

Road safety factsheet: Speed cameras

In 2022, 770 people were killed, 19,697 were seriously injured, and 81,574 were slightly injured in reported road collisions on built up roads in Great Britain¹. Approximately two-thirds of collisions in which people are killed or injured happen on roads with a speed limit of 30mph or less.

Table 1: Casualties by severity, by speed limit of road, Great Britain, 2022

| Speed limit | Killed | Seriously injured | Slightly injured |
|---|--------|-------------------|------------------|
| 20mph or less | 68 | 3,192 | 15,193 |
| 30mph | 532 | 13,890 | 55,305 |
| All other roads (30mph+, including motorways) | 1,111 | 10,949 | 35,240 |

Speed significantly increases the chance of being injured in a collision. Research has shown that the risk of death for pedestrians struck by cars increases at higher impact speeds, although the exact risk levels varied between the studies.

In 2022, exceeding the speed limit and travelling too fast for the conditions contributed to 27 per cent of fatal collisions (392 collisions); 14 per cent of serious injury collisions (2,893) and 12 per cent of slight injury collisions (5,649).²

History of speed cameras in the UK

The first speed cameras in Great Britain were installed in West London in 1992³. It was known as the 'Gatso' camera, named after the company, that manufactured them. It used radar technology to measure a vehicle's speed and would capture photos of vehicles that exceeded the speed limit.

A 1996 study⁴ found that speed cameras reduced casualties by about 28 per cent and in the first three years of operation, at the camera sites they:

- Reduced the number of people killed by 70 per cent
- Reduced the number of people seriously injured by 27 per cent
- Reduced the number of people slightly injured by eight per cent.

¹ Department for Transport (2023) Table RAS0301: Casualties by speed limit, built-up and non-built-up roads <https://www.gov.uk/government/statistical-data-sets/reported-road-accidents-vehicles-and-casualties-tables-for-great-britain#geographical-breakdowns-ras04>: Accessed 02/10/2023

² Department for Transport (2023) Table RAS0704: Factors contributing to collisions and casualties, Speed related factors, <https://www.gov.uk/government/statistical-data-sets/reported-road-accidents-vehicles-and-casualties-tables-for-great-britain#factors-contributing-to-collisions-and-casualties-ras07>: Accessed 02/10/2023

³ Highways Agency (1997) West London Speed Camera Demonstration Project

⁴ Police Research Group (1995) Cost Benefit Analysis of Traffic Light and Speed Cameras

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Today, there are many types of speed cameras in use, including those that are mobile or fixed. RoSPA believes that they have become an important and cost-effective method for reducing the average speeds of traffic, reducing collisions and reducing road casualties. This evidence-based position is supported by a meta-analysis of sites from the College of Policing⁵ that found speed camera sites were associated with a reduction in:

- average speed (seven per cent)
- proportion of vehicles exceeding the speed limit (52 per cent)
- collisions (19 per cent)
- collisions resulting in injury (18 per cent) and;
- severe or fatal collisions (21 per cent).

Do speed camera reduce the incidence of collisions and speed?

An independent review⁶ of more than 4,000 safety cameras over a four-year period showed conclusively that cameras significantly reduce speeding and collisions and cut deaths and serious injuries at camera sites.

The review found that cameras can cut speeds and reduce collisions:

- The number of **vehicles exceeding the speed limit at fixed camera sites fell by 70 per cent**. The reduction at mobile camera sites was 18 per cent
- **Excessive speeding (15mph or more above the limit) fell by 91 per cent at fixed sites and by 36 per cent and at mobile sites**
- Average vehicle speed across all new sites fell by six per cent overall
- The number of **people killed and seriously injured fell by 50 per cent at fixed sites and by 35 per cent at mobile sites**
- There was a **32 per cent reduction in the number of children killed and seriously injured** at camera sites
- The number of **pedestrians killed or seriously injured fell by 29 per cent** at camera sites
- There was a **22 per cent reduction in collisions involving (fatal, serious or slight) personal injury** at camera sites. This equated to 4,230 fewer personal injury collisions per year.

