



The effect of sanctions and police enforcement on drivers' choice of speed

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ARTICLE INFO

Article history:

Received 15 August 2007

Received in revised form 19 August 2011

Accepted 21 August 2011

Keywords:

Speed choice

Police enforcement

Sanctions

Stated preference survey

ABSTRACT

A Stated Preference survey of speed choice on Norwegian rural roads with 80 km/h speed limit was made by the roadside in order to determine which factors most strongly influence this choice. The aim was to study deliberate speeding to identify any correlations between speed choice and (1) the drivers' perception of the level of police enforcement, (2) penalties for speeding and (3) the speed choice of the other drivers on the road. Drivers were asked about their perception of these variables before being presented to nine hypothetical situations for which they were asked about the most likely speed to choose. Speed measurements were conducted before the interview, but without informing respondents of it. A total of 408 interviews were made. Drivers made bad guesses when estimating the level of enforcement, but had more realistic views of the sanctions given for speeding, as well as the general speed levels. The largest speed reducing effects on individual speed choice were found by either making most other drivers on the road reduce their speed, or by substantially increasing enforcement. Stricter sanctions seem to affect the speed choice only marginally.

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1. Introduction

In many countries speeding is a common traffic offence, but while the Nordic countries have strongly negative attitudes towards drunk-driving, speeding is not regarded as a severe offence by the average driver (Åberg, 1998). Drivers usually consider speeding acceptable (Elvik, 2010; Forward, 2006), and therefore speeding can be regarded as reasoned behaviour (Forward, 2010).

Goldenbeld and van Schagen (2007) found that on Dutch rural roads with a speed limit of 80 km/h automobile drivers, on average, wanted to drive 8 km/h faster than the posted speed limit. Moreover, they also preferred to drive 4–5 km/h faster than speeds they themselves regarded as safe. In another study, an estimation of the relationship between speeding and safety suggests that car drivers perceive safe speeds to be the speed at which sanctions are enforced (Mannering, 2009).

Since attitudes influence road user behaviour, and strong negative attitudes towards speeding are not common, preventing drivers from speeding is a formidable challenge. A combination of police enforcement and sanctions is the traditional way of combating the problem of speeding. Police enforcement has proven effective in reducing both mean speeds and the variance in speed (Holland and Conner, 1996; Summala et al., 1980; Vaa, 1997; de Waard and Rooijers, 1994; Walter et al., 2011). The level of enforcement and the visibility of the police are the key factors in drivers' adherence to speed limits. The significance of police visibility has

been demonstrated in a study by Tay (2009), in which automated speed cameras were compared to manned enforcement. While, it was found that even though both surveillance methods reduced the overall number of accidents, manned enforcement also produced a significant reduction in the number of serious accidents.

An interesting question is whether or not announcing police enforcement would improve these effects. Announcing police enforcement by signage was found to be effective in reducing speeds in an experiment conducted in England (Holland and Conner, 1996). In the Netherlands, Goldenbeld and van Schagen (2005) evaluated a five year targeted speed-enforcement programme that included the weekly reporting of results in regional newspapers. The finding showed a significant decrease in mean speed and the percentage of speeders over time. This combination of an increased enforcement level and a publicity campaign with both signage and newspaper articles also proved successful in London (Walter et al., 2011). However, Jørgensen and Pedersen (2005) suggest an opposite effect. Since they found that drivers dramatically overestimated the detection rate, more accurate information about enforcement levels could lead to more reckless driving.

Studies of sanctions have not found similarly apparent effects on speeding. A Norwegian study (Elvik and Christensen, 2007) compared the percentage of vehicles speeding at 34 traffic counting stations to fixed penalties for speeding and found that increased penalties did not decrease the problem of speeding. A literature review on the topic (Cedersund and Forward, 2007) noted that it was difficult in many studies to isolate the effects of sanctions from the effects of enforcement. While, few studies have been conducted pertaining to this issue, most of those conducted did not find that the size of the fines had any effect on speeding behaviour. Fleiter

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