



Fire and Ambulance Services traffic calming: a code of practice

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Purpose

The Code of Practice in this leaflet sets out arrangements for consulting on proposals to introduce traffic calming measures and for agreeing the means of implementing those proposals. The leaflet is also intended to encourage fire and ambulance service operators and local highway authorities to work together in achieving accident reduction targets.

The Code of Practice has been agreed by the Joint Committee on Fire Brigade Operations, the Department of Health's Ambulance Policy Advisory Group, the Local Authority Associations and the Department of Transport (DOT), each of whom commends the Code to its members.

A picture showing the emergency services

A picture showing the emergency services

Introduction

Although the UK has the best overall road safety record in the European Community, it also has one of the worst records for child pedestrian deaths. Local highway authorities and the DOT are committed to achieving casualty reduction targets for each authority and region, as well as nationally. A range of means are being used, including accident analysis leading to local safety schemes (accident black spot treatments) and area wide safety strategies. In 1993, 577 people were killed and 88,711 injured on unclassified urban roads. This is approximately 30% of all road casualties. The majority of these roads are amenable to area wide safety strategies.

There is no doubt that speed reduction can be effective in reducing the likelihood of an accident and the severity of those accidents that still happen. Current safety advertising campaigns draw attention to the severe consequences of accidents at 20mph, 30mph and 40mph. In the longer term it is expected that publicity and other educative influences will result in drivers changing their attitudes towards excessive speeds, and new technology such as speed cameras is likely to assist in enforcement. In the medium term the only effective way of constraining drivers speeds is by introducing engineering measures that make fast driving in inappropriate circumstances either impossible or extremely uncomfortable.

Background

The Government's commitment to reducing accident levels includes reducing the death rate for children by 33%, for young people by at least 25%, and for people aged 65 and over by at least 33%, by the year 2005, as set out in national targets in "The Health of the Nation".

Local authority fire services are required to arrive at fires within response times recommended by the Home Office. Similarly, NHS ambulance services are required to respond to emergency calls within response times set down in the Patients' Charter Standards issued by the Secretary of State for Health.

The Urban Safety Project was a long term study by the DOT and five local highway authorities. It looked at the benefit to be gained from adopting a programme of local area wide safety schemes. The results showed that if this area wide approach to reducing accidents were adopted nationally in urban areas, some 15,000 accidents costing Â£487m could be saved each year. Lessons from the study have been developed to form a structured approach to accident prevention and casualty reduction called Urban Safety Management.

A recent estimate is that a 20% reduction in road accidents would save the National Health Service Â£32m in the cost of provision of hospital treatment and ambulance services. This does not include costs to the fire service or costs to the community health service in providing continuing care. Another factor is the growing demand from the general public for traffic calming in both residential areas and shopping streets, as the benefits which can result become more widely appreciated.

Current Issues

There is concern that the cumulative effect of the growing number of traffic calming schemes could compromise the ability of fire and ambulance services operators to meet required response times. They should have the opportunity to make an input to decisions on the introduction and design of traffic calming schemes.

Ambulance services are evolving, and ambulances carry more sophisticated and delicate equipment than they used to do. The evolution is likely to continue. There is concern that traffic calming measures might unwittingly lead to increased patient discomfort and damage to equipment, in addition to extending response times. Damage could also be sustained to fire appliance equipment.

Working Practice

Some fire services have fixed strategic routes through cities and towns in order to reach their destinations. Local highway authorities should adopt an Urban Safety Management strategy to determine the current and possible future functional hierarchy of main roads, local distributor roads and access roads. A number of authorities have been able to relate their road hierarchy to the fire services' strategic routes.

Strategic routes from service base stations to all parts of a town or city should be agreed by the local authority with the fire and ambulance services. More severe speed reduction measures should not be used along these routes. A minimal number of road humps, or other types of vertical or horizontal deflection measures can be considered for these routes. Road humps, for instance, could be sited not closer than 100m intervals, and be no higher than 75mm. More intensive traffic calming measures could then be introduced on roads off the strategic routes, bearing in mind that fire and ambulance service vehicles do not always start their journeys from service base stations, but often respond to a call from the site of a previous incident. In this way the impact of schemes on response times can be kept to a minimum.

Problems can be created where authorities do not adopt a safety strategy, where traffic calming is introduced on a piecemeal basis, or where road hierarchies and strategic routes have not been defined or brought together.

Ambulance in off road trials

Ambulance in off road trials

Fire engine in off road trials

Fire engine in off road trials

A Code of Practice

1. Emergency services and highway authorities to establish a dialogue on broad principles upon which traffic measures may be introduced and to consult on individual schemes at an early stage in their design.
2. Road hierarchy and emergency services strategic routes to be integrated.
3. Variety of calming measures to be determined and agreed for different roads, bearing in mind impact

on response times.

4. Consider need for and, where appropriate, implement monitoring of journey times.
5. After installation, conduct review to determine performance of calming measures and the impact on journey times, where monitored.
6. Confirm measures agreed for use on different roads, or refine measures by further action from Stage 3.

Dialogue

Highway authorities have a statutory duty to consult the police when road hump schemes or traffic calming measures (as installed under the Traffic Calming Act 1992) are proposed. They are strongly advised to establish a meaningful dialogue with the fire and ambulance services affected by schemes at an early stage of scheme design, certainly before any decisions have been taken on the type of measures to be installed. This is becoming common practice, and ideally should be part of a continuing joint planning exercise between authorities and the fire and ambulance services. Authorities are already encouraged to adopt a similar dialogue with a wide range of professional disciplines as part of Urban Safety Management, with the result that schemes can satisfy a range of objectives.