Research on average speed cameras has demonstrated significant positive effects on road safety. The RAC foundation commissioned a study to assess their effectiveness in Great Britain⁷. The study found that the implementation of average speed cameras substantially decreased injury collisions, especially those of higher severity, with results showing substantial and statistically significant reductions.

⁵ College of Policing (2017) Speed Cameras, <https://www.college.police.uk/research/crime-reduction-toolkit/speed-cameras>: Accessed September 2023

⁶ UCL (2005), Report for the Department for Transport, The National Safety Camera Programme: Four-year Evaluation Report

⁷ RAC Foundation (2016) The Effectiveness of Average Speed Cameras in Great Britain, https://www.racfoundation.org/wp-content/uploads/2017/11/Average_speed_camera_effectiveness_Owen_Ursachi_Allsop_September_2016.pdf: Accessed September 2023

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More recently, Lancashire road safety partnership conducted an evaluation of the impact of permanent average speed cameras had in Lancashire⁸. The evaluation found that overall, collisions and casualties reduced; both in numbers and in severity. Additionally, it noted increased societal acceptance of average speed cameras compared to traditional speed enforcement methods like spot-speed cameras and mobile speed enforcement. The report also highlighted environmental benefits, as average speed cameras contributed to the reduction of noxious vehicle emissions, likely due to reduced vehicle speeds and improved traffic flow.

Furthermore, the study found that average speed cameras positively influenced driver behaviour beyond their immediate routes, leading to reduced speed and collisions in 'buffer' zones spanning approximately 200-400 metres away. However, this effect diminished as the distance increased. Similar 'buffer' zone effects have been observed in other studies⁹. With a notable reduction in personal injury collisions within a radius of 200-300 metres from both single and multiple speed camera sites, with more significant reductions observed for sites equipped with multiple cameras.

What are the different types of speed cameras?

- **Fixed cameras**
These are stationary cameras permanently installed at specific locations. They measure a vehicle's speed as it passes and capture photographs of any vehicle exceeding the speed limit. They can be forward facing (Truvelo) or rear facing (Gatso).
- **Mobile cameras**
Mobile speed cameras are run by local police forces and are often operated from vehicles or temporary roadside units. These are manually operated radar or laser guns. They can be deployed at various locations and moved as required to target locations with reported speeding issues. The typical range for mobile speed camera is approximately one kilometre.
- **Average speed cameras**
These cameras calculate a vehicle's average speed over a specified distance rather than at a single point. They are commonly used in roadwork zones and on motorways. They work by using automatic number plate reading technology to record the time it takes a motorist to travel between two cameras.
- **Variable speed cameras**
Variable speed cameras are often found on smart motorways or motorway sections that experience high levels of congestion. They are usually not in operation at all times, and may be turned on, for example, when the speed limit is lowered on a section of road. They work in a similar way to average speed cameras, measuring how long it takes a vehicle to travel between two cameras.
- **Bi-directional cameras**
These are cameras that can capture speeding vehicles on either side of the road and can record and track the speeds of vehicles simultaneously. They record the speed of vehicles using radar or laser technology and identify vehicles using automatic number plate recognition.

⁸ Lancashire Road Safety Partnership (2021) The Rollout and Impacts of Permanent Average Speed Cameras in Lancashire, Version 2.2, <https://lancroadsafety.co.uk/wp-content/uploads/2022/03/22112929/Average-Speed-Cameras-Impact-Evaluation-Spring-2021-v.2.2.pdf>: Accessed September 2023

⁹ Haojie Li, Manman Zhu, Daniel J. Graham, Yingheng Zhang (2020) Are multiple speed cameras more effective than a single one? Causal analysis of the safety impacts of multiple speed cameras, Accident Analysis & Prevention, Volume 139, <https://www.sciencedirect.com/science/article/abs/pii/S0001457519316057>: Accessed September 2023

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- **Acusensus heads up traffic camera**

This traffic camera is able to detect and capture a range of driving offences. It can detect illegal mobile-device use, seatbelt non-compliance and speeding and identifies vehicles through automatic number plate recognition. The cameras use artificial intelligence (AI) to detect potential offences, and these are then reviewed by a human. These cameras are free standing and can be moved easily. This camera was first deployed in the UK by Devon and Cornwall police in 2023 and in the first 3 days of operation it detected 117 mobile phone offences and 180 seat belt offences¹⁰.

