ADDITIONAL MEETING – PLEASE NOTE

NEIGHBOURHOOD SERVICES SCRUTINY FORUM AGENDA

HARTLEPOOL
BOROUGH COUNCIL

Monday 28th November, 2005

at 1.00 p.m.

in the Council Chamber

MEMBERS: NEIGHBOURHOOD SERVICES SCRUTINY FORUM:

Councillors Cambridge, Cook, Cranney, Fenwick, Flintoff, Hall, Lauderdale, J Marshall, Richardson, Rogan and Tumilty.

Resident Representatives:
Steve Gibbon, Alan Lloyd and Linda Shields

1. **APOLOGIES FOR ABSENCE**

2. **TO RECEIVE ANY DECLARATIONS OF INTEREST BY MEMBERS**

3. **MINUTES**

   3.1 To confirm the minutes of the meetings held on 11th November 2005 (*to follow*).

4. **ITEMS FOR DISCUSSION**

   4.1 20 mph Zones Outside of Schools Enquiry:

   (a) Covering Report *(Scrutiny Manager/Research Assistant)*

   (b) Evidence from the Authority's Cabinet Member Portfolio Holder for Culture, Housing and Transportation

   4.2 Setting the Scene – 20mph Zones Outside of Schools Enquiry *(Joint Report of the Traffic Team Leader and Scrutiny Manager)*

5. **ANY OTHER ITEMS WHICH THE CHAIRMAN CONSIDERS ARE URGENT**

NEIGHBOURHOOD SERVICES SCRUTINY FORUM

28 November 2005

HARTLEPOOL BOROUGH COUNCIL

Report of: Scrutiny Manager/Research Assistant

Subject: SCRUTINY INQUIRY INTO 20 MPH SPEED LIMIT ZONES OUTSIDE SCHOOLS- EVIDENCE FROM PORTFOLIO HOLDER FOR CULTURE, HOUSING AND TRANSPORTATION

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1. PURPOSE OF THE REPORT

To inform Members of the Forum that the Portfolio Holder for Culture, Housing and Transportation has been invited to attend this meeting to provide evidence in relation to the appropriateness of the enforcement of 20 MPH Speed Limit Zones outside of schools within Hartlepool.

2. BACKGROUND INFORMATION

2.1 Members will recall that at the last meeting of this Forum on 11 November 2005, the Terms of Reference and Potential Areas of Inquiry/Sources of Evidence were approved by the Forum for this scrutiny investigation. Consequently, arrangements have been finalised for the Portfolio Holder for Culture, Housing and Transportation to be in attendance at this meeting to submit evidence of a local perspective to the Forum.

2.3 During this evidence gathering session with the Portfolio Holder for Culture Housing and Transportation, it is suggested that responses should be sought to the following key questions:-

a) As the Portfolio Holder for Culture, Housing and Transportation, what are your roles and responsibilities in relation to road safety?

b) In your role as the Portfolio Holder for Culture, Housing and Transportation, how are you working towards the key aims and objectives of the Hartlepool Road Safety Strategy?

c) What is the Authority's current procedure of determining the appropriateness of enforcing 20 mph Speed Limit Zones outside of schools?

d) How does the Local Transport Plan 2006-2011 contribute to the achievement of the 50% reduction in fatal or serious child casualties target to be realised by 2010?

e) Where it has been determined as inappropriate to enforce 20 mph Speed Limit Zones outside particular schools within Hartlepool what alternative traffic calming/road safety measures may be enforced?

f) Is the current funding received from the Local Transport Plan ring fenced to safety schemes such as 20 MPH Speed Limit Zones?

g) In your opinion, which schools in Hartlepool warrant 20 MPH Speed Limit Zones?

3. RECOMMENDATIONS

3.1 That Members of the Forum consider the views of the Portfolio Holder for Culture, Housing and Transportation in relation to the questions outlined in section 2.3

Contact Officers: - Charlotte Burnham – Scrutiny Manager
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rebecca.redman@hartlepool.gov.uk

BACKGROUND PAPERS

The following background paper was used in the preparation of this report:-

(i) Local Transport Plan 2001-2006, Hartlepool Borough Council

NEIGHBOURHOOD SERVICES SCRUTINY FORUM

28 November 2005

HARTLEPOOL BOROUGH COUNCIL

Joint Report of: Traffic Team Leader and Scrutiny Manager

Subject: SETTING THE SCENE - '20 MPH SPEED LIMIT ZONES OUTSIDE OF SCHOOLS' SCRUTINY ENQUIRY

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1. PURPOSE OF REPORT

1.1 To outline the Department for Transport guidelines for introducing 20 mph limits, the work currently being undertaken and report on good practice from neighbouring local authorities.

2. BACKGROUND INFORMATION

2.1 As Members are aware, at the last meeting of this Forum held on 11 November 2005, the overall aim, terms of reference and timetable for this referral were agreed.

2.2 At the request of the Chair, this report provides an overview of:-

(a) The Department for Transport guidelines for introducing 20mph limits;

(b) Work currently being undertaken by Hartlepool Borough Council with regard to the introduction of 20 mph zones outside of schools;

(c) Good practice of neighbouring local authorities; and

(d) The number of causalities outside of schools within Hartlepool.

3. DEPARTMENT FOR TRANSPORT GUIDELINES

3.1 The Department for Transport (DfT) provides guidance on the use of 20mph limits as summarised overleaf:-

(a) 20mph limits are very effective in reducing collisions and injuries when used in the right situation. Research shows that the number of accidents involving injury to children may be reduced by up to two thirds;

(b) Councils' are now able to introduce 20mph limits without obtaining consent from the Secretary of State, whereas prior to 1999 this was a requirement of the legislation;

(c) 20mph limits should be self enforcing and should only be introduced where vehicle speeds are already low (85th percentile speed of 24mph or below) or where additional traffic calming measures are to be implemented as part of the scheme. The Police would be extremely unlikely to enforce a 20mph limit introduced with signs alone;

(d) Appropriate traffic calming measures should involve the use of vertical deflections in the form of speed humps, cushions or raised junctions. Horizontal deflections such as road narrowings and chicanes can also be used, and no point within a 20mph limit should be further than 50 metres from a traffic calming feature (unless in a cul-de-sac);

(e) Entrances to 20mph limits need to be clearly signed, and the use of coloured surfacing can also help to highlight that motorists are entering an area where there is an increasing need to take care;

(f) A 20mph zone is something that should be imposed over an area consisting of several roads, whereas a 20mph limit can be used for individual roads;

3.2 A copy of the Government's Traffic Advisory Leaflet 9/99 is attached as **Appendix A** to this report, which provides more specific details regarding the implementation of 20mph limits and zones.

