

Traffic Advisory Leaflet 11/94
December 1994



Traffic calming regulations (Scotland)

Introduction

Traffic calming can help drivers to make their speeds appropriate to local conditions, through measures which are self-enforcing. This leaflet provides an explanation of the Roads (Traffic Calming) (Scotland) Regulations 1994, and offers guidance on the use of measures prescribed in the regulations. More comprehensive guidance on traffic calming devices will be the subject of further leaflets.

Road humps, including speed cushions etc., have their own specific legislation. Therefore only brief reference is made to these features. The references at the end of this leaflet provide information on where current guidance on road humps can be found.

Traffic calming schemes may have both environmental and safety objectives. These are best achieved by a multi-disciplinary approach. This ensures that the expertise of road safety officers, landscape architects, planners, conservation officers, and other professionals can be brought into play at an early stage in scheme design. Public utilities should also be involved, as the location of their apparatus can influence the design and cost of a scheme.

Traffic Calming Act

The Traffic Calming Act 1992 amended the Roads (Scotland) Act 1984 by the addition of sections 39A, 39B and 39C which allow works to be carried out "for the purpose of promoting

safety of preserving or improving the environment...."

The Act made the first specific references in legislation to traffic calming. However, it does not preclude the use of other powers in the Roads (Scotland) Act 1984 and elsewhere under which traffic calming features can be provided. The relevant powers in the Roads (Scotland) Act 1984 include:-

sections 1(1) and 2(1) - road widening/narrowing;
section 24 - alteration of the levels of roads;
section 27(b) - roundabouts;
section 27(c) - pedestrian refuges;
sections 36-40 - road humps.

In addition the 1992 Act does not prevent traffic signs prescribed under the Traffic Signs Regulations and General Directions being used for traffic calming.

The Roads (Traffic Calming) (Scotland) Regulations 1994

These regulations come into effect on 31 October 1994. They have been made to provide roads authorities with the necessary powers to construct particular measures for traffic calming purposes which are not otherwise clearly authorised.

Traffic calming regulations features

The regulations prescribe features which can be used alone or in combination with others,

either prescribed by these same regulations or which can be constructed under powers provided under other legislation, or which have been specially authorised.

Pinch point

This is formed by the construction of build outs opposite one another. It can be used in combination with a gateway, and is very effective as a speed control feature when combined with a road hump. Narrowings formed to assist pedestrians to cross are constructed under the powers provided by sections (1) and 2(1) of the Roads (Scotland) Act 1984, rather than these regulations.

Gateways

These are not included as a separate measure in the regulations because they will consist of features which are either covered in the regulations or are permitted under other legislation. Gateways are an increasingly popular aspect of traffic calming schemes and serve to indicate to drivers where the road changes in character, for example at the entrances to a village, at the start of a traffic calming scheme or at the entry to a speed limit zone. Gateways may consist of structures at the side of the road and also above it and may include or be used in combination with other measures, such as pinch points, rumble strips, traffic signs (including road markings) etc. A gateway must not physically obstruct the passage of any vehicle unless other legal provisions have been made to prohibit such vehicles. Roads authorities will be aware of the need to avoid any structure presenting a danger of cyclists or pedestrians.

Islands

Islands can be particularly effective in reducing the speeds at which people drive, but do depend on the degree of deflection that can be incorporated into the design. "False roundabouts" where there are no side road connections are a good example of the use of islands for this purpose. In such devices overrun areas can also be incorporated to encourage greater deflection of smaller vehicles, but at the same time allow for the passage of larger vehicles. Islands may also be used in combination with gateway features at the start of a traffic calming scheme. It

should be noted however that islands under the provisions of these regulations are not for pedestrians. Pedestrian refuges are provided under section 27(c) of the Roads (Scotland) Act 1984, and although these may be used to reduce vehicle speeds, authorities should be aware of the difference. It is not a requirement for an island to be centrally positioned. Offset islands may be used to protect a cycle lane for instance.

Rumble Device

This includes such features as rumble strips, rumble areas, jiggle bars etc. For general use on public roads, devices must not exceed 20mm in height and no vertical face must be greater than 6mm. In any case where authorities wish to use devices which exceed these dimensions they must seek special authorisation. However the reason for stipulating these dimensions in the regulations is the concern that rumble devices should not be dangerous to vulnerable road users. For the safety of cyclists a gap of not less than 750mm should be left between rumble device and the adjacent kerb or verge to allow them free passage. Some schemes only extend rumble devices over one half of the carriageway. It has been known for drivers to avoid these rumble devices by driving over the half of the carriageway provided for opposing traffic. For this reason it is generally recommended that rumble devices are placed across the full width of a two way road. The speed control qualities of rumble devices over a long period are not entirely proven. Further information is being collected on this aspect as well as various design features. It appears that they can be used as an effective alerting device, and there are claims of accident reductions occurring at some locations. A major drawback of rumble devices is the noise they can generate, and for this reason they are not recommended for use in urban areas. Some authorities will not permit their use within 200m of any residential property, but anecdotal evidence suggests that the noise generated can travel much further, depending on local circumstances. It is recommended that rumble devices are constructed in a contrasting colour from the road surface, though not white in order to avoid any confusion with road markings.

