

# Speed cameras do reduce accidents, say researchers

September 12 2008

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(PhysOrg.com) -- Scientists at the University of Liverpool have developed an accident prediction model which proves that speed cameras are effective in reducing the number of road traffic accidents by 20 per cent.

They claim that other assessment methods have exaggerated their effectiveness by failing to account for the phenomenon ‘regression-to-the-mean’ whereby extreme values on one observation will, for purely statistical reasons, probably give less extreme measurements on other occasions when they are observed.

Taking into account ‘regression-to-the-mean’ when evaluating the success of a speed camera allows for the fact that the camera could genuinely be responsible for a reduction in accidents or that a run of bad luck on that road has just come to an end.

Dr Linda Mountain, from the University’s Department of Engineering, explains: “Although some parts of the road network are undoubtedly more dangerous than others, there is also a degree of randomness in where accidents occur – driver error, bad luck etc. – which means that an accident can happen anywhere. The obvious way to work out the true effects of cameras through a control group has been avoided because it involves deliberately leaving sites that would benefit from a camera with no equipment (or any other type of road safety scheme) which could cost lives.

“We used an alternative method for our analysis called Empirical Bayes. This takes into account uncertainty and predicts the mean number of accidents given what is known about the site – for example the type of road and the level of traffic on it. Our study looking at road accidents before and after the cameras were installed showed a fall in accidents of 19% allowing for regression-to-the-mean compared with a fall of 50% if the phenomenon had not been allowed for.”

She added: “Accident prediction models are essential to reliably evaluate the effectiveness of road safety measures and alternative design options.”

Provided by University of Liverpool

Citation: Speed cameras do reduce accidents, say researchers (2008, September 12) retrieved 25 April 2024 from <https://phys.org/news/2008-09-cameras-accidents.html>

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