

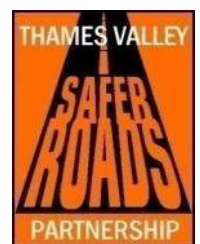


Camera Site Report

An analysis of the fixed and mobile camera sites in the Thames Valley region

Thames Valley Safer Roads Partnership

October 2009



Thames Valley Safer Roads Partnership: Camera Site Report

An analysis of the fixed and mobile camera sites in the Thames Valley region

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Introduction

Across the Thames Valley region, there are 382 active¹ camera sites containing 292 fixed camera housings, 211 mobile camera locations and 22 red light cameras (correct as of July 2009). The core fixed and red light cameras were mainly installed in the mid-1990s, prior to the establishment of the Safer Roads Partnership, and most mobile sites have been created from around 2003 onwards.

Prior to 2000, fixed and red light cameras were installed based on a number of criteria set up by the individual Highways Authorities in collaboration with Thames Valley Police. These included: evidence of speed problem, local residents concerned about speed, high casualties, proximity to vulnerable road users including children and the elderly.

From the introduction of the Partnerships in 2000, the Department for Transport provided a series of guidelines for camera installation, based specifically upon numbers of injury collisions and traffic speeds.

A number of newer “exceptional” mobile sites have also been created in recent years, often referred to as “community concern” sites. These sites receive relatively limited enforcement levels and were established at the request of local neighbourhood action groups, parish councils and members of the public in general. They do not need to pass the DfT guidelines, but should show evidence of speeding as a hazard.

This report investigates performance at all of the Thames Valley camera sites, by comparing injury collisions before the cameras were installed, and injury collisions after enforcement began. Of course, due to the different installation criteria required at different times, not all sites in Thames Valley have been based on the same installation requirements: some used observed hazards, and not necessarily high levels of injury collisions (in particular, fixed cameras prior to 1999 and recent community concern mobile sites). Therefore, while we will be using collision statistics to assess the cameras, most of the original pre-partnership sites were not intended to be judged against these criteria.

The report focuses on current active sites and not sites which have been decommissioned in previous years. No attempt has been made to account for increased traffic flows in these calculations or any physical changes to the road layout.

NOTE: This report contains the most accurate set of collision records available at the time of publication. These records have been updated in 2009 and therefore this report supersedes all previous collision reports produced by TVSRP or its partners.

¹ Active means the site is loaded or visited from time-to-time. On average around 10% of fixed housings are loaded with film at any time.

Analysis method

Camera site definitions for this analysis depend on the type of site. For fixed cameras, road lengths of typically 0.5km either side of the camera were used, giving a 1km length in total. If there is a major road junction or speed limit change within the 0.5km length, then the site will stop at this point and therefore will be less than 1km in length. Sometimes several cameras in close proximity will be amalgamated into one site and this may exceed 1km.

Mobile sites can be up to 5km in length and represent the length of road over which mobile enforcement locations are spread.

In each case, the site length has been mapped to ensure that the same site location is used in every calculation.

Collision statistics have been used in this report rather than casualty figures. Analysis was carried out at each camera site, and compared collisions occurring in the last 3 years (“recent” period, 2006-2008) with collisions in the 3 years prior to installation of the camera “before” period).

For the “before” period, 36 months were analysed up to the month prior to installation. For example, if a camera was installed on 15th August 1997, then the 3 year “before” period would be 1st August 1994 to 31st July 1997.

For the “recent” period, the last 36 months of STATS19 collision data was used, finalised by DfT, i.e. 1st January 2006 to 31st December 2008.

Overview of camera performance: Thames Valley

Table 1 shows the change in collision numbers where the severity was “killed or seriously injured” (KSI) and for all collisions, “personal injury collision” (PIC) for all fixed camera sites in Thames Valley. Only currently active sites have been included.

There are **212** active fixed camera sites across our region, and comparison of the three years before each camera and most recent three years shows an overall drop of **94** KSI collisions and **802** PIC collisions (i.e. 708 slight collisions + the 94 KSI collisions). This represents a reduction of around **38%** for injury collisions.

