wider UK Government, policies aimed at overcoming social exclusion and strengthening rural communities. The Executive is committed to reducing road traffic accidents 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. This guidance applies to the setting of local speed limits, other than 20 mph speed limits, in Scotland. It is issued by the Department for Transport (DfT) and the Scottish Executive for our respective interests. DfT's interests cover reserved matters, for example legislation relating to speed limits, while the Executive's interests cover devolved matters, for example road humps and traffic calming, and functions within reserved matters which are exercisable by the Scottish Ministers, for example specifying the classification or type of roads which are restricted roads.

3. 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 a 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 peoples' 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.

4. 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, are the responsibility of the UK Government. The three national speed limits are:

- the 30 mph speed limit on restricted roads (in Scotland Class C or unclassified roads with street lighting);
- the speed limit of 60 mph on single carriageway roads;
- the 70 mph speed limit 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 to adopt a speed which is different from the national speed limit.

5. Local speed limits in Scotland are determined by Traffic Authorities having regard to guidance issued by the Scottish Executive. This guidance supersedes that contained in Circular 1/93, which is now cancelled. However, SEDD Circular No 6/2001 – *20 mph Speed Limits* – and ETLCD Circular No 1/2004 – *20 mph Speed Limits Around Schools on Roads with Speed Limits Higher Than 30 mph* – remain in place. Copies of these Circulars are attached in Annexes F and G. This guidance retains and builds on many of the underlying principles of Circular 1/93. 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 accident 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 organisations both within and outside Government¹ Although primarily aimed at Traffic Authorities responsible for setting local speed limits, it is also designed to improve the wider understanding of how local speed limits are determined.

7. The guidance is to be used for setting 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, and speed limits in villages.

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 (TRSGD 2002).

Priorities for action

9. The guidance in this Circular should be used as the basis for future assessments of local speed limits and for developing route management strategies.

¹ Including Department for Transport, Society of Chief Officers of Transportation in Scotland, Association of Chief Police Officers in Scotland, Highways Agency, Department for Environment, Food and Rural Affairs, Countryside Agency, Welsh Assembly, TRL and University College London

10. Traffic Authorities should 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 their A and B roads 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 accidents and injuries, or where there is a widespread disregard for current speed limits.

11. The guidance will continue to be reviewed in the light of experience and policy developments. The Department for Transport intends to 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 GB Road Safety Strategy, to be published in 2010.

SECTION 2: BACKGROUND AND OBJECTIVES

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

12. The UK Government's 1997 White Paper on the Future of Transport included a commitment to develop a speed policy that would take account of the contribution of reduced speeds to environmental and social objectives as well as to road safety.

13. This resulted in *New Directions in Speed Management*, which 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.

14. *New Directions in Speed Management* was published in conjunction with *Tomorrow's Roads - Safer for Everyone*, the GB Road Safety Strategy 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.

15. The Road Safety Strategy is structured around ten main themes, which 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.

16. Research has demonstrated that reducing excessive and inappropriate speeds on roads can reduce the number of accidents and severity of injuries, with each 1 mph reduction in average speed reducing accident frequency by 5% (TRL, 1993 and 2000). 'Safer speeds' was, therefore, one of ten key 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.

17. Subsequently, the UK 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 a system under which different speed limits would be set for different road types according to their function. The conclusion, reported to the UK 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 due to 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 also take too long to realise.

18. 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 work on rural speed management and this guidance includes, and encourages, the use of such an Assessment Framework to help Traffic Authorities reach more transparent decisions when the appropriate speed limit choice is not clear.

Objectives

19. 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 lower or higher 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 different 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 accidents, injuries and deaths in which excessive or inappropriate speed is a contributory factor.

20. Speed limits are only one element of speed management. Local speed limits should not be set in isolation, but as part of a package, along with other measures to manage speeds. Such measures include engineering and landscaping standards that respect the needs of all road users and raise the driver's awareness of their environment, as well as 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, and help drivers to be more readily aware of the road environment and assess their own appropriate speeds at all times.

21. Indeed, if a speed limit is set in isolation, or is unrealistically low, it is likely to be ineffective and to lead to possible 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 accidents and injuries.