4. NEGATIVE IMPACT OF 20 MPH ZONES

4.1 The negative impact of 20mph zones and limits can be the noise and vibration from vehicles going across road humps, and increased air pollution from vehicles as they accelerate between humps.

4.2 It has been suggested that 20mph limits could be brought in for specific times during the day, however, DfT legislation unfortunately does not allow for this. It would also be difficult to achieve as the physical traffic calming measures would obviously be permanent features on the road.

5. PROGRESS ON 20 MPH ZONES IN HARTLEPOOL

5.1 At present, three 20mph limits are being considered for Hartlepool :-

(a) **Rift House School, Masefield Road –** High speeds recorded during surveys added to road safety concerns near to the school. Two school time child pedestrian casualties have also occurred outside the school in the last 3 years. Consultation has taken place and the scheme was

approved at Culture, Housing and Transportation Portfolio on 5 October (see attached plan – **Appendix B** refers). The scheme will be implemented this financial year;

(b) **Clavering School, Clavering Road –** High speeds also recorded during surveys. Proposed speed cushions and 20mph limit outside of school (see attached plan – **Appendix C** refers). No funding is available at present, but the scheme will be fed into the programme of potential schemes for the new financial year; and

(c) **Kingsley School, Kingsley Avenue –** Traffic calming scheme was introduced last year, and 20mph limit will be introduced to cover this area.

5.2 Due to the need for 20mph zones and limits to be self enforcing by means of physical traffic calming measures, not all roads are therefore, appropriate sites. For example, a 20mph limit on Catcote Road outside of English Martyrs School would lead to increased congestion and difficulties for emergency services. There are, however, other methods of improving road safety in these areas without actually introducing a 20mph limit.

5.3 High speeds recorded outside of Fens School on Mowbray Road were a cause for concern and to combat this, it is proposed to introduce a Vehicle Activated Sign in this area. The VAS will flash the school sign, speed limit and a "slow down" warning to drivers exceeding the limit. VAS also have the advantage of being able to be switched on and off at specific times, and to be activated at different speeds, as required.

5.4 One of the key tasks of this project will be to review each school and determine those which are appropriate for 20mph limits.

5.5 There is an exception to the DfT guidelines on 20mph limits which states that they can be introduced with signs alone (without any traffic calming measures) should recorded speeds be below a certain level. A number of schools may fall into this category and 20mph limits could be introduced with only minor cost implications at these sites. Speed surveys can be undertaken to determine which schools meet this criteria.

6. SUMMARY OF 20 MPH ZONES IN NEIGHBOURING LOCAL AUTHORITIES

6.1 The Authority's Traffic Team Leader recently wrote to officers who serve on the Northern Region Road Safety Engineers Group, which geographically covers those local authorities from Northumberland down to North Yorkshire to enquire whether their authority operated 20 mph zones outside of schools. The findings from this exercise are as outlined below:-

6.2 Seven authorities responded to the request for information :-

Stockton Borough Council – 20mph limits are only brought in with associated traffic calming measures. They won't be considered without these as it is felt that a high percentage of vehicles would abuse the limits, bringing them into disrepute. Schools are not specifically targeted as speeds are generally low due to congestion caused by parents parking, and accident levels are also very low.

Redcar and Cleveland Borough Council – Generally in favour of 20mph limits outside schools and any requests are considered dependent on the suitability of the road.

Durham City Council – Policy states "self enforcing 20mph zones shall be provided around schools with above average number of accidents, particularly where children are involved." Have only one 20mph limit at present and do not have major problems outside of schools in terms of casualties.

Sunderland City Council – Do not have 20mph limits without traffic calming as they have no significant effect. On main roads School Safety Zones are used instead, consisting of high visibility signing, road markings and coloured surfacing, to highlight the presence of a school.

North Tyneside Council – Currently have around twenty 20mph zones, which have been concentrated in appropriate areas with high numbers of casualties. All zones are self enforcing with physical traffic calming measures outside of schools.

Northumberland County Council – No 20mph limits specifically on the section of road fronting a school. They do, however, have 44 20mph zones, 29 of which include a school within them.

South Tyneside Borough Council – Have 20mph zones which are self enforcing with traffic calming measures. Don't specifically target schools.

7. FINANCIAL IMPLICATIONS

7.1 Each 20mph limit or zone introduced requires associated traffic calming measures and therefore, would need significant funding. As a ballpark figure, the Masefield Road scheme in Hartlepool is expected to cost £10,000 – £15,000.

7.2 As mentioned in 5.5, a small number of 20mph limits may be able to be introduced with signs only, with only limited cost implications. These costs could be met from the Council's traffic management budget.

8. NUMBER OF CASUALITIES OUTSIDE OF SCHOOLS WITHIN HARTLEPOOL

8.1 Over the last three years, the number of child pedestrian casualties which have occurred outside of schools within Hartlepool was 6. Casualties are classified as either fatal, serious or slight, and all 6 of these were slight casualties.

8.2 Two of the casualties were outside Rift House Primary School on Masefield Road, and the scheme detailed in 5.1 (a) has been drawn up as a result of this.

8.3 The remaining four casualties occurred outside of Secondary schools. Two were outside Manor College of Technology on Owton Manor Lane, one was outside Brierton School on Catcote Road and the final one was outside St. Hild's School on King Oswy Drive.

8.4 Over 15,000 children travel to and from school in Hartlepool each day and in view of this figure, 6 slight casualties over a 3 year period does not indicate a big problem. However, the Council is committed to reducing casualties wherever possible, particularly those involving vulnerable road users and will continue to target child casualties.

8.5 The total number of people injured on the roads in Hartlepool last year was 317, and the majority of funding allocated for safety schemes is targeted at sites showing the highest level of casualties. It would, however, be possible to recommend implementing one or two 20mph zones outside of schools each year as a way of tackling this issue.

8.6 The current list of potential safety schemes is shown in **Appendix D** and some of these sites do include schools, so would therefore include a 20mph limit as part of the scheme, if appropriate.

9. RECOMMENDATION

9.1 It is recommended that the Neighbourhood Services Scrutiny Forum considers the information provided within this report.

