

DS.213 Bollards and other methods of deterring vehicle overrun of footways

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1 Introduction

1.1 Notes

- a. This standard explains requirements about the use of bollards and other methods of deterring or dealing with vehicle overrun of footways (and other spaces for pedestrians only). However, it does not cover or apply to lit architectural bollards or traffic bollards/guide posts (as may be used to draw the attention of road users to Traffic Islands or similar).
- b. See the SSDM webpages at www.southwark.gov.uk/ssdm about the design of streets and spaces.

1.2 Discussion

- a. Illegal vehicle overrun and parking on footways is a major concern for the public and a frequent reason for complaints to the Council. Instances might include
 - i. residents parking cars on footways
 - ii. delivery vehicles mounting footways to load or unload
 - iii. motor cyclists or pedal cyclists using footways, footpaths and/or cycle tracks

All of these can cause damage to pavements and other assets and may place the safety of footway users at risk. Awareness of this possibility may undermine the confidence of more vulnerable people to use particular streets and public spaces.
- b. Sometimes vehicle overrun may occur because of restricted carriageway space at junctions. This might lead larger vehicles to overrun footways as they turn through the space. This can be very damaging to kerbs and pavement surfaces. If such overrun is frequent it might also pose a risk to footway users.
- c. Whilst both of the above can be genuine problems, often the frequency of overrun is over-stated and the responses overly conservative. This is one of the key reasons for the prevalence of bollards, railings and unattractive 'overrun' paving

'overrun' paving that negatively afflict many streets. Similarly, the concern to accommodate all sizes of vehicles at junctions (no matter how rarely they might access a street) has tended to result in street arrangements with very wide sweeping geometry - achieved at the expense of pedestrian space and safety for other vulnerable road users like pedal cyclists.

- d. On balance, in many instances the extent of the problem is likely to be such that some overrun of footways can be tolerated (subject to pavement strengthening works). This helps avoid introducing obstructive and visually negative street furniture (which itself is likely to be regularly damaged by vehicles). Where safety issues do exist then overrun can often be deterred by taking a more sensitive and considered approach.
- e. Lastly, in common with most other types of vertical street furniture, it should be recalled that bollards pose a potential hazard to blind and partially sighted people. Their preference is almost always likely to be to design them out. This provides further cause to avoid their unnecessary use and for considering alternative means of managing overrun. However, if introducing bollards and other vertical street furniture cannot be avoided then it is important that these items are positioned and designed to both minimise conflict with likely pedestrian desire-lines and be identifiable to people with impaired vision.

2 Use requirements

NOTE 1: See Appendix A for a discussion about preferred strategies to address vehicle overrun.

2.1 Conventional bollards

2.1.1 New bollards

- a. Except where permitted by other design standards, bollards should not be used in footways and other non-carriageway areas. However, they may be introduced or retained by level 1 departure in one of the following circumstances.

- i. Where they accommodate necessary low-level upright traffic signs in footways, footpaths or cycle tracks that need to face street users (for instance, blue cycle track roundel signs). It must be demonstrated that it would not be possible or desirable to fix these to lighting columns or (in the case of new streets and spaces) private property close to the Highway limits (e.g. walls or railings).
- ii. To the edges of footways along interfaces with Raised Tables. It must be demonstrated that either
 - a substantial risk of vehicle overrun exists
 - there is an evidenced safety or accessibility need for additional delineation of the footway edge

The latter will normally be owing to this having been identified in a Road Safety Audit or Accessibility Audit. If the issue of concern is lack of adequate delineation of the footway edge, then other alternative measures should also be considered (such as introducing several rows of cropped face cubes). If bollards are necessary for either of these purposes then attempts should be made to reduce the number required by deploying other positive street furniture (e.g. seating) to the same ends. However, it is recognised that this may not always be appropriate and designers should avoid arrangements of street furniture that appear contrived or which place expensive assets in locations where there is a substantial risk of them being struck by vehicles.

- iii. Where necessary to protect a basement or other buried structure that is vulnerable to damage from vehicle overrun.

2.1.2 Existing bollards

- a. Any existing bollards encountered within a project area should be reviewed for conformance with the requirements of and other design standards with a view towards designing them out. Both removal and retention requires level 1 departure (see note 1). This will be based upon the outcome of the review (see note 2).

NOTE 1: Whilst removing bollards is strongly encouraged, departure is required in order to guard against the risk of accidentally removing those that actually perform an important and necessary function – such as protecting a vulnerable pavement or underground structure (e.g. a basement).

NOTE 2: If the only purpose that can be identified for a bollard is to protect a footway from damage by vehicle overrun, then it should generally be removed. To address the residual risk of damage to the footway, works should either be undertaken to strengthen the pavement else the kerb height should be increased to discourage overrun. If the review identifies that the bollard serves some other necessary purpose that remains relevant then replacing it with an alternative means of serving that purpose should still be preferred. However, if it can be demonstrated that such replacement is not possible or could not be reasonably achieved then retaining the bollard may be acceptable. If no current relevant purpose for a bollard can be identified, then it should be removed unless it is of heritage value. If it is of heritage value then its location should be reviewed to determine if there is a potential better site for it nearby that will minimise safety and access risks for pedestrian users of the footway.