Overrun Areas

These are areas which are usually constructed to form a raised surface but may also be areas in a contrasting colour. They may be sited adjacent to the kerb, either at the near side of the road or at an island. The purpose is to create an appearance of a narrower carriageway in order to inhibit speeds of vehicles, but at the same time allow drivers of larger vehicles to negotiate the feature. As cyclists and motorcyclists may at times be forced to ride across these areas, the regulations stipulate that no vertical face should exceed 6mm. Higher vertical faces could cause them to lose their balance. Materials which incorporate radius or irregular upstands will generally not be affected by this requirement. However, the slope angle of 15° should not be exceeded as this again could cause danger to certain road users. Where an overrun area is bounded by kerbs, the total vertical height of the kerb should not exceed 60mm and the slope of the exposed face should not exceed 45°. The slope angle of the remainder of the area should not exceed 5°. The regulations illustrate the permitted dimensions for overrun areas with and without kerbs. Overrun areas should not be positioned where pedestrians are likely to cross the road. They may be tempted to stand on the overrun area, where they could be at risk from large vehicles negotiating the device. Alternatively, if an irregular surface is used, pedestrians may be influenced to cross at a more dangerous location. In siting overrun areas consideration therefore needs to be given to their relationship to the places where people are likely to cross.

Chicane

This is a narrowing formed by locating build outs alternately on each side of the carriageway. Each chicane will consist of two or more build outs. Close spacing of build outs forming the chicane, say 10m to 15m apart, can be extremely effective in constraining drivers' speeds. However, at this spacing buses and other large vehicles find it difficult to manoeuvre through the chicane. Wider spaced chicanes rely more on opposing traffic to provide effective speed control. Research is being undertaken to ascertain the speed reducing qualities of combining wider spaced chicanes with specially authorised speed

cushions. Chicanes are not normally appropriate places to encourage pedestrians to cross, as the attention of drivers may be concentrated more on negotiating the device. If pedestrians are likely to cross at chicanes, the design should ensure they can be seen clearly and that they can cross the road safely.

Build out

A build out, as the name implies, describes a feature extending into the carriageway, on one side of the road only, by narrowing the road. Evidence to date suggests that for a narrowing to be an effective speed reducing and control feature there needs to be an opposing traffic flow sufficient to have the effect of inhibiting the speed at which people choose to travel. However, when combined with a feature such as a road hump very effective speed control is obtained. A build out may be directly connected to the footway or verge, or to simplify drainage arrangements a channel may be formed between the build out and the footway or verge. It may also be constructed to allow a cycle track to be formed between the build out and the verge or footway, so that cyclists do not have to pass through the narrowing for motor vehicles. Where a cycle track is provided, it is generally appropriate to discourage pedestrians from using the build outs to cross the carriageway. Similar facilities to improve pedestrian crossing opportunities, or for bus stops, might also be constructed under the powers of sections 1(1) and 2(1) of the Roads (Scotland) Act 1984. A series of build outs along one side of a road can be used to provide sheltered parking places. Build outs should generally be constructed of material which is fixed or otherwise connected to the road surface. When considering the use of constructions which rely on weight alone, roads authorities should satisfy themselves that there is sufficient inbuilt stability to ensure that the features cannot be displaced in a hazardous manner if struck by a vehicle.

Consultation

Seeking the views of those affected by traffic calming schemes is vital in determining the success or failure of any scheme. The regulations require that the police be informed of traffic calming proposals; they have day to day responsibilities for traffic control, and it is essential that they have the opportunity to

comment on matters which might affect this. The regulations also require that District Councils and fire and ambulance services are consulted on each occasion. The regulations make it clear that consultation with other organisations is a matter for roads authorities to determine. Some minor work, for example, may require little or no additional consultation. However, where any traffic calming works will materially affect the movement of traffic, be it pedestrian or vehicular, it is strongly recommended that consultation with road users is carried out. Consultation should be a key component of the design process. All parties with an interest in the amenity, conservation or development of the area should be consulted.



are directly affected. Residents are understandably concerned that ready access to their property is maintained, and that on street parking is not dramatically reduced. At times it may be necessary to ensure that special interest groups, such as school children, the elderly, cyclists, blind people, etc. are made aware of proposals, and are able to comment on them. Local authorities will know of local organisations or representatives who can provide comments on behalf of these road users. Often a compromise between the desires of individuals and those of the community at large will be required. Publicity in the form of leaflets, public meetings and public exhibitions can often ensure that individuals who might not have been informed directly have the opportunity to comment. Such arrangements can help to ensure that misconceptions about the purpose of the proposals do not arise. Results from questionnaire surveys of local residents can help in placing in context the views of minority groups. The views of drivers passing through an area may be helpful in some instances. The extent to which consultation with any or all of these groups is considered appropriate will be a matter for the roads authority to determine.