SECTION 3: RESPONSIBILITY AND UNDERLYING PRINCIPLES

This section identifies which Traffic Authority is responsible for determining local speed limits on what roads, and the underlying principles to be used to determine appropriate speed limits.

Key points:

The Scottish Executive 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

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

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

Mean speeds should be used to determine local speed limits. This reflects 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

22. The Scottish Executive is responsible for determining local speed limits on the trunk road and motorway network, and Local Traffic Authorities for determining local speed limits on the local road network. In this Circular, the term Traffic Authority will be used to denote both the Scottish Executive and Local Traffic Authorities.

23. 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 local speed limits. It is equally important that neighbouring Traffic Authorities work closely together, especially where roads cross boundaries, to ensure speed limits remain consistent.

24. All mandatory 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 must follow the full consultation procedure set out in the Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999, before any new mandatory

speed limit is introduced. Guidance on the procedure is provided in SODD Circular 7/1999. Traffic authorities should, as part of this process, 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

25. 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. Alternative options should always be considered before proceeding with a new speed limit.

26. Where poor compliance with the speed limit is a problem but the speed limit is considered to be appropriate for the road or stretch of road, there may be a mismatch between the appearance of the road and the driver's or rider's perception of the risks of an accident. 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 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.

27. 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 should include an assessment of :

- 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

28. 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 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.

29. As well as being a key indicator of whether a local speed limit is appropriate, the estimated accident and injury savings should also be an important factor when considering changes to a local speed limit.

30. A key factor when setting a 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 an appropriate speed, where they can see there are potential hazards, for example outside schools, in residential areas or villages, and in shopping streets.

31. 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 reflect 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 pedestrians and cycle usage).

32. Different road users perceive risks and appropriate speeds differently. Drivers and riders of motor vehicles often do not have the same perception of the hazards of speed as do pedestrians, cyclists and horse riders. The needs of vulnerable road users must be fully taken into account in order to 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 limits should seek to encourage walking and cycling and to protect local community life.

33. 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.

34. 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.

35. Mean speeds should be used to determine local speed limits as this reflects what the majority of drivers perceive as an appropriate speed to be driven on the road. It is also felt to be easier for road users themselves to understand. This is a change from the use of 85th percentile speed advised in Circular 1/93, which refers to the speed at, or below which 85 per cent of the traffic is travelling.

36. For the majority of roads there is a consistent relation 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. The aim should be to align the speed limit so that the original mean speed driven on the road is at or below the new posted speed limit for that road.

37. The minimum length of a speed limit should generally be not less than 600 metres to avoid too many changes of speed limit along a route. In exceptional circumstances this can be reduced to 400 metres, 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 so as to cover any new access to an industrial or residential estate.

38. 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.

39. 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.

40. 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, as they would be 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.

41. 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 itself should have that same limit.

42. As set out in paragraph 4, 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 Scottish Ministers

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

Unless an order has been made and the road is signed to the contrary, a 30 mph speed limit applies on a Class C or unclassified road where there are three or more lamps throwing light on the carriageway and placed not more than 185 metres apart

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

Special authorisation must be sought if Traffic Authorities wish to deviate from that which is prescribed. Signing that is contrary to the TSRGD 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

43. Most road traffic law pertaining to speed limits is contained in the Road Traffic Regulation Act 1984 (RTRA). Other relevant legislation includes the Roads (Scotland) Act 1984, where sections 36 to 39 cover road humps and sections 39A to C cover other traffic calming works.

44. Part VI of the RTRA deals specifically with speed limits. Sections 81-84 deal with different speed limits, restricted road status and the speed limit order making process.

45. Section 81 of the RTRA 1984 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. Section 82(1)(b) defines a restricted road in Scotland as a road which is provided with “a system of carriageway lighting furnished by means of lamps placed not more than 185 metres apart and the road is of a classification or type specified” in regulations. The Restricted Roads (Classification or Type) (Scotland) Regulations 1985 specify that Class C or unclassified roads are restricted roads.

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 mandatory speed limits, other than those on restricted roads, should be made by order under Section 84 of the RTRA. This includes the making of a 30 mph speed limit on a Class A or B road in Scotland and any Class C or unclassified road which is unlit.

