

## **OLD HILL, CHISLEHURST, TRAFFIC CALMING SCHEME**

### **Report prepared for the Bromley Borough Roads Action Group by Malcolm Heymer, B.Sc.(Hons), M.Sc.**

#### **Brief**

I have been asked by the Bromley Borough Roads Action Group (BBRAG) to comment on the traffic calming scheme implemented in Old Hill, Chislehurst, by the London Borough of Bromley (LBB), both in terms of the technical merit of the scheme itself and the procedures followed by LBB prior to its implementation. Specifically, I have been asked to comment on the following:

- Whether the council acted competently and reasonably in respect of the scheme.
- Whether the scheme is safe as it stands.
- Whether an alternative scheme could be developed that would provide comparable safety, without the use of the single speed cushions that have been installed adjacent to the development at 39 Old Hill.

To assist me in coming to a view on these issues, BBRAG has provided me with the following documents:

- A copy of the council's consultation letter to residents dated 1 December 2000.
- A copy of the report to the council's Environmental Services (Operations) Sub-Committee of 6 March 2001 on the results of the consultation.
- The results of a survey of traffic flows carried out by residents on 2 July 2001 at the junction of Old Hill with Lubbock Road and Brenchley Close/Davema Close.
- A copy of the Section 106 agreement with the developer of 39 Old Hill.
- Copies of various correspondence between BBRAG and the council.

In addition to this documentation, I visited the location in the late morning of Monday, 28 June 2004. I drove and walked the length of Old Hill, taking photographs at various locations.

#### **Qualifications and experience**

I hold the degrees of Bachelor of Science in Civil Engineering and Master of Science in Transportation Engineering, both from the University of Leeds. I have over thirty years' experience within local government in the fields of highway engineering, transport planning, and traffic management. From 1977 until I took early retirement in March 2002, I was a chartered engineer, being a Member of the Institution of Civil Engineers.

For the last eight years of my professional career I held the post of Transportation Planning Manager with the London Borough of Havering. I was responsible for the production of the annual Transport Policies and Programmes document, which latterly became the Interim Transport Plan under the transition arrangements following the creation of Transport for London. One of my areas of responsibility was the development and management of the council's programme of local safety schemes, including traffic calming measures.

## **1. Development of the Old Hill traffic calming scheme by LBB**

### **1.1 History**

- 1.1.1 It is not clear when, if at all, requests were made to LBB by residents of Old Hill for a traffic calming scheme in that road. BBRAG advises, however, that the council at that time maintained a list of such requests, which were brought forward for implementation as funds allowed and presumably in accordance with criteria adopted by the council for prioritising traffic calming proposals.
- 1.1.2 In this case, a scheme was brought forward as a result of the development proposals for Brenchley Close and 39 Old Hill. Planning applications for both developments were refused by LBB but granted by the Secretary of State on appeal, subject to the provision of traffic calming measures to compensate for the inadequate visibility at the access points to both sites. A Section 106 agreement was concluded in March 2002 with the developer of 39 Old Hill, who undertook to pay up to £30,000 towards the cost of such measures.
- 1.1.3 The Brenchley Close development proposals clearly go back to at least 2000, since they are mentioned in the consultation letter to residents of December 2000 as one of the reasons for considering a traffic calming scheme for Old Hill. The adequacy of that consultation, and the way in which it was carried out, are among the main issues addressed in this report.