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BACKGROUND PAPERS

The following background paper was used in the preparation of this report:-

(i) Minutes of the South Neighbourhood Consultative Forum held on 12 August 2005.

(ii) Report of the Scrutiny Manager entitled 'Scrutiny Topic Referral from South Neighbourhood Consultative Forum – '20 mph Speed Limit Zones Outside of Schools' presented to the Scrutiny Co-ordinating Committee on 30 September 2005.

(iii) Report of the Traffic Team Leader and Scrutiny Manager entitled 'Scrutiny Topic Referral from South Neighbourhood Consultative Forum – '20 mph Speed Limit Zones Outside of Schools' – Additional Information, presented to the Scrutiny Co-ordinating Committee on 21 October 2005.

(iv) Report of the Scrutiny Manager/Research Assistant entitled 'Scrutiny Topic Referral from South Neighbourhood Consultative Forum – '20 mph Speed Limit Zones Outside of Schools' presented to the Neighbourhood Services Scrutiny Forum on 11 November 2005.

DETR
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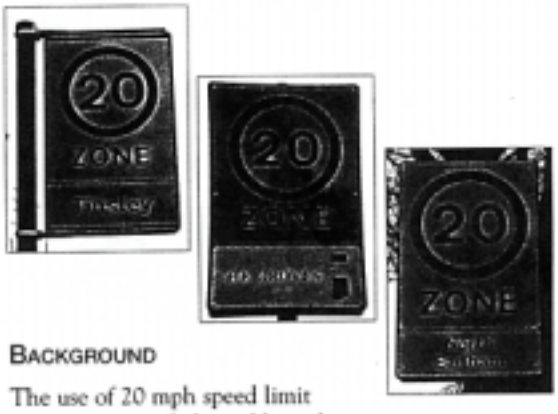
TRANSPORT
REGIONS

20 mph speed limits and zones



INTRODUCTION

The first three 20 mph speed limits forming zones were implemented in Sheffield, Kingston upon Thames and Norwich, in January 1991. Since then, around 450 zones have been installed in the UK. Until June 1999 specific consent from the Secretary of State was needed. The legislation has now been changed, and local traffic authorities no longer need to obtain the consent of the Secretary of State before implementing 20 mph speed limits.

In addition to changes in the Road Traffic Regulation Act 1984, amendments have been made to the Traffic Signs Regulations and General Directions (TSRGD), the Highway (Road Humps) Regulations, and the Highway (Traffic Calming) Regulations; and the Road Humps (Scotland) Regulations and the Roads (Traffic Calming) (Scotland) Regulations. These make possible two different means of implementing 20 mph speed limits. Broadly, these are:

- use of speed limits, indicated by terminal and repeater signs alone;
- a zonal approach using terminal signs together with suitable traffic calming measures to provide a self enforcing element.

The purpose of this leaflet is to provide advice on how and where to implement 20 mph speed limits and 20 mph zones, to help in meeting the objectives of the Government White Paper, "A New Deal for Transport: Better for Everyone" and the requirements for Local Transport Plans.

BACKGROUND

The use of 20 mph speed limit zones was intended to address the serious problem of child pedestrian accidents occurring in and around residential areas, and so was initially limited to these areas. Subsequent research has shown that the risk of a child being involved in an accident has reduced by about two-thirds where 20 mph zones have been installed.

20 mph zones are no longer confined to residential areas. There are a number of town centre zones. In the "Bypass Demonstration Project", four of the six towns had 20 mph zones in their central areas. A small number of 20 mph zones have also been used in rural areas, an example being in Epping Forest.

BETTER PLACES THROUGH BYPASSES

June 1999

Traffic Advisory Unit

Application

It will be for local authorities to determine whether speed limits or zones should be used. They will need to decide whether the proposed type of speed limit is

- appropriate to the area, and
- beneficial in road safety and environmental terms.

Equally important is that the form of speed limit chosen does not require unreasonable levels of enforcement by the police.

20 mph speed limits by signs alone would be most appropriate where 85th percentile speeds are already low and further traffic calming measures are not needed.

20 mph zones should be used where excessive speeds occur, and where traffic calming measures would be needed to ensure speeds are at or below 20 mph.

20 mph zones would be particularly appropriate where there is an existing record of accidents to children occurring over an area, or where concentrations of pedestrians and/or cyclists exist or are anticipated. They can help to protect children walking and cycling to and from school, and may encourage other children to walk or cycle.

With new road layouts, where suitable features can be included in the design, the preference should be for 20 mph zones. Design Bulletin 32 and the companion guide "Places, Streets & Movement" provide further advice.

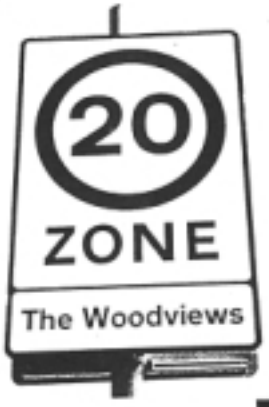
Signing

20 mph speed limits require terminal signs and repeater signs to diagram 670 (TSRGD). Terminal signs, to diagram 670, on trunk and principal roads within 50m of a street lamp must be illuminated. The terminal signs should be placed on both sides of the carriageway to form a gateway. Additional emphasis at the start of the speed limit can be provided by yellow backing boards. Where a limit starts near to a junction, great care must be taken in siting the signs to ensure that they are clearly visible to turning traffic. Advice on the spacing of repeater signs for 20 mph speed limits is given in Traffic Advisory Leaflet 1/95.

Road humps will need to be signed separately, and appropriately lit, where a 20 mph speed limit is designated by diagram 670. Whether other traffic calming measures need to be signed will depend on the circumstances, but diagram 670 cannot be relied upon to warn of their presence.

Diag. 670

20 mph zones require signs to diagram 674 and 675 (TSRGD) placed on both sides of the carriageway. It has become recognised that diagram 674 (TSRGD) provides a warning that drivers are entering an area where they can expect to encounter closely spaced traffic calming measures. For this reason, the road hump and the traffic calming regulations do not require additional signs to warn of individual traffic calming measures in the zone. Signs to diagram 674 do not need to be illuminated. Traffic Advisory Leaflet 2/93 gives detail on signing.