2.2 Anti-ram bollards

- a. High security PAS 68 rated anti-ram bollards should be avoided wherever possible due to their highly negative impact on pedestrian access and visual amenity. Any installations require the written approval of the Approving Officers. They must be satisfied that there is an evidenced justification for these. The advice of specialist security consultants will normally need to be shared with them.

NOTE: Anti-ram bollards may also require separate Town & Country Planning Permission from the Council acting in its capacity as Local Planning Authority.

2.3 Increased height kerbs

- a. A flush raised kerb may be used to deter vehicles from leaving the carriageway.

NOTE: This can be very effective and will help minimise clutter. However, it is likely to be costly due to the need to increase the overall height of the footway construction else lower the carriageway (which may also introduce drainage complications).

- b. A raised lip kerb may be used to deter vehicles from leaving the carriageway.

NOTE: As it will avoid the need for costly re-grading of surfaces, this is likely to be cheaper to construct than 'a'. However, it may introduce pedestrian accessibility concerns whilst also appearing visually contrived.

2.4 Staggered gates and railings

- a. Introducing access gates, barriers or railings should be avoided wherever possible. Unless permitted by other standards this requires level 1 departure.

NOTE 1: These are seldom successful at preventing access and often will obstruct and inconvenience permitted users.

3 Design requirements

3.1 Conventional bollards

3.1.1 Bollard types

- a. See SSDM Street Furniture palettes for details of approved bollard designs.

NOTE: If bollards do not need to accommodate signs then using low concrete or natural stone cube or sphere bollards should usually be preferred. However, these take up greater width than normal vertical bollards so might not always be practical.

3.1.2 Accessibility related requirements

- a. See standard DS.219 for various accessibility related requirements that also apply to bollards. These include
 - i. minimum above ground heights
 - ii. visibility requirements (to ensure they can be adequately identified by partially sighted people)
 - iii. information about the possible use of linking chains and ropes.

3.1.3 Visibility of bollards for carriageway users

- a. Introducing retroreflective bands or other demarcators on bollards may be considered if they are located within carriageways or close to the carriageway edge in areas where vehicles may collide with them.

3.1.4 Geometric arrangements

- a. Where it is permitted to introduce bollards then geometric arrangements will be agreed on a case specific basis with approving officers, appropriate to the purposes they are expected to serve. However, normally they will be
 - i. spaced so to leave a gap of 12-1.5m between instances in order to prevent vehicles squeezing between them. Even closer spacing may be needed if they are also required to serve a delineation role
 - ii. placed so that their nearest edge is ≥ 450mm from the front face of the edge of carriageway kerb in order to reduce the risk of being struck by turning vehicles

3.2 Anti-ram bollards

- a. Where anti-ram bollards are exceptionally permitted, design specification for these will be agreed on a case specific basis with approving officers.

3.3 Gates and railings

- a. Where their use is permitted, design requirements for other types of railings and gates will be agreed on a case specific basis with approving officers.

Appendix A – Guidance on preferred strategies to address vehicle overrun issues

- a. If overrun of footways by motor vehicles is infrequent and there is no significant risk to pedestrian safety then this should generally be tolerated. However, the pavement construction (including edge restraints) should be increased if necessary to avoid damage. See standard DS.601 for further information. Alternatively, other positive street furniture (e.g. benches, street trees etc.) may be used to informally discourage overrun. Care should be taken to avoid the creation of clutter or arrangements of furniture that appear contrived.
- b. If there is a significant risk to pedestrian safety then positive street furniture (e.g. benches, street trees etc.) should be used to informally prevent overrun and/or the height of kerb checks should be increased. If street furniture is used as a deterrent then, once again, care should be taken to avoid the creation of clutter or arrangements that appear contrived.
- c. If overrun appears to be by motor vehicles wishing to load or unload from local businesses, introducing positive prescribed loading bays on the carriageway (or freeing up of other loading space) should be considered.
- d. If overrun appears to be by pedal cyclists trying to access cycle stands, then relocating these closer to the edge of carriageway (or into Inset Parking Bays in the carriageway) should be considered. Where it appears that pedal cyclists are taking to the footway via dropped kerbs at junctions, then measures to make it easier for them to dismount in the carriageway closer to the stands should be considered (for example, introducing nearby cycle access dropped kerbs or relocating kerb side parking so that access from the carriageway is otherwise unobstructed close to the stands).
- e. If overrun takes place by motor cyclists or pedal cyclists along footpaths (alleys), then introducing an 'adjacent use' cycle tracks along these should be considered to accommodate pedal cyclists. Enforcement action should be considered to deal with motor cyclists. Alternatively, improvements to other routes should be considered to make these more attractive to those users. Where introducing 'adjacent use' cycle tracks is not possible then introducing bollards or other features is generally discouraged. These are unlikely to be an effective deterrent and will only serve to obstruct pedestrians. Instead, enforcement action should be considered.