48. Section 82(2) gives Traffic Authorities powers to remove restricted road status, and to give restricted road status to roads which are not restricted. However, the Executive’s policy on the use of this power is that it should be used only to reinstate restricted road status in cases where a Class C or unclassified road with a system of street lighting has previously had its restricted road status removed.

49. If a Class C or unclassified road with street lighting has a 40 mph limit and this is to be reduced to 30 mph, it is necessary to revoke the 40 mph order and to apply section 82 to reinstate restricted road status. Similarly, where a speed limit of 30 mph is imposed on a C or unclassified road 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 for Transport (DfT) believes that it is legally permissible to use section 82 to create a 30 mph speed limit on an unlit section of road, it believes that the best practice is to use section 84. That said, any current speed limits of 30 mph on A or B roads or any unlit road that were set using Section 82 are not, in DfT’s view, illegal. Traffic Authorities are, however recommended to use Section 84 for future orders.

51. The consent of Scottish Ministers is required to the making of orders in respect of speed limits less than 30 mph, other than 20 mph.

Street lighting

52. It is generally recognised that a ‘system’ of carriageway lighting could be 3 or more lamps spaced not more than 185 metres apart. However, street or carriageway lighting (for the purposes of determining whether or not a road is restricted) is not necessarily restricted to street lamps, but may extend to lighting provided by authorities for other purposes.

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 185 metres apart and which is subject to a 30 mph speed limit. This Direction applies regardless of how the speed limit is imposed.

54. The Executive will not make exceptions to this rule. This means that 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 185 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 know unhesitatingly what 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 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. Signing that is contrary to the Regulations must not be installed without first seeking authorisation. Special authorisation applications should be sent to the Scottish Executive Enterprise, Transport and Lifelong Learning Department, Bus, Freight and Roads Division, Victoria Quay, Edinburgh, EH6 6QQ.

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 legally 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 under that section by the person speeding, 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 classes of vehicles. These are set out in Schedule 6 to the RTRA and in the Highway Code. Drivers of these vehicles are expected to be aware of this and follow these special limitations without having to be reminded by specific speed limit signs for particular vehicles. Traffic Authorities are not, therefore, permitted to erect different speed limit signs relating to different classes of vehicles.

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 Limit applies
- 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 & 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. The TSRGD 2002 (as amended) included a number of changes to speed limit signing regimes. Annex A to this document summarises the key changes. The Department for Transport 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 9 of the Traffic Signs Manual, including the correct signing of side road junctions. Traffic Advisory Leaflet 1/95 provides a guide to good practice on the placing of speed limit signs, including repeaters. 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 approaching vehicles, 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, particularly at the approaches to junctions and bends. TSRGD 2002 now allows greater flexibility on how and where VAS may be used (Regulation 58) and guidance is provided in Traffic Advisory Leaflet 1/03.

65. The TSRGD does not prescribe the use of Countdown Markers on the approach to speed limit terminal signs. However, in 1995 the former Scottish Office issued a “blanket authorisation” permitting their use at Traffic Authorities’ discretion.

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 Institute of Highways and Transport's Urban Safety Management guidelines in which road hierarchies are adopted which reflect a road's function and the mix of traffic that it carries

The national speed limit in urban areas is 30 mph

The Executive 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.

66. 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. 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 Institute of Highways and Transport, in which road hierarchies are adopted which reflect a road's function and the mix of traffic carried. Within this approach the principle should be to ensure that the appropriate traffic travels on the appropriate roads, and at an appropriate speed.

67. The standard speed limit in urban areas is 30 mph, representing an appropriate 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.

68. The majority of casualties occur on urban roads, including 95% of pedestrian casualties (Road Accidents Scotland 2004). 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 accidents are more scattered, but nonetheless usually include a high proportion of pedestrians and cyclists; 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 3/90).

69. 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, especially taking into account the needs of vulnerable road users.