Diag. 674

Changes to the General Directions of the Traffic Signs Regulations and General Directions provide that diagram 674 may be used only where the speed limit is enforced by the presence of speed controlling features not more than 100m apart. Speed controlling features may be summarised as road humps, chicanes, pinch points, gateways, narrowings and bends. Culs de sac not longer than 80m would not require any additional measures. The Traffic Signs General (Amendment) Directions 1999 should be consulted for a precise interpretation of what constitutes a speed controlling measure.

Exit from 20 mph zone showing signs to Diag. 675

RESEARCH

The Transport Research Laboratory (TRL) reviewed results from 250 zones in England, Wales and Scotland. The outcome is described in TRL Report 215 - "Review of Traffic Calming Schemes in 20 mph zones". The main findings indicated that average speeds reduced by 9 mph, annual accident frequency fell by 60%, the overall reduction in child accidents was 67%, and there was an overall reduction in accidents to cyclists of 29%. Traffic flow in the zones was reduced by 27%, but flows on the surrounding boundary roads increased by 12%. There was generally little accident migration to surrounding roads.

TRL have also carried out a review of low speed-limit zones in this country and abroad, where physical measures have not been used extensively to influence speed, and reliance is placed primarily on signing. The results of this review are reported in TRL Report 363 - "Urban Speed Management Methods". The review has indicated that using 20 mph speed limit signs alone, without supporting traffic calming features, led to reductions in 'before' speeds, on average, of 1 mph.

Data from vehicle speed surveys of a range of roads in Great Britain show that a high proportion of drivers exceed posted speed limits.

A study of the effects that 20 mph zones may have on the activities of residents in a zone is being undertaken. The full results of this study will not be available for some years. Interim outputs indicate that whilst residents tend to be enthusiastic about the proposed imposition of 20 mph speed limits, they become less supportive following implementation if the speed limit is not observed.

The Scottish Office is monitoring the effectiveness of advisory 20 mph speed limits in residential areas and around schools. The results of the trials should be available in the Autumn of 2001.

Entry to 20 mph zone

Specific cycling facilities where needed in a 20 mph zone

Zone entry with a build out

ST. EDMUNDSBURY BOROUGH COUNCIL

Enhanced gateway treatment, Bury St. Edmunds.

Design Advice

20 mph speed limits without self-enforcing features have the attraction of being relatively inexpensive to implement. However, regard must be given to the 'before' speeds, because the higher they are the less likely speeds will be reduced to 20 mph. It will be important that the local police are consulted at the outset, to obtain an understanding of the level of enforcement that could be applied and how effective that might be in ensuring a significant reduction in speed.

There will be some areas where speeds are relatively low already and the provision of a 20 mph speed limit indicated by terminal and repeater signs alone, without extensive police enforcement, will be sufficient to bring speeds down to 20 mph. Circular Roads 1/93 advises that if the observed 85th percentile speed is within 7 mph or 20% of the proposed limit, the new limit may be introduced. For 20 mph speed limits it is recommended that the 20% figure is applied. If observed 85th percentile speeds are above 24 mph, then it is unlikely a 20 mph speed limit would be appropriate, unless traffic calming measures can be provided.

When considering the appropriateness of a 20 mph speed limit, the area or length of road involved will also have some bearing. It is generally recommended that 20 mph speed limits (including 20 mph zones) should be imposed over an area consisting of several roads and not just an individual road. There may be exceptions to this but it is doubtful that a single road 20 mph speed limit would have any significant effect on speeds or accidents unless it was at least 500m in length. Accidents in areas where 20 mph speed limits would be most successful seldom occur in particular locations, but are scattered throughout an area.

It is of doubtful benefit to have a short length of either a 20 mph speed limit or a 20 mph zone outside a school. Apart from the uncertainty of whether drivers will observe the limit, they may subsequently speed up significantly in an area where children, in relatively large numbers, will be approaching or leaving the school. Forming a self-enforcing 20 mph zone in roads surrounding the school would be likely to reduce the frequency of accidents not only in the immediate vicinity of the school, but also on the routes that children take to that school.

Roads serving as cycle routes, away from main distributor roads, may be suitable locations for implementing a 20 mph zone. However, speed control devices should be 'cycle friendly'. Horizontal deflections and narrowings can be of particular concern to cyclists (TA Leaflet 1/97) and cycle lane bypasses around these devices are advisable. Sinusoidal humps may improve comfort for cyclists, but may be more expensive to install (TA Leaflet 9/98)

Motorcyclists also need to be taken into account in design, though it is inadvisable to permit these vehicles to use cycle lane facilities. Providing motorcyclists moderate their speeds, they should have few problems in negotiating speed control devices. However, the layout needs to be clearly visible.

Cycle lane bypass

Regard will need to be given to other types of vehicles that may operate within the 20 mph speed limit or zone. These include emergency vehicles, buses and goods vehicles.

There should normally be routes for through traffic that avoid a 20 mph zone. There will be exceptions, for example in rural areas where a village straddles a main road and the character of the village warrants a low speed limit. However, in designing speed controlling devices for such roads (see TA Leaflet 2/97) it should be borne in mind that they are likely to have a higher proportion of larger vehicles than other roads, and so problems of noise and ground-borne vibrations could arise (TA Leaflets 6/96 and 8/96).

Previously, 20 mph zones were not permitted if any part of the zone was more than 1km from any boundary road. Although this no longer applies, it remains sound general advice. The cost of providing 20 mph zones with self-enforcing measures over large areas could be prohibitive, certainly in the short term. The effects it might have on the public transport system and the commercial viability of the area would also need to be considered carefully.

The start of a zone is best located on a side road at a 'T' junction with the major road. This ensures that traffic speed is naturally reduced by the action of traffic turning into the side road.

Typical entry to 20 mph zone

For a zone to start on one of the arms of a junction, vehicle drivers need to be able to readily see the zone signs. This is particularly important where a junction is controlled by traffic signals. Siting the zone signs so that they do not obscure, or are not obscured by the signals, will need particular attention. If a satisfactory solution cannot be found, then the start of the zone will need to be relocated.

Zones can be commenced midway along a street, but care must be taken that the start of the zone can be readily seen. This would normally require measures in addition to the zone signs, so that a gateway effect is formed.

Gateway treatment, mid-way along a road

Gateways have been shown to be very effective in reducing vehicle speeds (TA Leaflets 13/93, 1/94, and 2/97) but to achieve this they need to be conspicuous. This can present a particular challenge in sensitive conservation areas (see TA Leaflet 1/96).