### **1.2 LBB's consultation letter**

- 1.2.1 The letter circulated to residents, dated 1 December 2000, did not explain the significance of the consultation. Indeed, it gave the misleading impression that it was simply an initial survey of residents' views on an outline scheme design. The second paragraph referred to a 'draft scheme' having been prepared and stated that: "These proposals are by no means hard and fast and...can be altered or abandoned depending on the comments received..." The letter implied, therefore, that there might be further opportunities for residents to express their views before a final scheme was adopted.
- 1.2.2 In fact, circulation of the letter is believed to have coincided with the publication of an official notice concerning the proposed speed cushions, speed table, and waiting restrictions (according to BBRAG). Although a copy of the official notice has not been provided by BBRAG, the consultation letter requested a response by 22 December 2000, twenty-one days following the date of the letter. This time period is the same as the minimum objection period required by law following the publication of an official notice.
- 1.2.3 All traffic calming proposals involving 'vertical deflections', i.e. humps, cushions, or tables, and any measure requiring a traffic regulation order (which includes waiting and loading restrictions), must be publicly advertised in accordance with the Local Authorities' Traffic Orders (Procedure) (England and Wales) Regulations 1996. These stipulate that the publicity required is at least one notice in a newspaper circulating in the area affected by the proposals. In addition, the local authority shall "take such other steps as it may consider appropriate for ensuring that adequate publicity about the order is given to persons likely to be affected by its provisions". Examples of such additional steps include the display of notices in affected roads, and the delivery of notices or letters to premises occupied by people likely to be affected by the proposals.

- 1.2.4 The consultation letter can be taken, therefore, as LBB's attempt to fulfil its obligations under the regulations, in which case the letter should have made it clear that a statutory process was under way. Residents should have been advised that they had a right to object to the proposals, and that their objections would be considered carefully by the council, in accordance with the law, before a decision was made on whether to proceed. Residents should also have been informed of their right to see detailed documentation about the proposals, which the council should have made available for inspection. This would have included a schedule of the exact locations of the proposed speed cushions. It would have been difficult for residents to ascertain whether one of the proposed sets of cushions affected them directly, based on the small-scale map enclosed with the consultation letter.
- 1.2.5 Given that the proposals for Old Hill were much more advanced than indicated by the consultation letter, far more information on the justification for the scheme should have been provided, to enable residents to make an informed decision on whether to support the proposals. The letter referred to the number and severity of speed-related accidents, and to traffic speeds and volumes, but it did not quantify these, or give any indication of the causes of accidents that had occurred. Nor was the situation in Old Hill compared with similar roads elsewhere in the borough. The proposed Brenchley Close development was mentioned as a further justification for the scheme, without saying why. The letter implied, therefore, that there was a problem in Old Hill that the proposed traffic calming scheme would alleviate, without providing any substantiating evidence whatsoever.
- 1.2.6 The consultation letter also failed to set out what alternative measures had been considered by the council to address the claimed problems in Old Hill, and why those measures were considered impractical. Perhaps this is unsurprising, given the late stage at which residents were being advised of the council's intentions. A meaningful consultation with residents would have begun much earlier, when the need for a traffic calming scheme was being considered in principle. All possible measures should have been assessed, and residents should have been advised of their benefits and disadvantages. A preferred scheme should only have been drawn up after residents' views were known. Any measures requiring the publication of an official notice could then have been advertised, knowing that they had broad support.
- 1.2.7 In summary, therefore, the council's letter appears to have been designed to deceive residents into agreeing proposals that were at a more advanced stage than the council admitted, and without any attempt to justify the scheme or find out what residents really wanted. It is a very poor example of public 'consultation'.

### **1.3 LBB's response to the consultation**

- 1.3.1 The responses received to the letter of December 2000 were reported to LBB's Environmental Services (Operations) Sub-Committee on 6 March 2001. Like the consultation letter itself, the report to the Sub-Committee failed to mention that the proposed traffic calming measures and waiting restrictions had been the subject of an official notice, in accordance with legal requirements. In order for members of the Sub-Committee to have been able to satisfy themselves that the due legal procedures had been followed, the report should

have specified the date when the official notice was published, the closing date for receipt of objections, and the date when letters were circulated to residents, advising them of their right to comment on or object to the proposals.

