

# WEST OF ENGLAND ROAD SAFETY PARTNERSHIP

## Data & Engineering Group - Guidance for Safety Camera Sites

### Introduction

This note has been prepared in response to the UCL/SRA Study Recommendation that a review of all safety camera sites in the West of England area should be undertaken.

The Study suggested that each site should be investigated for effectiveness, with the least effective and oldest sites tackled first. The Study commented: "This is involving analysis of speeds, penalties, camera type and operating times as research indicates that enforcement at random times of the day and at sites at random is highly effective in bringing about a reduction in speeds across an area. Where there is shown to be low impact on speeds and/or casualties, site visits need to take place with engineering, enforcement and ETP teams for joint investigation and action, which may include in some cases removal or re-siting."

The Guidance has been developed from the existing Safecam operational protocol and other procedures already undertaken by the Partnership. Changes are only marginal, but the policies have been drawn together to provide a comprehensive and internally consistent approach for selection of new sites, review of existing sites and on-going operations. The Policies were agreed by Partnership Officers on 12<sup>th</sup> March 2009.

### Types of Enforcement

**Fixed speed enforcement:** Sites where fixed speed camera housings are installed with cameras operating either continuously or from time to time. These cameras are unattended (automated detection.)

**Mobile speed enforcement:** Sites where mobile speed camera enforcement takes place from time to time. These are set up by the roadside and are attended by a civilian police enforcement officer (manual detection.) This type of enforcement may also be operated at fixed speed sites.

**Fixed red light enforcement:** Traffic light junctions where red light cameras are installed and enforcement is undertaken continuously or from time to time. These cameras are used to detect offences where vehicles travel through red lights. These cameras are unattended (automated detection.)

**Route speed enforcement (fixed and/or mobile):** Locations where collisions are dispersed along a longer stretch of road may include both fixed and mobile enforcement.

**Community Concern speed enforcement (mobile only):** Where the local community requests enforcement at a particular site because traffic speeds at that location are causing concern.

**Speed enforcement at road works:** Temporary cameras to ensure compliance with temporary speed limits at road works, mainly on HA roads to protect both the travelling public and the workforce undertaking the road works. This enforcement can be through the use of fixed digital cameras or approved average speed cameras. See the HA guidance at [http://www.highways.gov.uk/aboutus/documents/crs\\_temp\\_speed\\_nettingoff.pdf](http://www.highways.gov.uk/aboutus/documents/crs_temp_speed_nettingoff.pdf)

### Types of Camera Equipment

**Fixed Gatso camera equipment (speed and red light):** Gatso camera equipment requires the use of 'wet film' which must be manually loaded and unloaded and delivered to the Camera Processing Unit for processing. Gatso camera equipment is rotated between Gatso camera housings. Housings which do not contain live camera equipment, will, whenever possible, contain a dummy camera unit.

**Fixed RedSpeed camera equipment (speed and red light):** RedSpeed camera equipment is digital, and offences are viewed at the Camera Processing Unit via a BT Broadband or satellite link.

**Mobile camera equipment (speed only):** Mobile camera equipment is manually operated by fully trained civilian police enforcement officers. Offences are recorded on to video equipment which is delivered to the Camera Processing Unit for processing. Mobile speed enforcement is normally operated between the hours of 0700 and 2200. Enforcement vehicles are fully equipped to operate at any time, but for night time enforcement it is essential that an adequate system of street lighting is in operation. Where data shows that casualty problems exist outside these times, mobile camera crews will consider requests to operate between 2200 and 0700 hours on an individual basis. If the request is declined (for example for camera operative health and safety reasons) the Chief Constable should be requested to carry out enforcement at these times.

## New Safety Camera Sites: Site Selection Criteria

**Fixed and mobile speed, routes, and red-light Sites:** Camera sites will be selected using guidance from the DfT Circular 01/2007 "Use of Speed and Red-Light Cameras for Traffic Enforcement: Guidance on Deployment, Visibility and Signing", as shown below:

Rule		Fixed speed camera sites		Mobile speed camera sites		Routes		Red-light or combined red-light speed
1	Site or route length requirements	Between 0.4 km and 1.5 km		Between 0.4 km and 5km		Between 5 km and 20 km		From stop line to stop line in direction of travel
2	Number of KSI (killed or seriously injured) collisions	At least 3 KSI collisions per km in the baseline period.*		At least 1 KSI collision per km (average) in the baseline period.*		A minimum of 3 existing core sites within the length. (There are no further requirements.)  OR Has at least 1 KSI collision per km (average) in the baseline period* and meets the PIC total value below.		At least 1 KSI collision within the junction in the baseline period.*  Selection must be based upon a collision history of red-light running.
*The baseline period is the most recent 36-month period available when proposal is submitted, where the end date is within 12 months of the date of submission.								
3	Total value required	Built-up 22/km	Non-built-up 18/km	Built-up 11/km	Non-built-up 9/km	Built up 8/km	Non built up 6/km	10
For sites up to 1 km, the above value is required. For sites longer that 1 km, the value is per km.								
4	85th percentile speed at proposed sites	Speed survey shows free-flow 85th percentile speed is at or above ACPO enforcement threshold in built-up areas and 5 mph over maximum speed limit in non-built-up areas. This can apply to all vehicles or a vehicle class but must be compared consistently.						Not applicable
5	Site conditions that are suitable for the type of enforcement proposed	Loading and unloading of camera can take place safely.		Location for mobile enforcement is easily accessible and there is space for enforcement to take place in a visible, legal and safe manner.		The location of collisions in the baseline period will determine the length of route.		Loading and unloading the camera can take place safely.
6	Suitability of site for camera enforcement	The highway authority must undertake a site survey, demonstrating the following: (a) the speed limit has been reviewed, confirming that camera enforcement is the right solution; (b) there is no other cost-effective engineering solution that is more appropriate; (c) that the Traffic Regulation Order (where applicable) and signing are lawful and correct.						
<p>New camera sites will be selected using an assessment that includes the level of fatal, serious and slight collisions. The combined level of collisions will be expressed as a numerical scale (see below) and assessed relative to the road classification for the site – whether it is either a 'built-up' or 'non-built-up' area and according to the type of site, i.e. route, fixed, mobile or red-light.</p> <p>Fatal or serious injury collision = 5 (i.e. 2 serious collisions = 10) Slight injury collision = 1 (i.e. 5 slight collisions = 5)</p> <p>'<b>Built-up area</b>' is defined as a road with a speed limit of 40 mph or less. '<b>Non-built-up area</b>' is defined as a road with a speed limit of 50 mph or more.</p>								

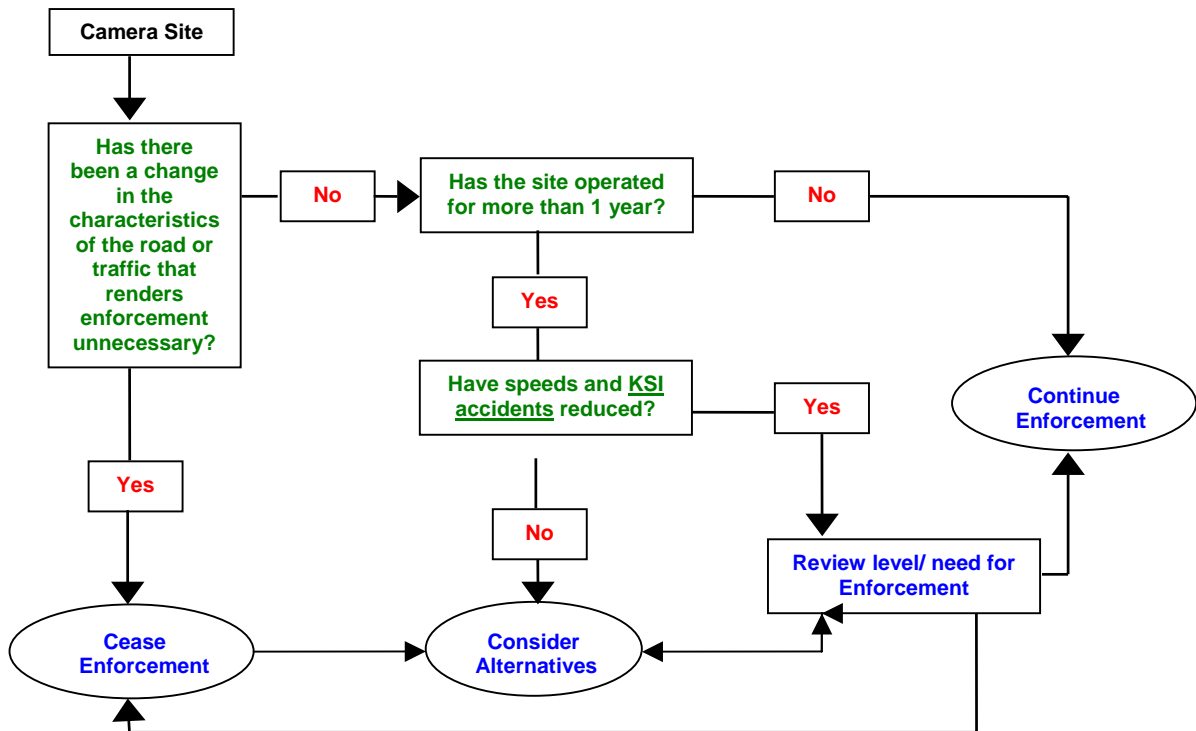
**Community Concern sites:** A limited number of sites are enforced with safety cameras at locations which are of concern to the local community, but which do not meet the above criteria. There will be a maximum capacity of 75 Community Concern sites to ensure that all sites can receive regular enforcement.