Whom to consult

Where a scheme forms part of a bus route, bus operators should be notified. It may be appropriate to keep bus operators informed about all calming schemes, even if the scheme is not part of a bus route. Bus operators sometimes have to carry out route diversions and therefore need to be aware of the status of roads adjacent to bus routes. Frontages should always be kept informed of schemes, whether or not individual properties

Design

Works constructed in accordance with the regulations may be paved, lit and landscaped. Not all schemes will necessarily lend themselves to soft landscape treatment, but where appropriate the design must take cognisance of the requirements for visibility, safety and lighting. Specialist advice will often be required to achieve the most effective results. Planting must not obscure pedestrians, particularly children, when crossing or playing in the road.

Access

Many traffic calming schemes are designed to inhibit vehicular access to a road or area. The intention is usually to discourage through vehicles. Entry treatments are often used to create this effect. However, the regulations make it clear that traffic calming measures cannot be used by themselves as a means of prohibiting access to certain vehicle types. Traffic Regulation Orders are required if the intention is to prohibit vehicular access; these can then be complemented on the street by the use of calming.



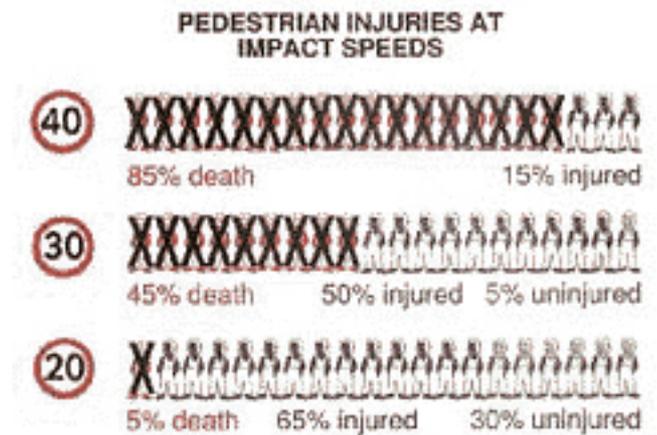
Signing

Within a 20mph Zone the regulations allow roads authorities the option of not signing the various prescribed measures. This is similar to the relaxation in the Road Humps (Scotland) Regulations 1990. Signing should be provided where a roads authority considers it appropriate to ensure that the measure operates safely. For areas which are not in 20mph zones, roads authorities should consider whether road users have a clear indication of the correct paths to follow, and if not, to provide suitable signing. If authorities wish to use signs which are not prescribed in

the Traffic Signs Regulations and General Directions, they should seek authorisation from The Scottish Office. Authorities may consider signing to be unnecessary where the measure will be conspicuous.

Monitoring

The regulations do not require monitoring to be carried out. However, local authorities will often wish to know how a particular scheme has performed, for example to ascertain whether the objectives of the scheme have been achieved. Such objectives may include accident reduction, lower vehicle speeds, and vehicle diversion. Roads authorities are therefore advised to consider the need for before and after studies at an early stage to ensure that relevant data can be obtained.



Objectives

The regulations will assist roads authorities to achieve a wider range of objectives in a number of their policies. For example, objectives relating to conservation in historic town centres, improvement of safety and environmental conditions in residential areas, and the improvement of distributor roads which are also shopping centres. In meeting those objectives, authorities will need to consider carefully the range of measures to be used in order to match them to the activities in different streets. Schemes which encourage the smooth flow of traffic, at speeds in keeping with the character of the area, and with adequate provision for vulnerable road users, are most likely to achieve these objectives.

Special Authorisation

The traffic calming regulations are intended to provide for most features not covered by other legislation. Knowledge of traffic calming features is still being gained. The Scottish Office does not wish to inhibit the use of innovative designs. All roads authorities have a duty of care to ensure as far as reasonably possible that the designs are safe. Procedures exist which enable the Scottish Office to be able to specially authorise features which do not conform to measures prescribed by existing regulations, both for vertical and horizontal deflections. The Scottish Office encourages local roads authorities to seek special authorisation of innovative measures where appropriate. Applications should be sent to contact B below.

Contacts

A - Technical:

Roads Policy and Programme Division
The Scottish Office Industry Department
Room 3/85A
New St Andrew's House
Edinburgh
EH1 3TA
Tel: 0131-244 5282

B - Administrative:

Roads Policy and Programme Division
The Scottish Office Industry Department
Room 3/99
New St Andrew's House
Edinburgh
EH1 3TA
Tel: 0131-244 4101

References

- Traffic Calming Act 1992. HMSO, ISBN 0-10-543092-7. £1.45
- Roads (Traffic Calming) (Scotland) Regulations 1994 (SI 1994 2488 No). HMSO ISBN 0 11 045488. £1.55
- Roads (Scotland) Act 1984. HMSO, ISBN 0 10 545484 2 . £9.15
- Traffic Signs Regulations and General Directions 1994. HMSO ISBN 0 11 044519 8. £24.50
- Road Humps (Scotland) Regulations 1990 (SI 1990 No 2623). HMSO ISBN 0 11 005722 8. £1.85
- Traffic Advisory Leaflet 3/91 - Speed Control Humps - available free from contact B above
- SOID Circular No 4/94, The Roads (Traffic Calming) (Scotland) Regulations 1994
- SOID Circular No 2/91, The Road Humps (Scotland) Regulations 1990

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