- 1.3.2 The report to the Sub-Committee refers to an earlier meeting, on 24 October 2000, when authority was given to consult residents on the proposals. In the absence of a copy of the report submitted to that meeting, it is not known whether members of the Sub-Committee were advised of the statutory process that was to be initiated. If they were not advised, then it is possible that members of the Sub-Committee were unaware of the legal implications of the decisions they were being asked to make. This would be a serious failure on the part of council officers.
- 1.3.3 In addition to publishing a notice in a newspaper and advising people affected by letter, the council is obliged to advise certain bodies, which have a statutory right to be consulted on proposed traffic calming measures and traffic regulation orders. These 'statutory consultees' include the emergency services and bus operators (where applicable). The report to the Sub-Committee of 6 March 2001 does not state whether these bodies were consulted or, if they were, what responses were received.
- 1.3.4 Where proposals are the subject of an official notice, a local authority has a legal obligation to give proper consideration to any objections received. This means that a report to the decision making body (committee, sub-committee, executive member, etc) should at least list the objectors, summarise their objections, and make recommendations on whether the proposals should be confirmed, modified, or abandoned in the light of the objections, giving reasons for those recommendations. Copies of the full objections should also be available for member(s) to read if they wish.
- 1.3.5 In the case of the Old Hill proposals, the report to the Sub-Committee failed to meet this requirement. The only information given to members was a breakdown of the numbers of residents supporting or opposing each element of the proposals. The questionnaire on which residents were invited to give their views included a space for comments, but none of these were reported to the Sub-Committee. As stated above, there was no mention of responses from statutory consultees, nor was the objection of BBRAG acknowledged, let alone addressed.
- 1.3.6 In view of these serious failings, it is considered that **the decision of the Sub-Committee to proceed with the scheme could be unlawful**. It is suggested that BBRAG seeks legal advice on the legality of the council's procedures in this case.

## **2. The safety of the traffic calming scheme as implemented**

### **2.1 Areas of concern**

- 2.1.1 The aspect of the scheme of chief concern to BBRAG is the safety of the single speed cushions installed on either side of the entrance to the development site at 39 Old Hill. The map enclosed with LBB's consultation letter of 1 December 2000 indicated that a pair of cushions would be provided at each of these points, but when the scheme was implemented they were replaced with single cushions, apparently because the carriageway width was

found to be inadequate to accommodate the originally proposed layout. A further area of concern is the parking that occurs in the vicinity of some of the speed cushions, preventing them from working in the manner intended.

## **2.2 The theory behind speed cushions**

2.2.1 Speed cushions provide an alternative to full-width road humps, for situations where a road carries a significant number of heavy vehicles, is part of a bus route, or is frequently used by the emergency services. The width of an individual cushion should be great enough to ensure that narrow-tracked vehicles, such as cars and small vans, are obliged to drive over it with at least one pair of wheels; while wide-tracked vehicles, such as lorries and fire engines, can straddle the cushion. This should prevent undue noise and vibration being created by the passage of heavy lorries, and reduce delays in response times by emergency services' vehicles. Since Old Hill is classified as a local distributor road, it performs a traffic function beyond providing access to the properties fronting it. It is, therefore, appropriate that full-width road humps should have been rejected and speed cushions considered.

2.2.2 For speed cushions to work correctly they must be constructed to suitable dimensions and, where it is expected that large vehicles should straddle the cushions, there should be no obstructions, such as parked cars, to prevent vehicles approaching the cushions along the intended path. It is vital, therefore, that sufficiently detailed surveys are carried out prior to the design of a scheme, to ensure that cushions of the correct dimensions can be physically accommodated, and that they are not proposed at locations where on-street parking occurs on a regular basis. Alternatively, waiting restrictions or physical measures (such as kerb build-outs) should be used in conjunction with cushions, to ensure that they can operate as intended.

## **2.3 The Old Hill scheme**

2.3.1 It is clear that LBB did not carry out adequate site investigations before the scheme was designed, since it became necessary during implementation to modify the speed cushions at the two locations nearest the development at 39 Old Hill. Instead of a cushion positioned centrally in each of the two halves of the carriageway, a single cushion has been positioned in the centre of the carriageway at these locations. Furthermore, these cushions have been built to a width that is clearly greater than the maximum recommended width of 2.0 metres, as set out in Traffic Advisory Leaflet 1/98 on speed cushion schemes. That leaflet suggests that widths in the range 1.5 to 1.7 metres are preferred where there is a significant proportion of heavy goods vehicles, or buses.

