



**PROCEDURE NO. 9**

**PROTECTION OF STREET FURNITURE**

**POLICIES AND PROCEDURES**

**August 2011**

Signed .....  
Group Manager

Date: August 2011

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## **POLICY**

The provision of the protection of street furniture carried out by, or on behalf of, the Council should be carried out in accordance with this policy and procedure.

Any queries regarding the protection of street furniture should be referred to the Head of Transportation Services and the Head of Streetcare.

## **INTRODUCTION**

This document sets out the Council's policy on the protection of street furniture.

## **OBJECTIVES OF THE POLICY**

The objectives of Protection of Street Furniture, Policies and Procedures are to comply with current Design Standards (National and Council), Health and Safety Legislation and Industry Best Practice.

These include ensuring that the risks arising to road users of colliding with, or of injuries if actually colliding with, items of street furniture are minimized.

## **DEFINITIONS OF STREET FURNITURE**

Features considered to be street furniture for the purposes of this policy include:- Traffic Signs, Lighting Columns, Traffic Signal Poles, Safety Cameras, Guardrailing, Bollards, Bus Shelters, Electrical feeder pillars and Controllers.

## **ISSUES TO BE ADDRESSED**

Street furniture, while necessary for the safe use of the highway can be a hazard to highway users, particularly motor cyclists.

The policy will consider the locating of street furniture, its construction and any further protective measures that may be required to minimize the risks arising to those who involuntarily leave the carriageway.

## **SUITABLE LOCATIONS FOR STREET FURNITURE**

Street furniture, in order for not to require the consideration of protection, needs to be a minimum of 4.5 metres (or 10 metres in the case of high mast lighting columns) from the outer edge of the paved carriageway (described as the set back). This is unlikely to be possible on non trunk roads except in exceptional locations.

Street furniture on the outside of bends is a particular hazard to motor cyclists and its positioning and design in these areas should be given particular consideration.

Street furniture on the inside of bends can reduce forward visibility and the visibility of other street furniture.

Street furniture in central reservations will be more likely to require safety protection, due to the risk of secondary accidents occurring. It will also require more temporary

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traffic management for maintenance/repair work than is required for items located in the verge or footway.

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Absolute and desirable minimum set backs for street furniture are shown below.

Street furniture item	Traffic speed <50mph		Traffic speed 50mph or more	
	Absolute Minimum set back (m)	Desirable Minimum set back (m)	Absolute Minimum set back (m)	Desirable Minimum set back (m)
Traffic Sign posts	0.45	1.2	1.2	1.2
Traffic Sign faces	0.45	1.2	1.2	1.2
Lighting Columns	1.0	1.2	1.5	1.5
Traffic Signal Poles	0.45	1.2	1.2	1.2
Pedestrian crossing signal poles	0.45	0.45	0.45	0.45
Safety Cameras	0.45	1.2	1.2	1.2
Guardrailing/fencing	0.45	0.6	1.2	1.2
Safety fencing	0.6	1.2	0.6	1.2
Bollards	0.45	0.6	1.2	1.2
Bus Shelters	0.45	0.6	1.2	1.2
Electrical feeder pillars and Controllers	0.45	0.6	1.2	1.2

\*The traffic speed being the design speed or imposed speed limit.

## **THE CONSTRUCTION OF STREET FURNITURE AND ITS EFFECT ON ROAD USERS**

The properties of street furniture in the event of being struck by motor vehicles are defined as being either:-

- 1a – Passively safe (in accordance with BN EN 12767 or its successors). This means that it will absorb the energy arising during a collision in such a way that injuries to vehicles' occupants are reduced. Tubular sign posts with an external diameter of 89mm or less and a nominal wall width of 3.5mm or less are also considered to be passively safe, although they do not absorb the energy at high speeds (100kph/62mph or more).
- 1b – Non Passively safe, includes tubular sign posts with an external diameter of more than 89mm and a nominal wall width of more than 3.5mm.

Passive and non passive street furniture is also defined by its ability to absorb energy.

### **2a – Non Energy Absorbing (NE)**

These will have minimal effect on the speeds of vehicles following a collision. They are likely to shear or fail at the base relatively easily and are a hazard to non motorised users. At speeds of 100kph/62mph or more, posts with an external diameter of 89mm or less and a nominal wall width of 3.5mm or less are deemed to be NE.

### **2b - Low Energy Absorbing (LE)**

These will deform, slowing the speeds of vehicles. They may eventually shear or fail at the base but are not a major hazard to non motorised users.

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## 2c - High Energy Absorbing (HE)

This applies to lighting columns in urban areas, particularly where there are significant numbers of non motorised users. Traffic sign posts and traffic signal poles should not be class HE.

In the case of motorcyclists and other vulnerable road users, safety fencing and passively safe street furniture will remain to be significant hazards to them in the case of a collision.

Any risk assessment made regarding these vulnerable users should particularly consider the locations of the street furniture to minimise the possibility of collisions occurring.

### **STREET FURNITURE CONSIDERED TO BE PASSIVELY SAFE**

Street furniture item	All Traffic speeds
Traffic Sign posts, ne 89mm diameter	√
Traffic Sign posts, exceeding 89mm diameter *	X
Lighting Columns *	X
Traffic Signal /pedestrian crossing signal poles *	X
Safety Cameras *	X
Guardrailing/fencing	√
Bollards, plastic	√
Bollards, steel/concrete, boulders, planters	X
Bus Shelters	√
Electrical feeder pillars, mini pillars and Controllers	X

\* If not specifically constructed to be passively safe.