Do speed cameras need to be visible?

In the UK, speed cameras, fixed or mobile, are not required to be visible, marked or signed. However, there are regulations and guidelines in place to ensure that speed cameras are visible enough to serve their primary purpose, which is to deter speeding and improve road safety, but these are polices rather than law. Here are some key points from policies:

- From 2016, the Department for Transport announced that working speed cameras must be yellow
- A motorist should be able to see a speed camera from 60 metres away in a 40mph zone or 100 metres away in all other zones
- Signs should be placed in areas where there is a visible camera – but this isn't mandatory.

Mobile speed cameras can be less visible due to their mobility. However, they are still required to adhere to regulations regarding proper signage and positioning to ensure motorists are aware of their presence.

It's important for motorists to be aware that the absence of a highly visible camera does not mean that speed enforcement is not in place. Motorists must always adhere to posted speed limits and drive at safe speeds for the conditions of the road.

How are locations chosen for speed cameras?

The decision to install speed cameras at a specific location is typically based on set criteria, with the primary goal being to enhance road safety. The criteria are set by the Department for Transport, it is the Highway Authority that follows these guidelines, and they decide whether to install a speed camera.

The Department for Transport establishes the criteria, and local authorities follow these guidelines, considering factors like average speed and collision incidents. Subsequently, the Highway Authority determines whether to deploy a speed camera.

¹⁰ Vision Zero South West (undated) UK's first free-standing AI road safety camera

<https://visionzerosouthwest.co.uk/uks-first-free-standing-ai-road-safety-camera-catches-almost-300-offences-in-three-days/>: Accessed November 2023

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What happens if I get caught speeding?

The minimum penalty for speeding is £100 fine and three penalty points added to your licence. For more detailed information, visit the [Government website](#).

For less serious speeding offences, the police have 14 days to issue a Notice of Intended Prosecution to the registered keeper of the vehicle. The police will then give 28 days to nominate the motorist and pay the penalty, or attend a speed awareness course, if appropriate. If the motorist does not respond within the 28 days, the matter can be referred to court.

If a motorist receives more than 12 points within a three-year period, they can be disqualified from driving. If the motorist has passed their driving within the last two years, their licence will be revoked if they receive six penalty points.

If a motorist chooses to dispute a speeding fine or have committed a more serious speeding offence, they could be summoned to court. If they are found guilty of the offence, the fine is then calculated as a percentage of their weekly income. If the motorist has been caught driving at a speed significantly over the speed limit, then they could have an instant driving ban imposed on them.

What happens to funds generated by speeding fines ?

Revenue from court fines and fixed penalties normally goes to the Consolidated Fund of the Exchequer. However, in April 2000, a pilot trial of a new system to enable fines from speed and red-light cameras to pay for the costs of camera enforcement (known as 'Netting Off') began in eight areas: Cleveland, Essex, Lincolnshire, Nottingham, Northamptonshire, South Wales, Strathclyde and Thames Valley. In effect, this meant that the cost of providing and operating the cameras was paid for by drivers who exceeded the speed limit, rather than by all taxpayers. The results were so positive after one year, that the government decided to extend the scheme and introduced the necessary legislation in Section 38 of the Vehicles (Crime) Act 2001.

In April 2007, the Department for Transport changed the funding arrangements⁵⁰ so that the fines from cameras stayed with the Treasury (as they do with all fines) and created a separate road safety fund for local road safety partnerships that could be used for a wider range of road safety activities, as well as paying the cost of providing and operating the cameras. This was intended to give local authorities, the police and other local partners greater freedom and flexibility to use a locally agreed mix of road safety measures and to give greater local accountability for the deployment and operation of cameras.

Following the General Election in 2010, the Coalition Government announced it would no longer provide funding for new speed cameras and will require local authorities and the police to publish data about speed cameras, including collision and casualty figures, speed levels and numbers of offenders given fixed penalties, prosecuted or offered remedial training.