2.3.2 The result of this change from the advertised scheme is that these 'cushions' do not perform their intended function. No vehicle is able to traverse them without at least one pair of wheels passing over them. At the same time, they are not as wide as a full-width road hump, so there are significant gaps between the sides of the cushions and the edges of the carriageway. The result is confusion among drivers: some move into the centre of the road, to try to straddle the cushions; others are reported to mount the low kerb on the north side of the carriageway, when travelling uphill at the more westerly of the two locations. This is obviously undesirable in terms of pedestrian safety.

- 2.3.3 Another potential hazard arises from the locations of these cushions, which are both on sections of Old Hill overhung by trees, and thus is deep shade. Under certain lighting conditions, this makes the cushions difficult to see and could create a danger to drivers unfamiliar with the road.
- 2.3.4 The claimed justification for traffic calming features at these two locations is the restricted visibility for drivers exiting the development at 39 Old Hill, due to the bend in the road and the vegetation on the south side abutting the carriageway. Where visibility is restricted, however, it is potentially dangerous to encourage drivers from opposing directions to move towards the centre of the road. In the case of the more easterly location, the council has actively suggested to drivers in both directions that they should move away from the nearside of the road, by painting carriageway markings that indicate a road narrowing. If drivers followed those markings, there would only be sufficient carriageway width for single track working, but there is no indication of which direction of travel has priority.
- 2.3.5 The design of this part of the scheme is quite unsatisfactory, and was clearly an afterthought. These two cushions potentially create more danger than they reduce. All traffic management schemes should be subject to 'safety audit' by a trained engineer, separate from the design team, in order to identify any aspects of the scheme that could introduce unforeseen hazards. That such a poor piece of design was carried through to implementation suggests that no safety audit was carried out, or it was inadequate. This failure represents a serious omission on the part of council officers.
- 2.3.6 Another aspect of the scheme to which insufficient attention was given was the impact of on-street parking. At the western end of the scheme, where there is a set of three cushions to the east of the junction with Lower Camden, parking outside and sometimes opposite the shops means that the two outer cushions cannot be straddled for much of the time. Traffic in both directions thus tries to straddle the central cushion. Towards the eastern end of the scheme, parking on the south side of the road near the junction with Raggleswood prevents traffic travelling downhill from straddling the cushions in the southern half of the carriageway. So this traffic is forced to use the northern half of the carriageway, where there are no markings on the approach ramps to the speed cushions. Drivers unfamiliar with the road could hit the cushions without realising they are there, with the possibility of loss of control or vehicle damage.

### **3. Possible alternative traffic calming measures**

#### **3.1 Reassessing the need**

- 3.1.1 As already mentioned in section 1, no objective justification for a traffic calming scheme in Old Hill has been put before residents by LBB. It is not even known whether LBB has actually carried out traffic and speed surveys, or undertaken a proper analysis of accident records. Although the planning inspector in the case of the development proposals agreed that permission should be linked to the provision of traffic calming, there is no indication that his view was taken on the basis of objective information, or whether it was just an assumption.

- 3.1.2 The nature of Old Hill, with its narrow sections of poor visibility and the on-street parking that occurs in places, does not encourage high speeds. Drivers familiar with the road will be aware of the dangers, and those unfamiliar with it will be constrained by the substandard alignment and visibility. It is often the case that road layouts with ‘obvious’ dangers have relatively few accidents, as drivers take more care than when a road appears to be ‘safe’. In the absence of factual evidence on speeds and accidents, it is impossible to say whether a traffic calming scheme is likely to be of value – LBB should be pressed to make that evidence available for inspection.
- 3.1.3 If the assumption is that some form of traffic calming must remain, then the individual measures in the current scheme must be re-assessed.