Statutory Provisions

Two recent pieces of legislation brought about important changes for highway authorities. The Road Traffic Act 1991 clarified powers of the Secretary of State for Transport to authorise road humps which do not conform to regulations. The Traffic Calming Act 1992, by amending the Highways Act 1980, allowed the Secretary of State for Transport to make regulations enabling highway authorities to install traffic calming measures on the highway for the purposes of improving road safety, and for preserving or enhancing the local environment. The Highways (Traffic Calming) Regulations 1993 have since been made, prescribing a number of features. Special authorisation can be given to measures not included in regulations.

As part of the drive to achieve the casualty reduction target, the Secretary of State for Transport will give consent under the Road Traffic Regulation Act 1984 for 20-mph speed limits where proposals meet the guidelines set out in Circular Roads 4/90. Further information is contained in Traffic Advisory Leaflet 7/91.

Available Measures

Authorities are encouraged to use a variety of calming techniques to fit the requirements and functions of different streets, and to encourage drivers to travel at an even speed commensurate with the character of the local area. Hitherto, a number of authorities have relied predominantly on road humps as a means of calming traffic, as their speed reducing effect is well documented. Road humps have been the main measure used in 20mph zones. Research studies have shown that casualties there have reduced by up to 70%, and child casualties by even more. There has been no migration of accidents to the surrounding road network.

The recent legislative changes allow authorities to consider introducing a wider range of measures including speed cushions, chicanes and road narrowings. Traffic Advisory Leaflet 7/93 draws attention to the range of measures available under The Highways (Traffic Calming) Regulations 1993. Detailed advice on how authorities can apply for special authorisations for non-conforming road humps such as speed cushions and other traffic calming features is contained in Traffic Advisory Leaflet 3/93.

Future Techniques

Following track trials the Department of Transport organised on-road trials of speed cushions and thermoplastic road humps (termed "thumps"). These were conducted by the Transport Research Laboratory (TRL). The results of this work are reported in TRL Project Report 43, "On-road Trials of Speed Cushions in Sheffield and York" and TRL Project Report 101, "Speeds at "Thumps" and Low Height Road Humps".

The report on speed cushions indicates that these devices can limit the interference caused to emergency vehicles, and enable them to travel at relatively higher speeds (see Traffic Advisory Leaflet 4/94). However, for smaller ambulances some passenger discomfort might stem from the use of cushions wider than 1.7m.

Project Report 101 indicates that thumps might be an alternative to 50mm high road humps, and are slightly cheaper. Although no complaints were received about them from the emergency services, bus operators were concerned about apparent increased maintenance said to have been caused by the thumps.

Track trials have also been undertaken with various horizontal deflection measures, which in some cases were combined with speed cushions. The results are reported in TRL Project Report 102, "Horizontal Deflection (Chicane) Trials at TRL". These are to be calibrated against on-road conditions, and it is planned to give definitive advice in 1995.

Notes

Members of the Joint Committee on Fire Brigade Operations represent both the employers and employee associations of the British Fire Service and other technical experts. The Joint Committee is a Committee of the Central Fire Brigades Advisory Council, which advises the Home Secretary on all fire related matters.

The Department of Health's Ambulance Policy Advisory Group includes representatives of Chief Ambulance Officers. The group liaises with the Department of Health on accidents and emergency medicine, to ensure that the ambulance service offers an effective operation.

Contacts

Professional and technical queries should be addressed to:
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References

Highways Act 1980
Road Traffic Regulation Act 1984
Road Traffic Act 1991
Traffic Calming Act 1992
Highways (Road Humps) Regulations (SI 1990/703)
Highways (Traffic Calming) Regulations (SI 1993/1849)
Traffic Advisory Leaflet 3/90: Urban Safety Management - Guidelines from IHT
Traffic Advisory Leaflet 7/91: 20mph Speed Limit Zones
Traffic Advisory Leaflet 2/93: 20mph Speed Limit Zone Signs
Traffic Advisory Leaflet 3/93: Traffic Calming Special Authorisations
Traffic Advisory Leaflet 7/93: Traffic Calming Regulations
Traffic Advisory Leaflet 11/93: Rumble Devices
Traffic Advisory Leaflet 12/93: Overrun Areas
Traffic Advisory Leaflet 13/93: Gateways
Traffic Advisory Leaflet 2/94: Entry Treatments
Traffic Advisory Leaflet 4/94: Speed Cushions
TRL Project Report 43, "On-road Trials of Speed Cushions in Sheffield and York" TRL Project Report 101, "Speeds at "Thumps" and Low Height Road Humps"
TRL Project Report 102, "Horizontal Deflection (Chicane) Trials at TRL"
Circular Roads 4/90: 20mph Speed Limit Zones

Enquiries

The Traffic Advisory Unit (TAU) is a multi-disciplinary group working within the Driver Information and Traffic Management Division in the Central Transport Group of the Department of Transport. The TAU seeks to promote the most effective traffic management and parking techniques for the benefit, safety and convenience of all road users.

The Driver Information and Traffic Management Division sponsors a wide range of research into traffic management issues.

Enquiries, and requests for unpriced TAU publications to:
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