Leicestershire County Council

Leicestershire Highway Design Guide Part 5c: Speed control and safety structures

Leicestershire County Council

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1. Speed control

Speed control humps

1.1 Vertical speed control measures should only be used where it has been agreed that vehicle speeds cannot be controlled through the site layout. (See Passenger Transport for further details).

1.2 On bus routes speed control humps must comply with the LHDG Passenger transport guidance in Highway Layouts and Design.

1.3 Other than on bus routes, speed control humps must be flat topped humps or junction tables with a minimum plateau length of 7m and height of 75mm. Approach ramps should normally have a gradient of 1 in 13. Where the carriageway has a longitudinal gradient approaching the maximum allowed then the "uphill" ramp gradient should be 1 in 15 and the "downhill" ramp gradient should be 1 in 13.

1.4 The humps and tables must be constructed in bituminous material (unless used on a block-paved carriageway or shared surface where they should be constructed in the same material as the carriageway), using 55%/10mm medium temperature asphalt to British Standard EN 13108-4:2006 Bituminous mixtures unless otherwise agreed.

1.5 The council requires the payment of commuted sums to cover the future maintenance of speed control humps and similar vertical traffic calming measures.

Speed control bends

1.6 An overrun area must be provided to the inside of speed-control bends (a bend with an inside radius of 8m or less). It should normally be constructed as follows.

- The outer kerbline should be formed using 125mm x 150mm bull-nosed kerbs with 12mm to 15mm upstand.
- The inner kerbline should be formed using 8m radius 125mm x 225mm half-batter kerbs.

- It should be surfaced using granite setts where the carriageway is block paved or standard block paving where tarmac is used. The colour must contrast with the main carriageway.
- Setts are to be laid with a 6mm level difference between rows to form a rumble area.
- Setts are to be laid with Class 2 cement mortar bed to Series 2400 Clause 2404 of the MCHW minimum thickness 15mm, on a 150mm thick C15P concrete bed with full depth road construction below.
- It should have a crossfall of 1 in 30 towards the other kerbline.

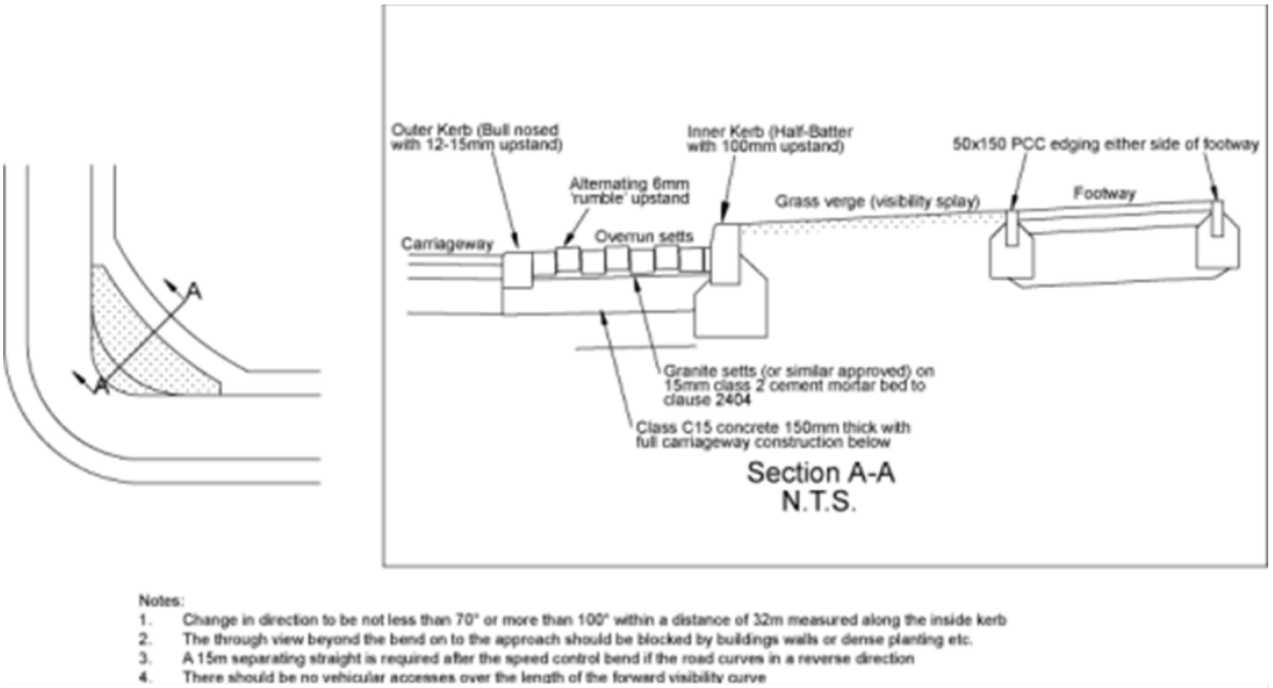

Figure 52: Construction of overrun areas

Entry Ramps

1.7 Entry ramps (see image below) are the ramp up to a raised traffic calming feature, marked with 2 triangles, similar to the image below. Entry ramps should normally have a gradient of 1 in 13 and a height between 75mm and 100mm.

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2. Safety fencing and barriers

Design of safety fences and barriers

2.1 Safety fences and barriers must comply with Volume 1, Series 400 of The Manual of Contract Documents for Highway Works. The need for barriers/fences should be designed out of residential areas so that layouts create a feeling of place for those not travelling by motor vehicles.

2.2 Where vehicle restraint systems are required (where flows are appropriate) to address existing issues, then they should accord with:

- Design & Maintenance Guidance for Local Authority Roads
- Provision of Road Restraint Systems on Local Authority Roads for roads with speeds of 40mp or less
- Road Restraint Risk Assessment Process (RRRAP) contained in Design Manual for Road and Bridges CD 377 - Requirement for Road Restraint Systems for roads with speeds of 50mph or more.

2.3 If flows are not sufficient to meet the thresholds in this guidance, then individual risk assessment should be undertaken in conjunction with Road Safety Audit. Care should be taken to avoid the use of vehicle restraint systems to protect road users from the dangers of objects or hazards other than motor vehicles within the highway boundary by first determining whether the objects in question could be relocated to remove the hazard.

Pedestrian barriers

2.4 Where a footpath joins a road, staggered barriers must be provided to:

- Prevent pedestrians running straight out into the road; and
- Reduce the likelihood of misuse by cyclists.

2.5 Details of these barriers can be found in the councils Standard Drawings.

Pedestrian guardrails

2.6 High visibility guardrails must be used where the number of pedestrians makes it necessary to channel them to the appropriate crossing point. Care should be taken so that guardrails do not interrupt visibility. The council will not adopt safety fencing erected on the highway boundary unless it:

- Is provided as a safety feature at the top of any structure retaining the highway;
- Provides protection against a hazard existing on the adjacent land; or

Adoption of fencing and barriers

2.7 In other circumstances it will be necessary to establish who is responsible for maintaining the fencing in the early stages of discussions.

2.8 For works that the council is to adopt, the details of fencing, including brook railings, boundary markers, gates and stiles and pedestrian guardrails can be found in the Standard Details and Series H of Volume 3 of MCHW.

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