### **3.2 Speed cushions adjacent to 39 Old Hill**

- 3.2.1 The two single cushions either side of the development at 39 Old Hill are potentially unsafe and should be removed. This is one of the narrowest sections of the road, so speeds are likely to be low. If some sort of alternative measure is considered to be essential, then full-width road humps or a speed table would at least remove the risk of drivers from opposing directions meeting head on in the centre of the carriageway. The issue of poor visibility due to the deep shade in this area would, however, remain. There would also continue to be noise and vibration generated by heavy vehicles traversing the humps.
- 3.2.2 The bend in the road, the narrow carriageway and northern footway, and the absence of a southern footway, rule out any alternative physical measures such as chicanes, pinch points or kerb build-outs. The only other way of drawing drivers’ attention to the potential hazard caused by vehicles exiting the development at 39 Old Hill is by signs. There are already ‘Concealed Entrance’ signs on both approaches. These are not authorised within the Traffic Signs Regulations and General Directions 2002, so they have presumably received special authorisation from the Department for Transport. These signs could be reinforced by the provision of ‘Slow’ carriageway markings on both approaches (diagram 1024 in the Traffic Signs Regulations), although they would have to be sited carefully so as not to be in shaded areas of the road.

### **3.3 Speed cushions at other locations**

- 3.3.1 A full review of on-street parking in the vicinity of other speed cushions within the scheme should be undertaken and waiting restrictions introduced to ensure that drivers are able to traverse the cushions correctly. (This assumes that the need for these speed cushions is proven – the parking itself acts as a speed reducing feature, so the cushions are largely superfluous.)
- 3.3.2 Waiting restrictions would probably not be acceptable outside the shops to the east of Lower Camden, where a group of three speed cushions is situated, because of the adverse effect on trade. These cushions could be removed, however, and either a mini-roundabout or a traffic table installed at the junction of Lower Camden with Old Hill and Chislehurst Road. Visibility to the right for drivers exiting Lower Camden is sometimes obstructed by parked vehicles, so a change in junction priority or a reduction in vehicle speeds through the junction could improve safety.

### **3.4 Speed table at junction with Lubbock Road/Brenchley Close**

3.4.1 This is the least controversial part of the scheme and appears to be the most accepted. Nevertheless, the possibility could be investigated of replacing the table with a mini-roundabout. The traffic count undertaken by residents prior to the scheme being implemented shows that Lubbock Road generates enough traffic in peak periods to cause drivers travelling along Old Hill to give way at reasonably frequent intervals.

#### **Summary and conclusions**

- The consultation undertaken by LBB prior to implementing the traffic calming scheme in Old Hill was seriously flawed, as it misled residents about how advanced the proposals were. Objective evidence supporting the case for a traffic calming scheme was not provided. Objections received were not properly reported to the Environmental Services (Operations) Sub-Committee. It is possible that members of the Sub-Committee were unaware of the statutory process that was taking place and their obligations under it. The legality of the decision of the Sub-Committee to proceed with the scheme is, therefore, open to question.
- LBB had undertaken insufficient site investigations to ensure that the proposed scheme was capable of implementation on the ground and was workable. This resulted in the substitution of single speed cushions at two locations where pairs of speed cushions were originally proposed. It does not appear that a proper safety audit was carried out.
- The single speed cushions are unsafe, primarily because their design encourages drivers from opposing directions to move towards the centre of the road on a bend with poor visibility.
- The single speed cushions should preferably be removed and additional warning signs or carriageway markings provided.
- Parking on the approaches to speed cushions elsewhere in the scheme should be restricted, or else the cushions removed, as the parking itself acts as a speed-reducing feature.
- Consideration should be given to removing the speed cushions to the east of Lower Camden and providing a mini-roundabout or speed table at the junction of Lower Camden with Old Hill/Chislehurst Road.
- Consideration should be given to replacing the speed table at the junction of Old Hill with Lubbock Road/Brenchley Close with a mini-roundabout.
- LBB should make available the results of any traffic flow or speed surveys, and the results of accident analyses it carried out, to enable the case for a traffic calming scheme in Old Hill to be considered objectively.