70. A summary table of urban speed limits can be found at Annex D.

5.1 20 MPH SPEED LIMITS AND ZONES

71. Many Traffic Authorities are now implementing 20 mph speed limits and 20 mph zones. This is encouraged and supported by the Executive. Since July 1999, the Road Traffic Regulation Act 1984 (Amendment) Order 1999 (S.I. 1999/1608) has given Traffic Authorities the power to introduce 20 mph speed limits and zones without obtaining the consent of Scottish Ministers. A range of options is available to local authorities, including:

- full time 20 mph speed limits
- part time 20 mph speed limits
- 20 mph zones
- advisory 20 mph speed limits (Twenty's Plenty)

Schools

72. The roads around schools are areas where significant numbers of children are found at particular times of day. Lower vehicle speeds in the vicinity of schools are important to improve safety for children walking or cycling to and from school and drivers need to be made aware that such lower speeds are appropriate in those areas. The Scottish Executive's policy is for 20 mph speed limits to be introduced around all schools in Scotland. The Executive is providing additional resources to local authorities to enable them to implement 20 mph schemes outside schools on local roads and is introducing 20 mph limits at schools on trunk roads.

73. Guidance on 20 mph speed limits and 20 mph zones is provided in SEDD Circular No 6/2001, 20 mph Speed Limits (Annex F), E'TLLD Circular No 1/2004, 20 mph Speed Limits Around Schools on Roads with Speed Limits Higher Than 30 mph (Annex G) and Traffic Advisory Leaflet 9/99.

5.2 TRAFFIC CALMING MEASURES

74. Traffic calming involves the installation of proven physical or psychological measures to encourage lower traffic speeds. There are many measures available to roads authorities to help them reduce vehicle speeds and ensure compliance with the speed limit in force.

75. A full list of the guidance that has been provided to Traffic Authorities on the measures available can be found in Section 8, Bibliography. Annex 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;
- Roundabouts.

76. Annex B also sets out the consultation requirements that must be followed before traffic calming measures can be installed.

5.3 40 & 50 MPH SPEED LIMIT

77. 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.

78. 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; have 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 horse riders.

79. 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 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 on the local community and non-motorised road users before considering such a limit.

SECTION 6: RURAL SPEED MANAGEMENT

This section provides 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 due to the characteristics and environment of the road

Nonetheless in 2004 more than half of serious or fatal road casualties, and more than two-thirds of road deaths occurred on rural roads.

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

The speed limit on 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 Institute of Highways and Transport's Rural Safety Management Guidelines, Traffic Authorities are encouraged to adopt a two-tier hierarchical approach which differentiates between roads with a strategic or local access function

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

Lower speed limits would be appropriate on 'lower tier' 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

Lower speed limits should be considered on dual carriageway rural roads if the accident history indicates that a 70 mph limit may be unsafe.

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.

80. The vast majority of the rural road network, including Class 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 Class C and Unclassified roads where the geometric characteristics include narrow roads, bends, junctions and accesses.

81. Nevertheless in Scotland in 2004 more than half of serious or fatal road casualties, and more than two-thirds 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 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 further help drivers to understand underlying risks and to tackle the problems caused by inappropriate speed. In particular, Traffic Authorities should intervene on roads where there is a case for encouraging use by or safeguarding the needs of vulnerable road users.

82. As elsewhere, speed limits should be considered as only one part of rural safety management. 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 Institute of Highways and Transport. 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, or where there is a high density of bends, junctions or accesses, or the road is hilly.

83. 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.

84. Where accident rates are high Traffic Authorities should seek cost effective improvements to reduce these rates, by targeting the particular types of accident taking place. To help in this process a Technical Guide on Accident Analysis on Rural Roads has been developed by TRL, which provides information on typical accident 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 accident 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.

85. 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.

86. 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 speed limit so that the original mean speed is at or below the new posted speed limit for that road.

87. Widespread implementation of speed management over the whole minor 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

88. 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.

89. 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. 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.

90. The Assessment Framework differentiates between two tiers of roads based upon their traffic function:

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

91. 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.

92. As recommended in paragraph 35, 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 environment or social factors, and on the choice of additional engineering or educational measures.

93. 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 Annex C. A draft Traffic Advisory Leaflet has also been produced (TAL 2/06) 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 website www.trl.co.uk. For many cases the principles will indicate the most likely appropriate limit without use of the detailed spreadsheet.

