



KHS Policy Document

Title	BARRIER & PEDESTRIAN GUARD RAILING POLICY
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Superseded Documents	-
Associated Documents	<i>TD19/06 Local Transport Note 2/09 Pedestrian Guardrailing April 2009 Local Transport Note 1/08 Traffic Management and Streetscape Manual for Streets BS 7818:1995 Specification for pedestrian restraint systems in metal</i>

Release Status

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Document History

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1. Introduction

Barriers are an important element in aiding to maintain the safety of Kent's highway network for highway users. Objects on or adjacent to the highway can present a significant hazard to the road user and there is a clear need to ensure that they are properly protected.

Pedestrian guardrailing is used to improve safety at a specific location by channelling pedestrians to a suitable crossing point.

2. Purpose

This document is intended to provide guidance on the standard to be used for the provision and maintenance of safety barrier and pedestrian guard railing on Kent County Council's (KCC's) road network.

3. Background

3.1 Road Restraint System (RRS)

Kent Highway Services (KHS) are required to maintain RRS in an effective condition and to replace where necessary. The purpose of providing safety barriers and parapets is to prevent vehicles from leaving or crossing the carriageway, to reduce the severity of impact with roadside hazards and to protect roadside equipment from damage.

The Highway Agency (HA) published the new standard on RRS, also referred to as crash barrier, in August 2006. It replaced the earlier standard TD 19/85, the Interim Advice Note IAN 44, BA 48/93, BD 52/93, TA 45/85 and TD 32/93.

It was drafted as a result of a formal review of standards for Nearside Safety Fences following the Selby Train Crash in 2001. Although there were considered to be no major shortcomings in the earlier standard TD 19/85, there were some concerns. TD 19/85 had been primarily written for new works and therefore it gave no help as to how to deal with existing safety barriers.

The new Standard introduces performance based criteria, and uses a risk analysis approach to the assessment process. TD 19/06 has a companion document, the Road Restraint Risk Assessment process (RRRAP), a computer based evaluation process, developed to calculate the safety barrier requirements for a range of site situations. The RRRAP has not been developed to assess the risk from roadside hazards at speeds of less than 50mph and/or for traffic flows of less than 50,000 AADT.

3.2 Pedestrian Guard Railing

Pedestrian guardrailing was first introduced in the 1930's to improve pedestrian safety. The report 'The Design and Layout of Roads in Built-

up Areas' in 1946 highlighted early concerns of feeling restrained by pedestrians should installations of pedestrian guardrailing be overused. Since 1960's pedestrian guardrailing has been used to channel pedestrians and/or cyclists to designated crossing points, allowing movement of all road users to be better managed, especially at signalled crossing points/junctions.

Recently there has been a 'push' to improve street scenes and making the public realm a more walk-friendly environment, resulting in a reduction on the installation of pedestrian guard railing. A recent street scene programme was undertaken in Kensington High Street where over 700m of pedestrian guardrailing was removed as part of the Mayor of London's Transport Strategy 2004.

4. Scope & Implementation

For Kent County Council (KCC) promoted (including works to be adopted by KCC e.g. development led highway improvement schemes) this policy shall be complied with from dd month yyyy.

This Policy applies across KCC. Where projects are to be installed after the above date and the detailed design fails to comply with this policy, exemptions will need to be sought from Kent Highway Services and recorded on the project file.

5. Definitions

Road Restraint System (RRS)	General name for VRS and Pedestrian Restraint System use on the road
Vehicle Restraint System (VRS)	A system installed on a road to provide a level of containment for an errant vehicle
Road Safety Assessment	A review of the potential hazard to determine the risk to the road user and identify measures to lower the identified hazard.
Hazard	Is a feature (e.g. embankment) or object (e.g. lighting column) that can cause harm or loss. Harm or loss can be physical, financial or economic, strategic, or be time-based, or any combination of these
Risk	Is the chance, high or low, that somebody or something will be harmed by the hazard. Risk can be described as the likelihood of the hazard being reached or hit by an errant vehicle (chance) multiplied by the resulting consequence if the hazard is reached or hit (harm). The hazard may be within or beyond the highway boundary. A risk may also occur if a hazard that is hit by an errant vehicle falls, or

	becomes detached and forms a projectile, and causes an injury to others or causes further damage.
Departure from Standard	Is a report from the Design Engineer to the Signs, Lines & Barrier Manager on each occasion that the Standard can not be complied with.
Risk Assessment	Is a review of the potential hazards. The risk assessment should demonstrate that the risk identified have been lowered as much as possible before the cost of risk mitigation starts to outweigh the benefit.