Each highway authority determines its own criteria for selection of Community Concern Sites. It is expected that the key criteria will be the number and severity of personal injury accidents and the speed of traffic; and that authorities will not deploy cameras unless there is an identified problem with higher than average accidents or speeds. Community concern sites should be reviewed at least annually.

## Camera Site Review and Operational Policy

- All speed and red light camera enforcement sites (both fixed and mobile) should be reviewed annually to determine their effectiveness and the level of enforcement needed, based on: the number of Killed or Serious Injury (KSI) accidents in the most recent 3 year period compared to number of KSI's in the 3 year period prior to camera enforcement, and (for speed cameras only)
- 85 percentile traffic speeds in the most recent year compared to the 85 percentile speeds taken before camera installation.

The review should be done in accordance with the flow chart and descriptions below.



Site re-prioritisation should take place annually during March so that the new priorities may commence on 1<sup>st</sup> April. The priority of a site may be changed at any time based on current data intelligence, subject to approval by Officers of the WoE RSP.

The following Table should be used to determine the enforcement priority ranking for safety camera sites. It is for each local authority to advise Safecam of the amount of enforcement time to be allocated to each site. This should be based on the enforcement priority ranking, the number of sites in each category and the relative severity of the accident and speeding issues at each site. In broad terms it is suggested that the proportions of available enforcement time should be allocated as follows: Red Sites 60%; Amber Sites 30%; Green and Community Concern Sites 10%.

Community Concern Sites: In order to ensure that all sites receive regular enforcement, there is a maximum capacity of 75 Community Concern Sites across Avon and Somerset (30 within the Somerset Road Safety Partnership, 40 within the West of England Road Safety Partnership, and 5 for Highway Agency roads). Enforcement time is to be agreed with the RSP Officers to meet local demands and priorities.

The priority of an individual site, or the amount of enforcement time at an individual site, must not be released in to the public domain. This information is considered operationally sensitive and is exempt under the Freedom of Information Act Section 31: Law enforcement sections (a) and (b).

**Review Documentation:** It is imperative that the review process and outcomes are formally documented and retained on file, ensuring that robust justifications are provided for all decisions, even when no changes are proposed. This information may be needed if accidents occur in future and the decisions are challenged.

**Review Need for Enforcement:** Sites should be categorised using the following matrix:

	<b>High Speeds &gt;10 mph above speed limit</b>	<b>Medium Speeds 5 – 10 mph above speed limit</b>	<b>Low Speeds &lt;5mph above speed limit</b>
<b>High Accidents 2 or more KSI/ km*</b>	<b>Continue enforcement at priority RED, consider additional measures, consider alternatives</b>	<b>Continue enforcement at priority RED, consider additional measures, consider alternatives</b>	<b>Consider suspending enforcement and consider alternatives. Priority GREEN if enforcement continues</b>
<b>Medium Accidents ≥1 &lt;2 KSI/ km*</b>	<b>Continue enforcement at priority RED, consider additional measures, consider alternatives</b>	<b>Continue enforcement at priority AMBER consider alternatives</b>	<b>Consider suspending enforcement and consider alternatives. Priority GREEN if enforcement continues</b>
<b>Low Accidents &lt;1 KSI/ km*</b>	<b>Continue enforcement at priority AMBER consider alternatives</b>	<b>Consider suspending enforcement and consider alternatives. Priority GREEN if enforcement continues</b>	<b>Consider suspending enforcement and consider alternatives. Priority GREEN if enforcement continues</b>
<b>Community Concern Sites</b>	<b>Continue Enforcement. Priority GREEN</b>	<b>Continue Enforcement. Priority GREEN</b>	<b>Suspend Enforcement</b>