94. 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 principles 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.

95. 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 appropriate speed limit is not clear cut.

96. The Department for Transport intends to monitor its use 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.

97. 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 using the Assessment Framework 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 using the Assessment Framework the accident rate should be above a threshold of 35 injury accidents per 100 million vehicle kilometres and/or mean speed is already below 50 mph
- 40 mph: where there is a 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 Class 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 using the Assessment Framework 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 which form part of a recommended route for vulnerable road users. When using the Assessment Framework 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 Annex E.

98. 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

99. 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

100. 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.

101. Traffic Advisory Leaflet 1/04 (TAL 1/04) 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.

102. 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.

103. The above criteria should give 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.

104. In some circumstances it may 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 police. 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.

105. 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.

106. 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 Gateways is included in Annex B. Advice can also be found in Traffic Advisory Leaflets 1/94 (VISP – A Summary) and 1/04 (Village Speed Limits).

107. In situations where the above criteria 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 mph or 50 mph.

108. It may be appropriate in some larger villages to introduce 20 mph speed limits or zones, or Home Zones if lighting and other considerations allow. Other than 20 mph speed limits around schools, such limits should not, however, be considered on roads with a strategic function or on main traffic routes.

SECTION 7: HOME ZONES

This section provides guidance on the designation of Home Zones.

Key points:

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

109. A road 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 the local Traffic Authority that any activities may be enjoyed safely by people of all ages and abilities. 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 low vehicle speeds (usually involving sensitively designed traffic calming).

110. The Executive 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. Home Zones can be designed as part of new residential developments, or retrofitted into existing residential communities.

111. Section 74 of the Transport (Scotland) Act 2001 and the subsequent Home Zone (Scotland) (No 2) Regulations 2002 enable Local Traffic Authorities to designate as Home Zones roads in their areas for which they are the traffic authority.

112. The Executive published consultation guidance on implementing Home Zones in 2002. Comments on this and practical experience gained from pilot projects will inform any changes to the guidance, which is available at: <http://www.scotland.gov.uk/consultations/housing/hzgc-00.asp>. Information about Home Zones is also available in TA Leaflet 8/02 and at <http://www.homezonenews.org.uk>.

SECTION 8: REFERENCES/BIBLIOGRAPHY

Legislation

The Traffic Signs Regulations and General Directions 2002. Statutory Instruments S.I. 2002/3113 HMSO 2002.

Scottish Executive, (2002), The Home Zone (Scotland) (No 2) Regulations 2002, Statutory Instruments SI 2002/292. HMSO 2002.

The Scottish Office (1994), The Roads (Traffic Calming) (Scotland) Regulations 1994, Statutory Instruments SI 1994/2488. HMSO, 1994.

The Scottish Office (1998), The Road Humps (Scotland) Regulations 1998, Statutory Instruments SI 1998/1448. HMSO, 1998.

The Scottish Office (1999), The Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999, Statutory Instruments SI 1999/614. HMSO, 1999.

Road Traffic Regulation Act 1984

Roads (Scotland) Act 1984

Circulars

Department for Transport (2003), Circular 2/2003, The Traffic Signs Regulations and General Directions (TSRGD) 2002. DfT, 2003.

Scottish Executive, (2001), SEDD Circular 6/2001, 20 mph Speed Limits.

Scottish Executive (2004), ETLLD Circular 1/2004, 20 mph Speed Limits Around Schools on Roads with Speed Limits Higher than 30 mph.

The Scottish Office, (1993), SOID Circular No. 1/93. Road Traffic Regulation Act 1984 (Sections 81-85) Speed Limits.

The Scottish Office (1998), SODD Circular No 9/1998, Road Humps.

The Scottish Office (1999), SODD Circular 7/1999, Guidance on the Local Authorities' Traffic Orders (Procedure) (Scotland) Regulations 1999.

Traffic Advisory Leaflets

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

Department of the Environment, Transport and the Regions, (1999), Traffic Advisory Leaflet 9/99, 20mph Speed Limits and Zones, DETR, 1999.