Collisions have increased at 34 sites, not changed at 18 and reduced at 160 sites.

*Note that the severity description for a “Serious” injury collision was added as a part of the reporting form in 1999. After this date, more injury types were then included as ‘serious’. Using the previous form, pre-1999 serious collisions were under-reported; **KSI figures for the before period would have been higher**, and the reported reduction significantly greater. This analysis uses the original data and does not attempt to adjust for the change in the reporting method.*

Figure 1 then charts each site across Thames Valley ranked by the collision change. The 34 sites where collisions have increased have typically changed by 1-5 collisions. The 160 sites with a reduced collision level have dropped by typically 1-15 collisions.

Figure 2 charts KSI changes at the 212 sites, and shows 43 increasing, and 92 decreasing.

Table 1 - Thames Valley collisions: Fixed camera sites: active status

No. of sites	Severity	Change (Recent-Before)	% Change	Sites showing an increase	Sites with no change	Sites showing a decrease
212	KSI	-94	-37.3%	43	77	92
212	PIC	-802	-38.6%	34	18	160

KSI: collisions including a casualty who was killed or seriously injured

PIC: collisions including a slightly injury

Fig 1 - PIC Collisions by camera site: ranked by collision change

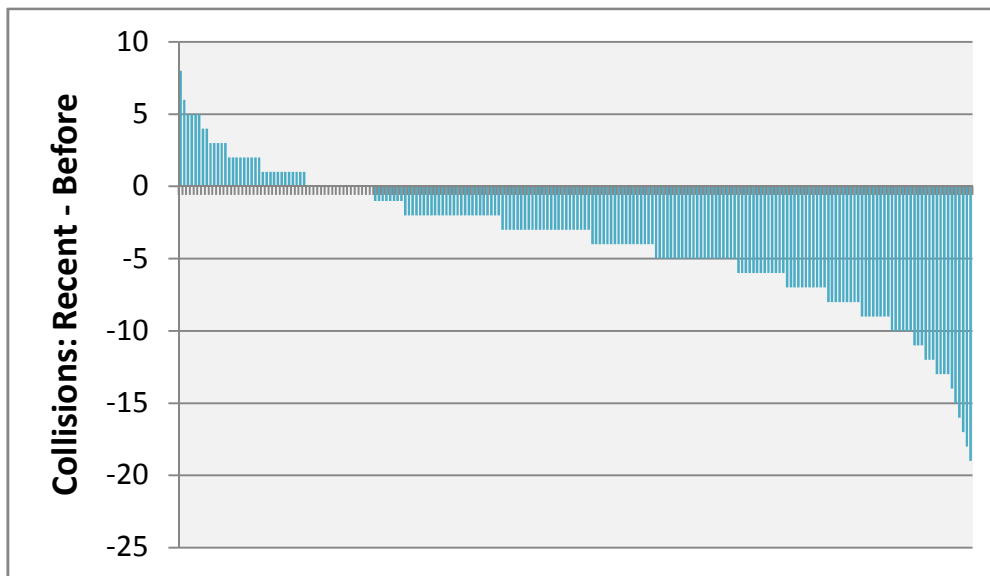
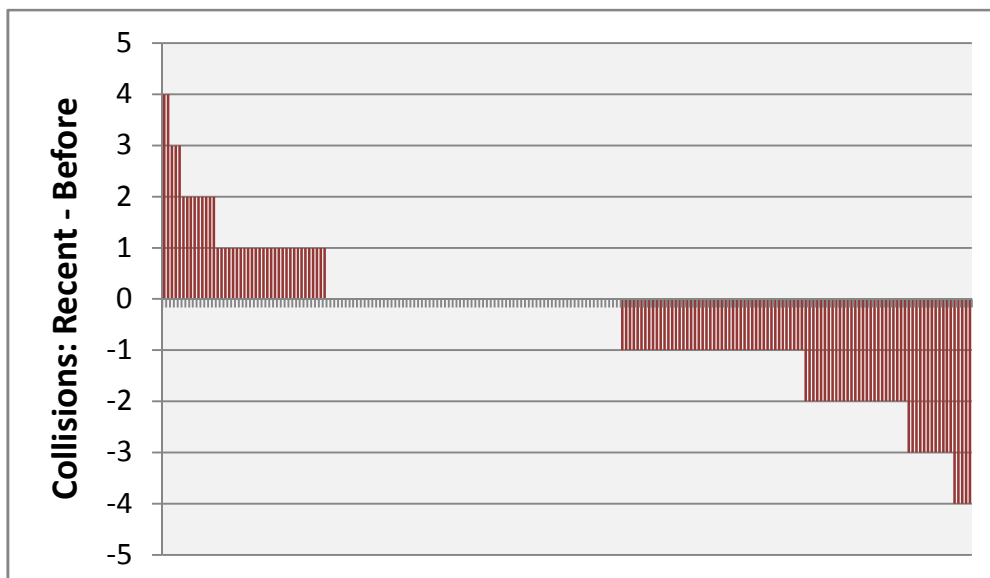