Gateways can incorporate coloured surfaces, with or without a 20 mph elongated roundel marking. Where a 20 mph roundel is used, it is strongly recommended that it is placed on a coloured background to give it prominence. At present such roundels require authorisation by the Department. 20 mph roundels used as repeater signs would only be appropriate where a speed limit was to be enforced by signs alone, as the roundel marking must be accompanied by a vertical repeater sign.

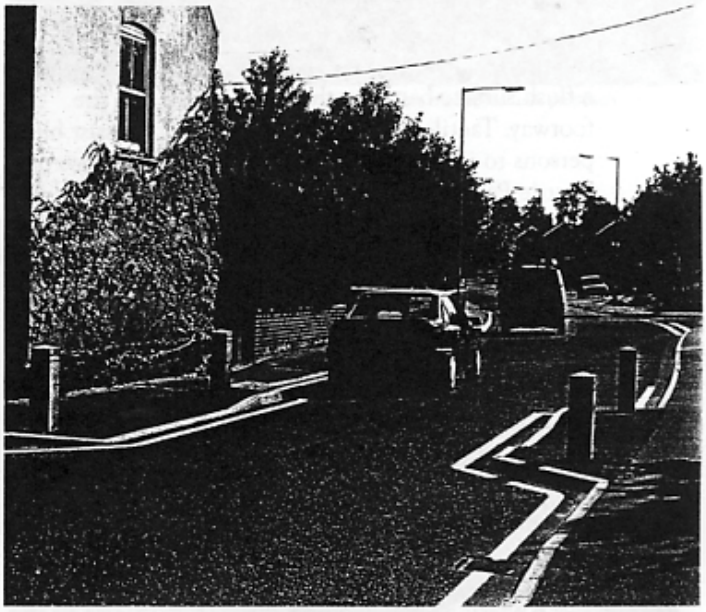
Use of 20 mph roundel marking

Carriageway texture changes can also be used but care needs to be taken that such surfaces do not create a noise nuisance. Rumble strips are not recommended (TA Leaflet 11/93). Whilst they can form a good alerting device, they may not be effective as a speed reducing feature, and will often result in a noise nuisance arising.

Narrowing the carriageway (TA Leaflets 2/94, 7/95, and 1/97) at the entrance to a zone by creating a pinch point can be effective, and may be a preferred option where coloured surfacing is considered inappropriate. Narrowings can be used with coloured surfaces to provide further emphasis. Narrowings must not be used to physically prevent access by any particular vehicle type unless there is a Traffic Regulation Order prohibiting such traffic. Narrowings should be clearly visible at all times, and where bus routes serve the zone they should not impede the movement of buses. In rural areas the effects on access by agricultural vehicles should be considered.

Narrowing at entrance to a 20 mph zone

Narrowings used within a 20 mph zone



Speed Controlling Measures

Within a 20 mph zone, the features that are required to be used as speed controlling measures are broadly defined in the Traffic Signs General (Amendment) Directions 1999. However, some measures which fall within this definition are more effective than others. It is for the local traffic authority to determine which particular measures should be used according to the circumstances.

The following is a guide to the various speed controlling measures available.

Road humps: The new Highways (Road Humps) Regulations 1999 differ little from the previous Highways (Road Humps) Regulations 1996, therefore TA Leaflet 7/96 is still applicable. Humps need to be advertised and consulted on. They should where possible not exceed 75mm in height. 'H' and 'S' humps for use in 20 mph zones may require steeper gradients than described in TA Leaflet 9/98 to ensure speeds are reduced to 20 mph. Where buses need to cross road humps, drivers should be encouraged to adopt a steady speed of 15 mph to minimise discomfort to passengers.

Raised Junctions are a form of road hump covering the whole of a junction. They may be constructed 100mm high to bring them close to the level of the adjacent footways. When this height is used, ramp gradients should be in the order of 1:15 to 1:20. Where kerb heights are in excess of 100mm they should be ramped down at crossing places to provide a flush surface between the carriageway and the footway. Tactile surfaces should be used to assist blind persons to identify where to cross, (see Guidance on Tactile Paving Surfaces published by DETR).

Speed cushions (TA Leaflet 4/94 and 1/98): The speed controlling/reducing characteristics of these devices can be much less than that of round or flat-top humps. Therefore, using these devices extensively within a 20 mph zone may not result in an acceptable reduction in speed levels. This is true also of thermoplastic humps, known as 'thumps' (T A Leaflet 7/94).

Horizontal Deflections: The Highways (Traffic Calming) Regulations 1999 differ only marginally from the previous regulations, and the advice in TA Leaflet 7/93 is still relevant. Horizontal deflections in the form of buildouts, chicanes, pinch points and traffic islands (TA Leaflets 9/94, 1/97 and 12/97) can all be used to reduce speeds. For 20 mph zones they need to be so designed that a vehicle is deflected through an angle greater than 15°, which may be difficult along bus routes. Where narrowings reduce the carriageway to a single lane width, it is advisable that one direction is given priority by the installation of give way markings to diagram 1003 (TSRGD) on the opposite approach. Priority signs, diagrams 615, and 811 (TSRGD) together with the prescribed supplementary plates may also be used. Diagram 501, 'Give Way' (TSRGD) is not appropriate or permitted. A pedestrian refuge or traffic island which does not deflect traffic is unlikely to influence traffic speed, and as a result would not meet the traffic calming requirements of the Traffic Signs General (Amendment) Directions 1999.

Bends: A bend where a driver has to change direction by not less than 70° within a distance of 32m measured along the inside kerb is suitable for reducing speeds of vehicles. They would normally be used in association with other measures.

Culs-de-sac: Those that are less than 80m in length would not require any additional speed controlling devices.

Junctions: Designers should ensure that, where a signal controlled junction precedes a series of road humps, approach speeds to the hump are not excessive as a result of any acceleration before or after the signals.

Spacing of Measures: The measures used in the zone should not only keep speeds low, but should encourage a smooth vehicle speed throughout the zone. Physical measures should be around 60m to 70m apart. This will be beneficial to accident reduction, and in reducing noise and vehicle exhaust emissions (TA leaflets 4/96 and 6/96).

Peripheral Roads: The effects of any additional traffic on peripheral roads should be taken into account, so that access problems, particularly for the elderly, the young and those with a mobility handicap, do not occur.