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

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

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

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

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

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

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

The Department of Transport and the Scottish Office, (1991), Traffic Advisory Leaflet 3/91 (Speed Control Humps Scotland, England and Wales).

The Department of Transport and the Scottish Office, (1994), Traffic Advisory Leaflet 11/94, Traffic Calming Regulations (Scotland).

The Department of Transport, (1994), Traffic Advisory Leaflet 1/94, VISIP – A Summary. DoT, 1994.

The Department of Transport, (1995), Traffic Advisory Leaflet 1/95. Speed limit Signs A Guide to Good Practice. DoT, 1995.

The Department of Transport, (1995), Traffic Advisory Leaflet 7/95, Traffic Islands for Speed Control. DoT, 1995.

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

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

Policy/Research/Other Documents

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

Department of the Environment, Transport and the Regions, (2000), Tomorrow's Roads – Safer for Everyone. The Government's road safety strategy and casualty reduction targets for 2010 DETR, 2000

Scottish Executive, (2002), Home Zones Guidance Consultation.

Finch D J, Kompfer P, Lockwood C R and Maycock G. (1993), Speed, Speed Limits and Accidents, TRL, Crowthorne.

Taylor M., Baruya A. and Kennedy V. (2002) The relationship between speed and accidents on rural single carriageway roads. TRL Report 511.

Warning Signs, Traffic Signs Manual Chapter 4. TSO 2004.

Taylor M C, Lynam D A and Baruya A. (2000), The effects of driver speed on the frequency of road accidents, TRL Report 421, Crowthorne.

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

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

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

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

Design Manual for Roads and Bridges document TA 87/04 Trunk Road Traffic Calming.

Functional specification for the optical performance of discontinuous variable message signs – TR 2136 Issue C, March 2002

ANNEX A

SUMMARY OF MAIN CHANGES TO SPEED LIMIT SIGNING REGIMES IN TRAFFIC SIGNS REGULATIONS AND GENERAL DIRECTIONS 2002 (TSRGD 2002)

Boundary Sign 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 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. 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 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 Executive 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 they 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 are set out in the Department for Transport Circular 02/2003.

ANNEX 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 been expressed about the potential for low vehicles to ground on road humps and cushions. Following research into this, a maximum height of 75mm is recommended: this may need to be lower for very short or narrow cushions (see TA Leaflet 2/96).

Traffic Advisory Leaflet 3/91 (Speed Control Humps Scotland, England and Wales) gives guidance on the use of road humps and Traffic Advisory Leaflet 1/98 specifically deals with speed cushions.

Road Narrowing Measures

Narrowing the carriageway is also considered an effective way of reducing vehicle speeds. It 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, Build-outs, Overrun areas and Traffic Islands can be found in Traffic Advisory Leaflet 11/94.

Gateways

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).

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 11/94 gives guidance on the use of gateways, also Traffic Advisory Leaflet 9/99 (20 mph Speed Limits and Zones).

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 that 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 11/94 gives further advice on the use of rumble devices.

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 1/05 gives further advice on rumblewave surfacing.

The Consultation process

Full consultation must take place before any traffic calming measures are installed. For road humps section 37(1) of the Roads (Scotland) Act 1984 requires consultation with the chief officer of police. In addition, Regulation 3 of The Road Humps (Scotland) Regulations 1998 requires consultation with the fire authority, the Scottish Ambulance Service NHS Trust and organisations representing road users. Further guidance is provided in SODD Circular No 9/1998.

For all other traffic calming The Roads (Traffic Calming) (Scotland) Regulations 1994 require consultation with the police, fire and ambulance services, and organisations representing road users or people who are likely to be affected.

ANNEX C

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	<p>Higher quality suburban roads or those on the outskirts of urban areas where there is little development. There should be few vulnerable road users (or full provision for crossings by means of subways or bridges).</p> <p>Should have good width and layout, parking and waiting restrictions in operation, and buildings set back from the road.</p> <p>Should wherever possible cater for the needs of non-motorised users through segregation of road space, and have adequate footways and crossing places.</p>
50	<p>Usually most suited to dual carriageway ring or radial routes or bypasses which have become partially built up.</p> <p>Should be little or no roadside development.</p>

Full details are set out in Section 5.

