



**To:** CDC and Road Safety

**From:** Adrian Davis

**Date:** 06/02/13

**Subject:** Essential Evidence on a page: No 97 Effectiveness of speed cameras in preventing road traffic collisions & casualties

---

Top line: Deployment of speed cameras leads to appreciable reductions in speed in the vicinity of the cameras and substantial reductions in collisions and casualties.

Road traffic collisions are an important cause of death and disability worldwide. Every year around the world 1.2 million people are killed and up to 50 million are injured or disabled as a result of road traffic collisions. Illness and injury from road traffic collisions is expected to increase in future years, and it is estimated that road traffic collisions will move from ninth to third place in the global burden of disease ranking.

Measures to reduce traffic speed are considered essential to reducing casualties on the road. Speed cameras are increasingly used to help to reduce traffic speeds in the belief that this will reduce road traffic collisions and casualties, and an expansion in the use of speed cameras is under way in many countries, most notably the United Kingdom. The use of speed cameras is controversial, however. Vociferous opponents, including some motoring associated organisations, oppose their use, and cameras are often criticized in the media. The lack of readily available evidence of the effectiveness of cameras has made it difficult for road safety and health professionals to engage in an informed debate about the effectiveness of speed cameras.

An early small non-systematic review of six studies found a 17% reduction in collisions after introduction of speed cameras.<sup>1</sup> Non-systematic reviews can, however, be limited by bias.<sup>2</sup> Consequently researchers in a later study sought to systematically assess the evidence for the effectiveness of speed cameras in reducing road traffic collisions and related casualties.<sup>3</sup> Controlled trials and observational studies assessing the impact of fixed or mobile speed cameras on any or all of three outcomes (collisions, injuries, and deaths) were eligible for inclusion. The researchers considered all published and unpublished material, with no restrictions on date or language.

All the studies were observational studies; no randomised controlled trials were found. The studies were published between 1992 and 2003. All studies were in high income countries. Six studies assessed the effect of fixed cameras, four studied the effect of mobile cameras, and four studied the effect of a combination of fixed and mobile cameras. All studies reported a reduction in road traffic collisions and casualties. The reduction in adverse outcomes in the immediate vicinity of camera sites varied considerably across studies, with ranges of 5-69% for collisions, 12-65% for injuries, and 17-71% for deaths at camera sites. However, the level of evidence found was relatively poor, and the researchers stated that better data needed to be collected in order to improve the evidence base. A more recent review has, however, concluded that the operation of cameras at over 4,000 sites of all types resulted in around 1,000 fewer people being killed or seriously injured in the vicinity of cameras in the year ending March 2004.<sup>4</sup>

---

<sup>1</sup> Elvik, R. 1997 Effects of accidents of automatic speed enforcement in Norway. *Transportation Research Record*;1597: 1-19.

<sup>2</sup> See <http://www.travelwest.info/evidence> for discussion about the evidence hierarchy

<sup>3</sup> Pilkington, P., Kinra, S. 2005 Effectiveness of speed cameras in preventing road traffic collisions and related casualties: systematic review. *British Medical Journal*, <http://bmj.com/cgi/doi/10.1136/bmj.38324.646574.AE>

<sup>4</sup> RAC Foundation 2012 *The effectiveness of speed cameras. A review*, London: RAC Foundation.