Monitoring

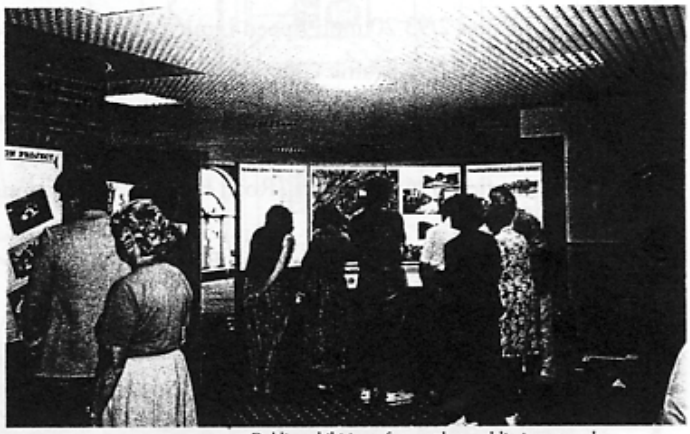
The success of any 20 mph zone or limit will depend on the local authority being able to demonstrate that the measures introduced have shown a significant benefit. In the longer term this will generally be related to the reduction or the prevention of accidents, particularly to children. In the shorter term a good indication of whether a zone or limit has been successful is the reduction in vehicle speeds to 20 mph or below. An appropriate method of measurement for speeds in 20 mph zones would be to monitor the mean and 85th percentile speeds both at speed controlling features and at locations between them. The measurements should be taken in dry weather conditions at the position on a road where speeds are expected to be highest. For 20 mph speed limits, measurement should be made at the mid-point of a road. Not every road would need to be monitored and specific locations chosen could represent up to five other roads of similar characteristics and measures. Only speeds of light vehicles need be measured, taken at times when traffic is flowing freely. A sample size of 100 vehicles would normally be appropriate, but where traffic flows are low then measurement of light vehicles over a two hour period would be acceptable. If the results showed that the overall mean speeds at and between measures exceed 20 mph, then further speed controlling measures would need to be installed.

Monitoring can increase the overall cost of schemes. However, if it is not done demonstrating worthwhile benefits might prove difficult.

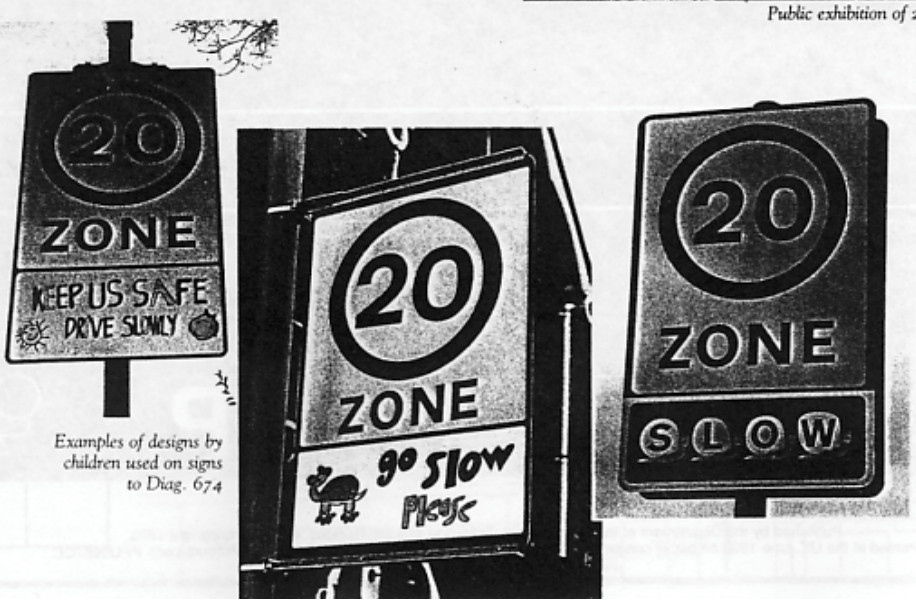
DETR have requested local authorities to provide information on an annual basis for each 20 mph zone or 20 mph speed limit installed. This should show the accident record for at least the three-year period before installation and for each year for three years after implementation. Information on speeds would also be helpful. The information should be included in the annual Local Transport Plan progress report.

Consultation

The value of adequate consultation being undertaken cannot be over-emphasised. Without such consultation, schemes are likely to be subject to considerable opposition, both during and after implementation. The police need to be consulted about a scheme, particularly where a 20 mph speed limit is proposed. If sufficient measures to reduce and control speeds are not installed, then the zones or limits will not be self enforcing and the police could be faced with calls upon their time to enforce the 20 mph speed limit. Residents within the zone or limit would of course need to be consulted, and it might be advisable to consult with school communities occurring within the zone. School children have in the past provided designs for the bottom panel of 20 mph zone signs, to diagram 674. Consultation with the fire and ambulance services (TA Leaflet 3/94), and any bus operators will be necessary. Additionally, haulage operators may need to be approached depending on the land use of the area where the zone is to be installed. The views of users of agricultural equipment in more rural areas will need to be obtained. Authorities should be prepared to modify schemes to meet valid concerns raised.



Public exhibition of 20 mph speed limit proposals



Examples of designs by children used on signs to Diag. 674

ENQUIRIES

Technical:

Charging and Local Transport Division
Department of the Environment, Transport and the Regions
3/24 Great Minster House
76 Marsham Street
LONDON SW1P 4DR

Tel: 0171-676 2594

Administrative:

Road Safety Division
Department of the Environment, Transport and the Regions
2/13 Great Minster House
76 Marsham Street
LONDON SW1P 4DR

Tel: 0171-676 2028

REFERENCES

Department of Environment, Transport and the Regions Circular 05/99, 20 mph Speed Limits

SODD Circular No 13/99, 20 mph Speed Limits (Scottish Office)

Welsh Office Circular 28/99, 20 mph Speed Limits

Circular Roads 1/93 / Welsh Office Circular 1/93 - Road Traffic Regulation Act 1984: Section 81 - 85 Local Speed Limits

SOID Circular No 1/93, Speed Limits (Scottish Office)

TA Leaflet 2/93 20 mph Speed Limit Zone Signs

TA Leaflet 7/93 Traffic Calming Regulations

TA Leaflet 1/95 Speed Limit Signs - A Guide to Good Practice

TA Leaflet 7/96 Highways (Road Humps) Regulations 1996

TA Leaflet 4/99 Traffic Calming Bibliography

TRL Project Report 215 - Review of Traffic Calming Schemes in 20 mph zones

TRL Report 363 - Urban Speed Management Methods

Design Bulletin 32 - Residential Roads and Footpaths, (2nd edition), DoE. The Stationery Office, 1992