ANNEX D

SPEED LIMITS FOR SINGLE CARRIAGEWAY ROADS IN RURAL 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 A and B roads with few bends, junctions or accesses.</p> <p>When using the Assessment Framework the accident rate should be below threshold of 35 injury accidents per 100 million vehicles 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 using the Assessment Framework the accident rates should be above a threshold of 35 injury accidents per 100 million vehicles 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 is a relatively high number of bends, junctions or accesses.</p> <p>When using the Assessment Framework the accident rate should be below a threshold of 60 injury accidents per 100 million vehicles 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 local 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 using the Assessment Framework the accident rate should be above a threshold of 60 injury accidents per 100 million vehicles kilometres</p>
30	Should be the norm in villages	

* Recommended speed limits towards which Traffic Authorities are encouraged to move, over a period of time subject to their meeting local needs and circumstances.

Full details are set out in Section 6.

ANNEX E:

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

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.

If high rates persist, despite these measures, then lower speed limits may also be considered. But 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 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.

An Assessment Framework has been developed by TRL 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.

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.

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 speed decreases.

A simple two-tier functional hierarchy should be used, with roads having either primarily a through traffic function (upper tier) or a local access function (lower tier). 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.

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.

Decisions on speed limits should take account of other accident reduction measures that might be applied. To help in this process a technical guide on Accident Analysis on Rural Roads (downloadable from the TRL website www.trl.co.uk) has been developed, which provides information on typical accident 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, which would reduce either speeds or accidents along the route.

Mean speed should be used for the assessment. For the majority of roads there is a consistent relation 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.

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 the police that the mean speed of drivers on the road with any new speed limit is acceptable.

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

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.

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:

1. consider if the level of development requires special treatment,
2. consider which functional tier is appropriate for the road,
3. measure the current mean speed and accident rate (as all injury accidents per 100 million vehicle km),
4. check the accident rates against the thresholds set out in Section 6.1,

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 and consider whether site or route treatment is appropriate before deciding speed limit,
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,
7. check that these values are acceptable; if not consider whether further measures are necessary to bring speed and accident rates into balance.

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 speeds on roads with a 60 mph limit. Setting acceptable mean speeds at or below the limit is therefore consistent with current enforcement policy.

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 route for vulnerable road users.

The bands of appropriate accident rates by speed and speed limit are illustrated in *Figures 2 and 3*. If walking, cycling, horse riding 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.

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 Traffic Advisory Leaflet 1/04 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 vulnerable road users.

