

Guard rail use

Guard rails are used to reduce the ability of pedestrians to cross the street at junctions and so improve traffic flow. They can take various forms from railings with vertical bars (the most commonly approved type) to ornate posts with cast iron rails, to simple galvanised tube fences or low walls. They have the additional use of contributing to reducing potential pedestrian accidents where desire lines conflict with vehicles, hence the common name as 'Pedestrian' Guard railing.

Guard rails are used to separate pedestrians and vehicles at junctions, pedestrian crossings, on busy streets and school entrances. They are used to steer and corral pedestrians to and around controlled pedestrian crossings where vehicle traffic is busy or prevent pedestrians straying into a roadway inadvertently. They are also used in dual carriageways to reduce pedestrian crossing ability and at busy large junctions like urban roundabouts where pedestrian crossing demand is high, but so are vehicle traffic levels.

Guard rails cause significant street clutter and obstruction as well as much frustration to pedestrians. There is mixed evidence that they reduce pedestrian accidents. In some cases they can cause accidents or increase the risks to people – such as where cyclists get caught between them and large vehicles turning, or when pedestrians cross a busy road and then cannot access the footway the other side and are left close to passing vehicles. Highway authorities tend to place the onus on vulnerable road users like pedestrians and cyclists to modify their behaviour in compensation for the threat placed upon them by motorists.



Figure 1 Double lines of guard rails around a bus lane– the nearer being used as a cycle rack



Figure 2 Complex and busy town centre pedestrian crossings can do without guard rails – here a double kerb helps steer less mobile pedestrians to the controlled section.



Figure 3 Guard rails poorly sited or over installed can alienate pedestrians

Policy framework and regulations

Guard rails are not required by law though highway authorities have powers to install or alter them under Section 66 of the Highways Act 1980. Their use is discretionary by the highway authority. The DfT Manual for Streets says guardrailing should not be provided unless a clear need for it has been identified and that alternatives such as reducing traffic flows and speeds should be looked at first.



Figure 4 Guardrail used unnecessarily as fencing to cycle stands and to emphasise a chicane

Guidance on the use and need for guardrail is set out in Local Transport Note 2/09 Pedestrian Guardrailing which repeats this advice and provides policy guidance together with assessment and audit procedures for either installing new guardrail or considering its removal.

The law currently places only a loose duty of care on the motorist for the safety and comfort of those around them and unfortunately in the event of an accident, insurance often ensures that the cost to driver is minimal.

Should they stay or should they go?

There are a number of safety, visual and pedestrian movement arguments for and against guard rails though there is a DfT led presumption against installing it. A need for it needs to have been positively demonstrated by the highway authority using proper assessment techniques. The



Figure 5 A simpler guard rail type in a city centre mixed priority route scheme - allows good visibility

guidance clearly states a review of vehicle speed, traffic calming, alternative crossing locations etc, should be looked at prior to any installation.

Consideration might be given to local circumstances such as the likelihood of reasonably frequent use by small children or wheelchair users that may be obscured by a guard rail, but may benefit from being guided to a safe place to cross. Some studies show overall pedestrian accident rates have been reduced significantly as a result of behavioural modification at the presence of guard railing but the overall street environment and traffic speed has not been tested in all these studies.

The arguments to not install or to remove guard rail is most compelling when the balance is considered in the wider context of how pedestrians move around an area or neighbourhood, not just the isolated crossing point that a highway engineer may consider. This will involve looking at how many benefit from guardrail removal, who they are, and what are the benefits they create and then balancing the benefit for vehicles to just using guardrail as a solution. One way to do this is to carry out a pedestrian audit, and there are various types of these suitable for both professionals and community groups.

In Nottingham the downgrading of the inner ring road and removal of major elements of guardrailing were down to showing how existing and latent total pedestrian journey demand numbers far outweighed vehicular driver and passenger demand numbers, so pedestrian priority measures took priority. The London Mayor's Transport Strategy (Draft 2010) is taking a similar line, placing walking ('making walking count') and the built environment high in the hierarchy of policies in support of both health and economics. Transport for London have removed guardrail in a number of improvement schemes in recent years as have flagship London schemes such as The Strand and Kensington High Street.

Historic railings such as used alongside a retaining wall in the street should be retained and not replaced with modern standard rail.



Figure 6 Historic railing should be retained

The alternatives

It is incumbent on street designers to find alternatives to guard rails and design out the causes of needing it. This involves not just a rounded design approach shown in current guidance but also a willingness to address and challenge the reasons for the potential conflicts that the guard rail is supposed to segregate. This may mean reviewing whether pedestrians benefit (or importantly potentially benefit) more than vehicles. It will involve looking at whether reducing traffic speed through a junction should be considered (using traffic calming) or moving the crossing point to better fit the desire line for pedestrians to avoid using railing. It is also worth

reviewing whether allowing more breaks in guard railing would provide greater benefit and give the right message for users in the situation.

A low kerb or double kerb can successfully be used instead of a guard rail at staggered pedestrian crossings. This removes the clutter and obstruction and allows ambulant users to cross in the downstream shadow of the crossing should they wish, while maintaining a clear and safe route for less able users.

Low walls might be considered where the visual effect of multiple railings would clutter a space but the segregation is still needed. A wall-top rail is needed to maintain visibility of children and wheelchair users whilst maintaining the required barrier height.



Figure 7 A busy guard rail free city junction with maximum capacity for easy pedestrians movements where until recently it was fully guard railed *Photo ©Atkins, by kind permission*



Figure 8 Staggered pedestrian crossing without a guard rail



Figure 9 Pedestrian priority shown with uncontrolled crossing on the desire line



Figure 10 Inner urban ring road where an underpass has been replaced by a straight surface crossing without guard railing



Figure 11 Low walls can be used to reduce the perception of clutter



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This Briefing is part of Civic Voice's Street Pride campaign. Further information is available from www.civicvoice.org.uk/campaigns/street-pride, including other briefings on signs, posts and bollards and copies of the Street Pride campaign pack. Civic Voice is a registered charity (no. 1134476) and a company limited by guarantee, registered in England, no. 7142946.

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