Places, Streets & Movement: A companion guide to Design Bulletin 32, DETR. The Stationery Office, 1998

Highways Act 1980

Roads (Scotland) Act 1984

Road Traffic Regulation Act 1984

The Highways (Road Humps) Regulations 1999. SI 1999, No. 1025

The Highways (Traffic Calming) Regulations 1999. SI 1999, No. 1026

The Road Humps (Scotland) Regulations 1998

The Traffic Signs General (Amendment) Directions 1999

The Roads (Traffic Calming) (Scotland) Regulations 1994

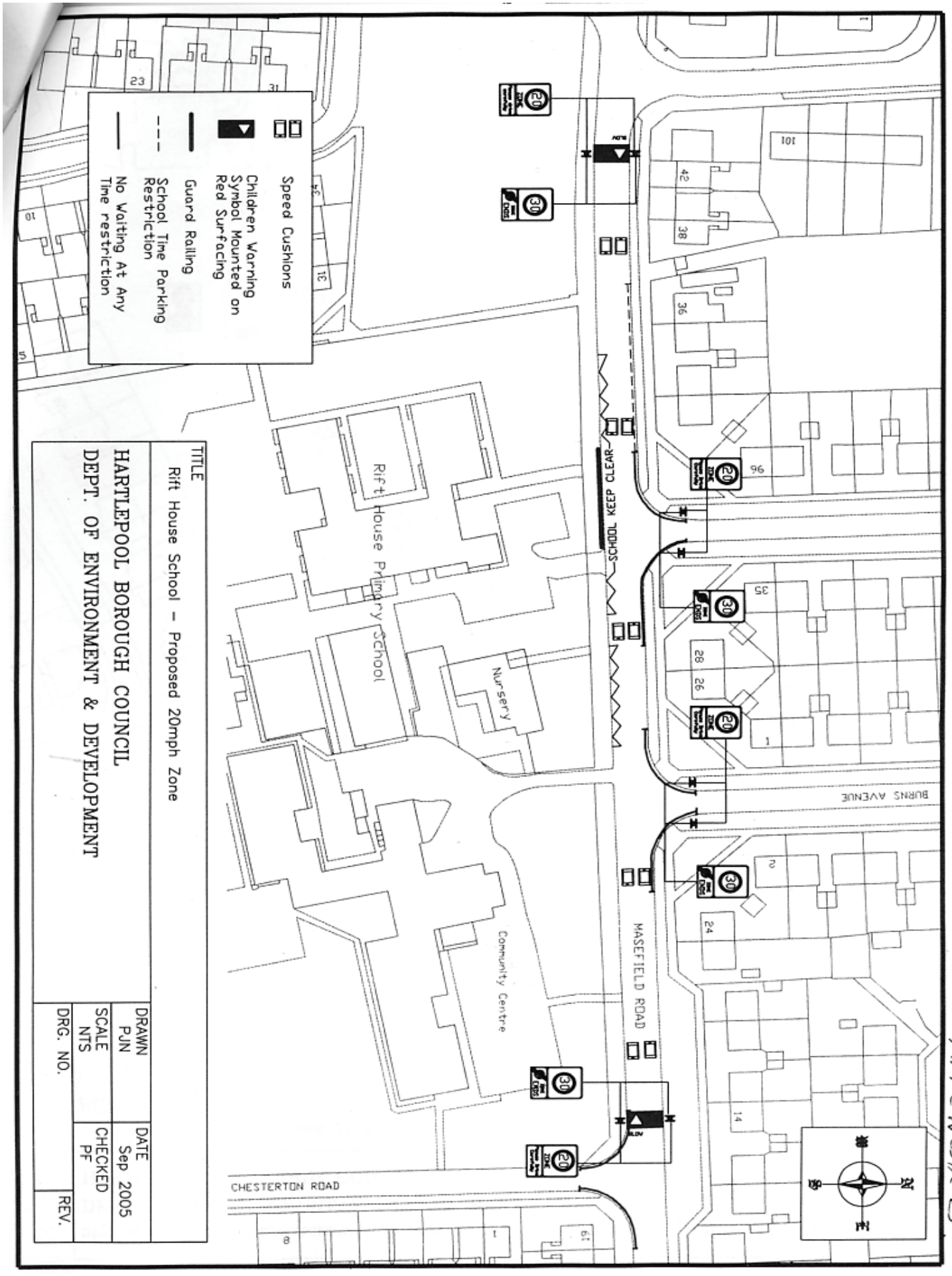
The Department of the Environment, Transport and the Regions sponsors a wide range of research into traffic management issues. The results published in Traffic Advisory Leaflets are applicable to England, Wales and Scotland. Attention is drawn to variations in statutory provisions or administrative practices between the countries.