\*The traffic speed being the design speed or imposed speed limit.

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## STREET FURNITURE, DETERMINING THE NEED FOR PROTECTION

2.1 For this purpose, protection includes either the provision of safety fencing or provision of passively safe street furniture.

2.2 The table shows various risk ratings for particular circumstances. These should be added together as applicable for the items of street furniture being assessed.

Street furniture item	Within stated metres of the carriageway	Traffic speed less than 30mph	Traffic speed less than 40mph	Traffic speed 40mph or more	Two way AADT 25,000 or more	3 or more accidents within last 5 years *	Vulnerable location without new measures **	Risk to pedestrians ? Deduct
Traffic Sign posts, ne 89mm diameter	4.5	n/a	n/a	n/a	n/a	n/a	n/a	-0 - 5
Traffic Sign posts, exceeding 89mm diameter	4.5	0	5	10	5	5	0-5	-0 - 5
Traffic Sign faces 2 m or more in height, 1.5m above ground	4.5	0	5	10	5	5	0-5	-0 - 5
Lighting Columns	4.5	0	3	5	5	5	0-5	-0 - 5
High Mast Lighting	10	0	5	10	5	5	0-5	-0 - 5
Traffic Signal/pedestrian crossing Poles	4.5	0	5	10	5	5	0-5	-0 - 5
Safety Cameras	4.5	0	5	10	5	5	0-5	-0 - 5
Guardrailing/fencing	4.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bollards, plastic	4.5	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Bollards, steel/concrete	4.5	0	3	5	5	5	0-5	-0 - 5
Bus Shelters	4.5	0	3	5	5	5	0-5	-0 - 5
Electrical feeder pillars, mini pillars and Controllers	10	0	5	10	5	5	0-5	-0 - 5

\* Accidents that involve vehicles leaving the carriageway near the location of the item of street furniture.

\*\* This is a subjective assessment of the hazard. Other measures could be taken to reduce the likelihood of vehicles colliding with the street furniture.

\*The traffic speed being the design speed or imposed speed limit.

### Risk Rating

For new street furniture		For existing street furniture	
Total rating	Required action	Total rating	Required action
0 – 9	Protection not required	0 – 14	Protection not required
10 or more	Protection is required	15 or more	Protection is required

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Note: It is not acceptable in terms of safety barrier or passively safe posts provision for designers to reduce the size of sign support posts by providing an increased number of posts (unless a Passive safety support structure system is used in accordance with BS EN 12767), solely to overcome the requirement to provide a safety barrier or install passively safe posts.

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## DETERMINING THE TYPE OF PROTECTION

Street furniture item	In verge/footway					In central reservation
	Services Present?	Sufficient approach length? (>30 metres)	Sufficient width? (set back and clearance)	Acceptable collision angle? (Max 25 deg)	Relevant accidents or damage to street furniture/fencing?	
Traffic Sign posts, ne 89mm diameter	n/a	n/a	n/a	n/a	n/a	n/a
Traffic Sign posts, exceeding 89mm diameter	Depends on the locations of the services	Passive items only if not	Passive items only if not	Passive items only if not	Passive items preferred	Safety fencing only
Traffic Sign faces 2 m height, 1.5m above ground	Depends on the locations of the services	Passive items only if not	Passive items only if not	Passive items only if not	Passive items preferred	Safety fencing only
Lighting Columns	Depends on the locations of the services	Passive items only if not	Passive items only if not	Passive items only if not	Passive items preferred	Safety fencing only
High Mast Lighting	Depends on the locations of the services	Passive items only if not	Passive items only if not	Passive items only if not	Passive items preferred	Safety fencing only
Traffic Signal Poles	Depends on the locations of the services	Passive items only if not	Passive items only if not	Passive items only if not	Passive items preferred	Safety fencing only
Safety Cameras	Depends on the locations of the services	Passive items only if not	Passive items only if not	Passive items only if not	Passive items preferred	Safety fencing only
Guardrailing/fencing	n/a	n/a	n/a	n/a	n/a	n/a
Bollards, plastic/rubber etc	n/a	n/a	n/a	n/a	n/a	n/a
Bollards, steel/concrete etc	Use plastic/rubber bollards	Use plastic/rubber bollards	Use plastic/rubber bollards	Use plastic/rubber bollards	Use plastic/rubber bollards	Use plastic/rubber bollards
Bus Shelters	n/a	n/a	n/a	n/a	n/a	n/a
Electrical feeder pillars, mini pillars and Controllers	Safety fencing or guardrailing	Safety fencing or guardrailing	Safety fencing or guardrailing	Safety fencing or guardrailing	Safety fencing or guardrailing	Safety fencing or guardrailing

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## THE DESIGN OF PROTECTION MEASURES

The following documents or their successors should be referred to:-

Ref	Title
TA89/05	Use of passively Safe Sign Posts, Lighting Columns and Traffic Signal Posts to BS EN 12727.
-	Traffic Signs Manual, Chapter 1
-	Requirements for Road Restraint Systems

Consideration should be given in areas where there is significant pedestrian or cyclist movement to ensure that the following do not present a hazard:-

1. The face or posts of a safety fence (which may require a separate pedestrian guardrailing boundary between it and the footway/cycleway).
2. The fixing bolts and plates of traffic sign posts, lighting columns and traffic signal poles etc.

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