Figure 1 Flow chart for choice of speed limit

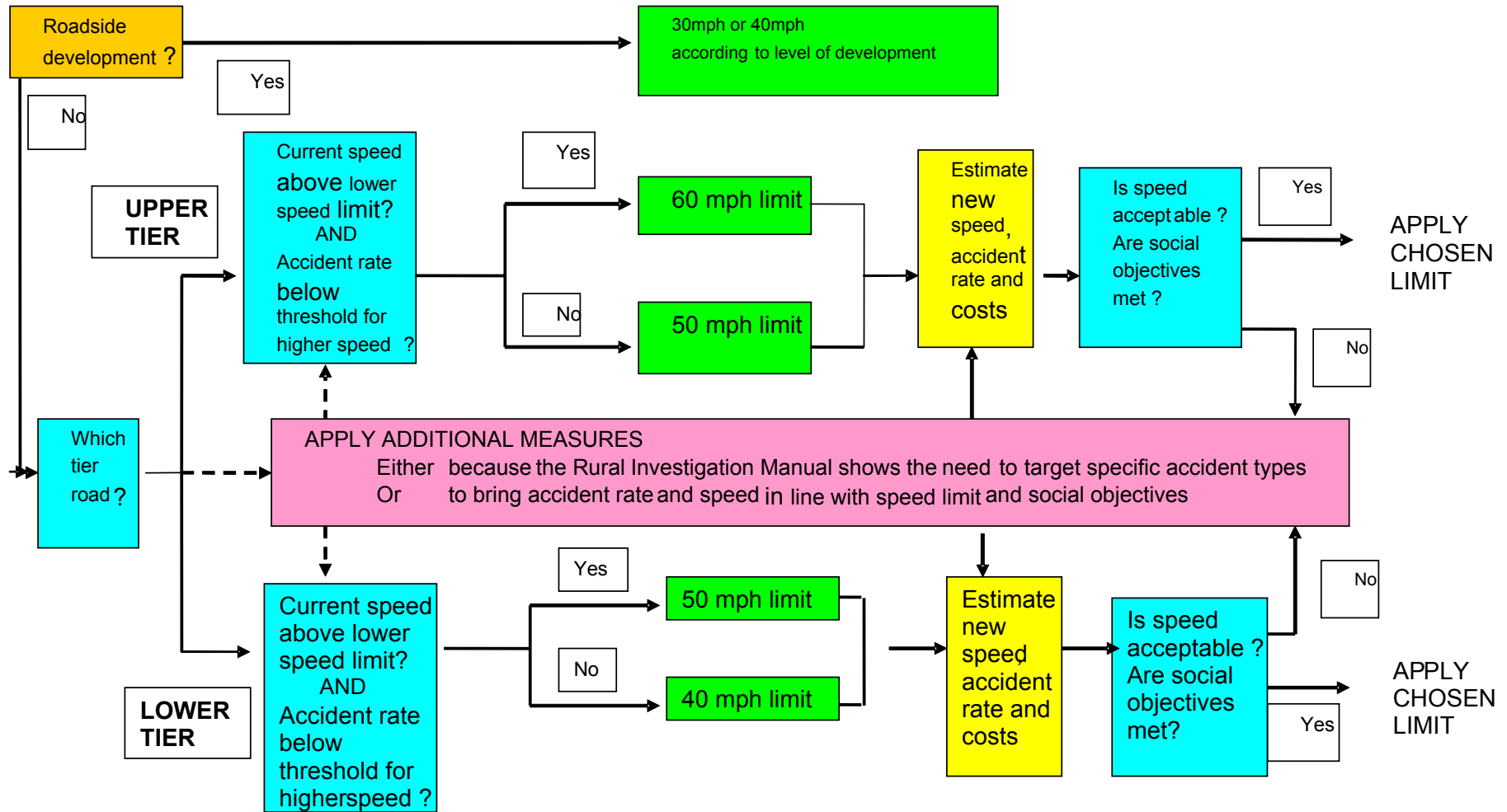


Figure 2: Speed limit zones in terms of mean speed and accident rate for upper tier roads

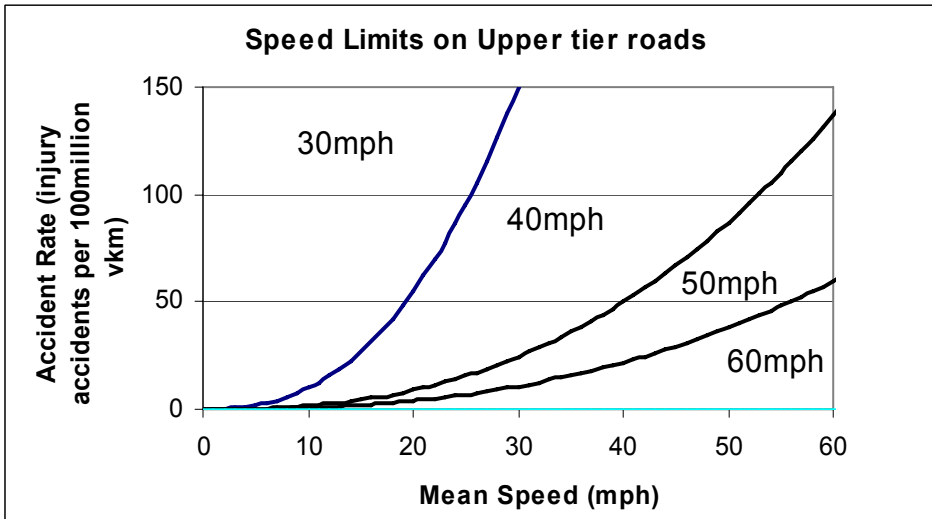


Figure 3: Speed limit zones in terms of mean speed and accident rate for lower tier roads