- number of accidents in most recent 3 year period

**Enforcement Speed Thresholds**

Safecam operates speed enforcement at thresholds set by the Chief Constable of Avon and Somerset Constabulary. The current thresholds in place are as follows:

<b>Speed Limit</b>	<b>Grace Period (no action)</b>	<b>Speed Choice</b>	<b>Conditional Offer of a Fixed Penalty</b>	<b>Court Summons</b>
30mph	*****	*****	*****	*****
40mph	*****	*****	*****	*****
50mph	*****	*****	*****	*****
60mph	*****	*****	*****	*****
70mph	*****	*****	*****	*****
<b>Temporary Motorway Enforcement at Road Works</b>				
40mph and 50mph only	*****			

Speed enforcement thresholds must not be released in to the public domain. This information is considered operationally sensitive and is exempt under the Freedom of Information Act Section 31: Law enforcement sections (a) and (b). (See page 7)

**Enforcement operating times:** Fixed speed and red light cameras are operational 24 hours a day (at times when they contain live film for GATSO sites). Sites which do not contain live film will, whenever possible, contain a dummy camera unit. The general public must not be made aware of which cameras contain live film and which cameras contain a dummy unit. The presence of fixed cameras continues to act as a deterrent at times when they do not contain live film.

Mobile speed enforcement is normally operated between the hours of 0700 and 2200.

**Change of speed limit at camera sites:** In the event of a speed limit change at an existing camera site, enforcement will be suspended and the site will be reconsidered for camera enforcement at the next annual re-

prioritisation review.

**Continue Enforcement:**

- Camera enforcement is only necessary if it is needed to reduce accident levels and speeds.
- For the great majority of sites (except community concern sites) the criteria set out in this Policy will have been met at the time the camera was first installed.
- At the most effective camera sites accidents and speeds will have reduced. At sites with low speeds and at sites with medium speeds and low accidents, it is appropriate to consider reducing and then suspending enforcement, and introducing alternative measures (see Suspend Enforcement below).
- For most other sites camera enforcement should be continued at an appropriate level as set out above in the Camera Enforcement Operational Policy.
- In addition where accidents and/or speeds remain high it is appropriate to consider implementing alternative and/or additional measures.
- Consideration needs to be given to all casualty types, not just serious.

**Consider Alternatives:** For sites where there appears to be a continuing casualty problem despite the deployment of cameras, a comprehensive safety review should be undertaken involving engineering, enforcement and ETP teams for joint investigation and action. All potential actions should be considered and objectively assessed; this is likely to include at least the following:

- higher level of enforcement, possibly including mobile and fixed cameras and police officer presence
- randomised enforcement by day and time of day
- cost-effective engineering measures such as carriageway improvements, traffic management/ calming
- wider road safety education, publicity or information measures
- a combination of some or all of the above.

**Suspend enforcement?**

This section relates only to sites with low speeds and sites with medium speeds and low accidents. Sites should be considered on a route by route basis starting with routes with the highest accident rates. Consideration needs to be given to all casualty types, not just serious. Thematic maps are being prepared to show:

- the location of existing camera sites
- the level of speed limit contravention
- accidents per kilometre
- speed limits
- speed and traffic count data

For GATSO and Mobile sites with a reduced accident rate, enforcement levels should be reduced (options 2 and 3 below) and the situation monitored carefully and regularly. If accidents increase again, then the level of enforcement should be increased. Enforcement Levels will not be reduced at sites equipped with Digital Equipment which operates 24/7.

If accidents stay low then ceasing enforcement should be considered, together with the introduction of alternative measures as considered appropriate.

The options available for fixed and mobile camera sites are:

1. Continue to use site – no change in enforcement level  
this is generally unlikely to be the preferred option for low speed sites or for medium speed/ low accident sites.
2. Continue to use site – reduce enforcement level  
likely to be the first step towards ceasing enforcement at a site as noted above.
3. Suspend enforcement (switch off fixed camera/ stop deploying mobile camera)  
monitor effects and recommence enforcement if considered appropriate; consider implementing alternative measures.
4. Fixed Sites - Remove camera housing  
final step only if permanently ceasing enforcement is decided upon; it may be appropriate to retain the housing as a dummy enforcement measure.
5. Relocate camera site locally (within polygon)  
if no alternative measures are suitable, and/or there is justification for a better site within the polygon.

**In all cases**

- the decision and rationale must be documented in case of future challenges/enquiries
- sites should be monitored carefully and regularly
- decisions should be reviewed if appropriate to minimise accidents.