Fig 2 - KSI Collisions by camera site: ranked by collision change



Note: "Serious" severity description was changed in 1999. Using the current description, the KSI change (Recent-Before) is probably under-reported by 17%.

Mobile Cameras

Mobile camera sites were introduced from around 2002, with most core mobile sites installed in 2003. The analysis below includes only the core mobile sites that are currently active, and does not include community concern sites or roadworks sites where the installation criteria are different.

Table 2 shows a drop of **197** PIC collisions at the 41 sites, equivalent to a **30%** reduction overall. KSI collisions have reduced by **82**, or **61%** of the KSI collisions. The “before” period for the mobile sites began after 1999, and so KSI calculations are not affected by the severity description change.

Figures 3 and 4 chart the individual site changes ranked in order of collision change. Only 1 core mobile site has seen an increase in KSI collisions, and that change was +1.

Table 2 - Thames Valley collisions: Mobile camera sites: active status, core sites only

No. of sites	Severity	Change (Recent-Before)	% Change	Sites showing an increase	Sites with no change	Sites showing a decrease
41	KSI	-82	-61.2%	1	9	31
41	PIC	-197	-29.8%	4	4	33

KSI: collisions including a casualty who was killed or seriously injured

PIC: collisions including a slightly injury

Fig 3 - PIC Collisions by camera site: ranked by collision change

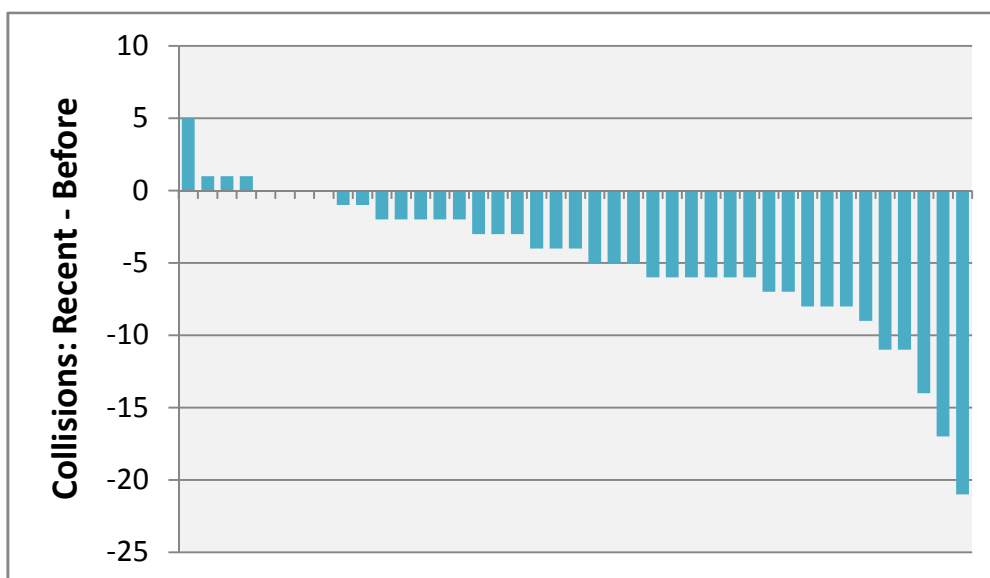
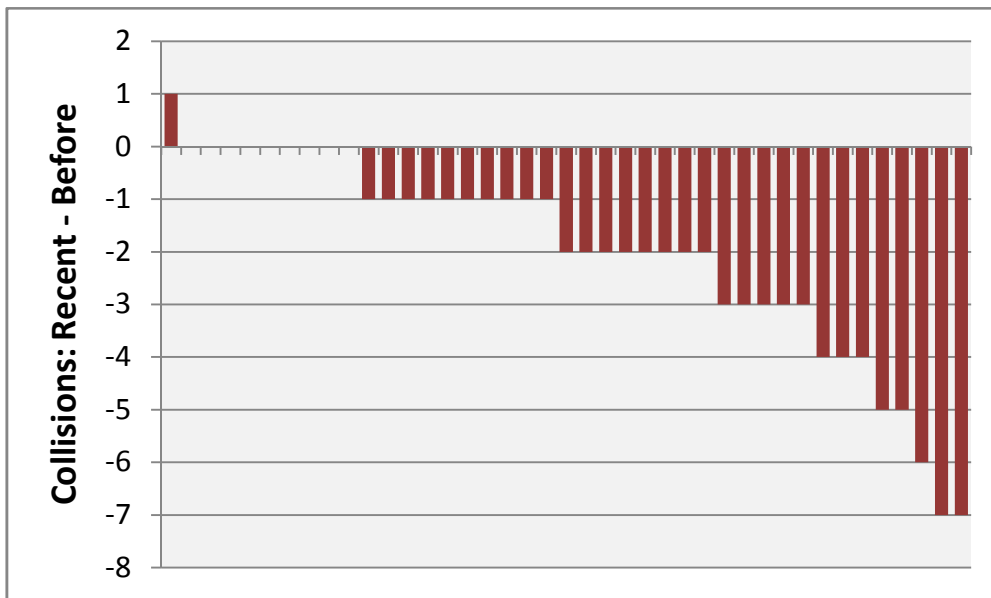


Fig 4 - KSI Collisions by camera site: ranked by collision change



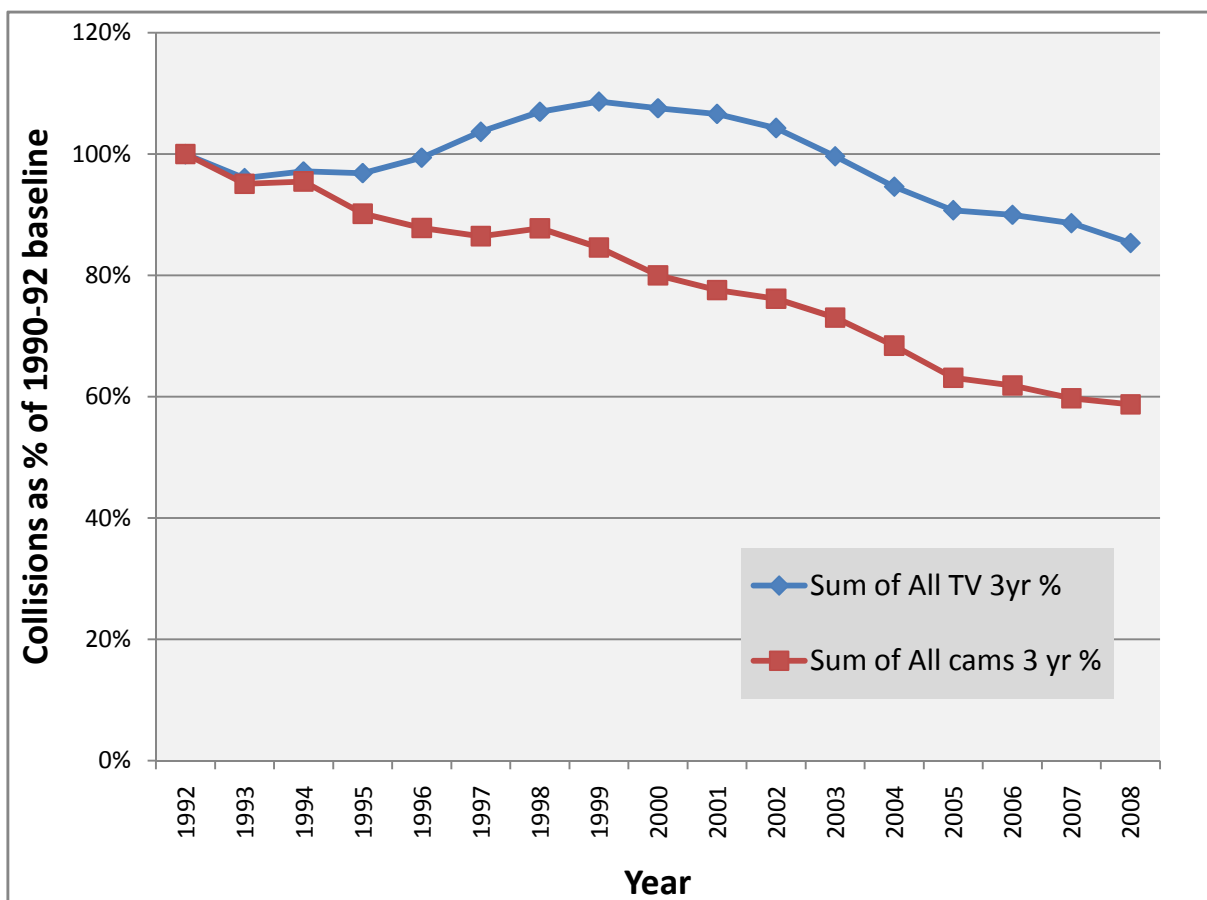
General analysis of fixed cameras compared with overall Thames Valley trends