6. Legal & Policy Framework

6.1 Crash Barrier

It should be noted that TD 19/06 is not a statutory or regulatory document, but it does represent recommended best practice. Therefore there needs to be a good reason for not complying with it.

6.2 Pedestrian Guardrailing

Section 66 of the Highways Act 1980 (as amended) allows a highway authority to provide, maintain, alter and remove pedestrian guardrailing in a highway.

There is no specific UK guidance; however, in specific pedestrian facilities guidance documents recommendations are made regarding pedestrian guardrailing installation.

7. Policy

7.1 Road Restraint System

7.1.1 New RRS Installation

RRS 1 New works requiring land acquisition shall meet the full requirements of TD 19/06 for all categories of RRS covered by the Standard.

RRS 2 New works on roads with speeds of 50mph or more shall meet the full requirements of TD 19/ for all categories of RRS covered by the Standard. However, if land availability is insufficient to allow full compliance with the Standard, then a Departure from Standard may be necessary. In the case of a Departure, a risk assessment is required to show a



KHS Policy Document

proposed solution that has a risk level as low as reasonably practical.

- RRS 3 New works for roads with speeds less than 50mph shall meet the recommendations in TD 19/06, but the final assessment will be based on a KHS risk assessment.
- RRS 4 On minor roads in environmentally sensitive areas or on listed structures, special consideration shall be given to the appearance of the barrier system.

7.1.2 Existing RRS

- RRS 5 Major maintenance of RRS on roads with speeds of 50 mph or more shall meet the full requirements of TD 19/ for all categories of RRS covered by the Standard. However, if land availability is insufficient to allow full compliance with the Standard, then a Departure from Standard may be necessary. In the case of a Departure, a risk assessment is required to show a proposed solution that has a risk level as low as reasonably practical.
- RRS 6 Major maintenance of RRS on roads with speeds less than 50 mph shall meet the recommendations in TD 19/06, but the final assessment will be based on a KHS risk assessment.

7.1.3 Maintenance of RRS

- RRS 7 All sub standard RRS installed on Kent's road will be replaced with barrier in accordance with the current Standard when it has been deemed unserviceable.
- RRS 8 Minor damage to existing RRS shall be replaced like-for-like basis except in the following conditions where replacement with current Standard should be considered:
- If a major section of the overall length is damaged in a vehicle crash
 - If a new hazard is introduced along its length
 - If the length of road has a poor accident record
- RRS 9 All VRS shall be tensioned every two years



KHS Policy Document

7.1.4 Removal of RRS

RRS 10 Road Safety Assessments will be undertaken prior to the removal of any crash barrier

7.2 **Pedestrian Guardrailing**

7.2.1 New Pedestrian Guardrailing Installation

PG 1 All new County Council promoted highway improvement schemes and highway schemes proposed to be adopted by the local highway authority shall only provide pedestrian guardrailing where there is an identified and evidenced need.

PG 2 Installation of new guardrailing shall not be considered if other suitable safety measures can be used instead.

7.2.2 Existing Pedestrian Guardrailing

PG 3 Guardrailing assessed as unnecessary shall be removed.

PG 4 Minor damage to existing pedestrian guardrailing shall be replaced on a like-for-like basis except where it has been assessed as not necessary.

7.2.3 Removal of Pedestrian Guardrailing

PG 5 Road Safety Assessments will be undertaken prior to the removal of any pedestrian guardrailing.

8. **Roles & Responsibilities**

The design engineer is required to record formally all the factors considered in the design process that were used to determine the need or otherwise for a RRS at a particular location(s) and / or pedestrian guardrailing. This will include the nature and parameters, position and extent of the RRS and hazards present or known about at the time and justification for the decisions made in the design. The results of the RRRAP procedure for each design must be included as part of the Health and Safety documentation required under CDM Regulations.

The safety assessment for pedestrian guardrailing removal must be retained as part of works information.



KHS Policy Document

9. Performance Measurement

- 9.1 90% of damaged RRS and pedestrian guardrailing works completed by published dates
- 9.2 Reduce pedestrian guardrailing – Base line data will be total length of pedestrian guardrailing identified by the asset register at the start of financial year. At the end of the financial year the percentage of pedestrian guardrailing removed from the asset can be calculated.

10. Implementation

For all KHS promoted highway improvement schemes and maintenance work this policy shall be complied with from the date the Cabinet Member has authorised its effective date.

For development led highway works this policy shall be introduced into all Section 38; Section 278 and other agreements from the effective date.

This policy applies to all projects where site installation will commence after the effective date. If detailed design has been completed and fails to comply with this policy, exemptions need to be sought from the Signs, Lines & Barrier Manager.

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