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

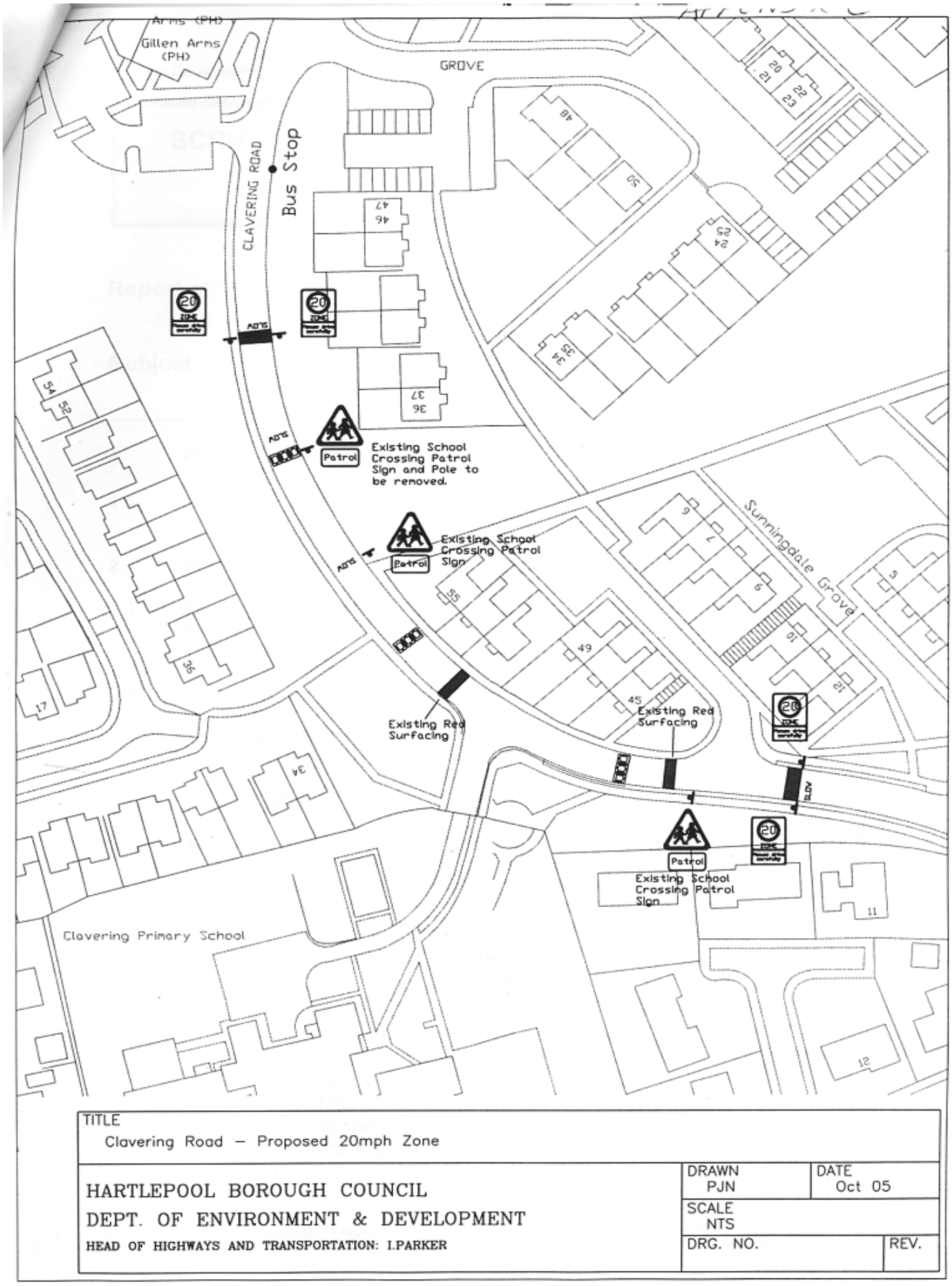
Requests for unpriced TAU publications to:
Charging and Local Transport Division,
Zone 3/23, Great Minster House,
76 Marsham Street, London, SW1P 4DR.
Telephone 0171 676 2478
e-mail: tal@dotditm3.demon.co.uk

Within Scotland enquiries should be made to:
The Scottish Office Development Department,
Victoria Quay, Edinburgh, EH6 6QQ.
Telephone 0131 244 0847

Within Wales enquiries should be made to:
Welsh Office Environment Department,
Cathays Park, Cardiff, CF1 3NQ.
Telephone 01222 823 [illegible]


Speed Cushions
Children Warning Symbol Mounted on Red Surfacing
Guard Railing
School Time Parking Restriction
No Waiting At Any Time restriction
Rift House Primary School
Nursery
Community Centre
SCHOOL KEEP CLEAR
MASEFIELD ROAD
BURNS AVENUE
CHESTERTON ROAD
TITLE
Rift House School - Proposed 20mph Zone
HARTLEPOOL BOROUGH COUNCIL
DEPT. OF ENVIRONMENT & DEVELOPMENT
DRAWN PJN
DATE Sep 2005
SCALE NTS
CHECKED PF
DRG. NO.
REV.

APPENDIX C


Gillen Arms (PH)
GROVE
CLAVERING ROAD
Bus Stop
Existing School Crossing Patrol Sign and Pole to be removed.
Existing School Crossing Patrol Sign
Existing Red Surfacing
Existing Red Surfacing
Existing School Crossing Patrol Sign
Sunningdale Grove
Clavering Primary School
TITLE
Clavering Road – Proposed 20mph Zone
HARTLEPOOL BOROUGH COUNCIL
DEPT. OF ENVIRONMENT & DEVELOPMENT
HEAD OF HIGHWAYS AND TRANSPORTATION: I.PARKER
DRAWN PJN
DATE Oct 05
SCALE NTS
DRG. NO.
REV.

CURRENT LIST OF POTENTIAL SAFETY SCHEMES WITH HARTLEPOOL **APPENDIX D**

LOCATION	No. OF x ACCIDENTS	SPEEDS* RECORDED	SPECIAL CIRCUMSTANCES	PRIORITY
Newburn Bridge	1 fatal 1 serious 5 slight	35mph		1
Victoria Road (York Rd – A689)	1 serious 8 slight	N/A	High pedestrian usage.	2
Marlowe Road	1 serious 5 slight	35.6mph		3
King Oswy Drive (shops area)	1 serious 2 slight	34.6mph	All pedestrian accidents.	4
Hart Lane (Outside Sacred Heart School)	1 serious 1 slight	32.4mph	Request for controlled crossing outside school.	5
Park Avenue (The Parade – Cresswell Rd)	3 slight	36.8mph	Children crossing to and from the park.	6
Westbrooke Avenue	1 serious	37.7mph		7
Clavering area (Westwood Way, Bamburgh Rd, Clavering Rd, Woodstock Way).	2 slight	39.2, 35.5, 36, 34mph **Av. 36.2mph**	School on Clavering Road.	8
Eskdale Road	1 slight	35.8mph	School.	9
Park Avenue (Elwick Rd – The Parade)	0	40mph	Children crossing to and from the park.	10
Cleveland Road	1 slight	37mph	Request for pedestrian island.	11
Chester Road (Jesmond Rd – Thornhill Gdns)	1 slight	37mph		12
Front Street, Greatham	1 slight	32.4mph		13
Caledonian Road	1 slight	32.2mph		14
Elwick village	0	37mph		15
Burn Road (adjacent to Vicarage Court)	1 slight	24.5mph	Request for pedestrian island. Above average numbers of elderly residents crossing from nearby sheltered housing.	16
Owton Manor Lane (Kintra Rd – Kirriemuir Rd)	0	33mph		17

x Accidents over the previous 3 years.
***** Figures are 85th percentile speeds – The speed at which 85% of traffic is travelling at or below.