As well as the reduction in collisions at camera sites, there has been a significant reduction in injury collisions and casualties across the Thames Valley region as a whole. To provide a direct comparison of the camera sites and the Thames Valley data, a percentage comparison was used.

The average of the 1990-1992 collision figures was used as the 100% baseline for the Thames Valley collisions. All other collision figures were then compared with this as percentages. A rolling three year average was used for each data point. Thus, 1992 represents the average of 1990-1992. Then 1993 is the average of 1991-93, continuing to 2008 which is the average of 2006-2008. Collisions in Thames Valley generally increased to the year 2000 and then showed a drop to around 85% of the 1990-92 baseline by 2008.

Fixed cameras installed in the period 1994 to 1998 were then compared. Again, the period 1990-1992 was used as the baseline, and rolling three year averages were used for each year's total. In percentage terms, the fixed camera trend **matches the Thames Valley trend for the initial 5 year period from 1990 to 1994**. The camera site figures then decrease each year reaching 60% of the baseline by 2008. The difference between all Thames Valley collisions and the fixed cameras sites is shown in Figure 5.

Figure 5:



Conclusions

These results are significant for several reasons:

They shows that prior to fixed cameras rolling out pre-1994, collision trends were the same throughout Thames Valley and at fixed camera sites (Figure 5). It has previously been alleged that the reason collisions reduce at camera sites is because they demonstrated unusually high collision rates in the period immediately before installation. This chart clearly demonstrates that trends were the same for at least a five year period.

Figure 5 also demonstrates that collisions rates continue to decrease long after the cameras were installed and that the difference in collision rates compared to the overall Thames Valley figures is maintained. If the drop in collision rates immediately after installation was a blip then you would expect rates to climb again in the long term.

It is true that collisions have not decreased at every single camera site following the introduction of automated enforcement. This may be because there were very few collisions before installation, there may have been changes in traffic flows (such as new industrial or housing developments) or perhaps speeds have remained unchanged as a result of enforcement. It could even be the case that there are other contributory factors that are causing crashes at that location and a speed camera will never have an impact upon those.

What is clear though is that at the vast majority of locations where cameras are installed, they contribute to reduced collision rates and play an important part in the road safety toolkit alongside engineering and education.