

NEWS RELEASE

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Note to Journalists: An electronic copy of the research paper is available from Emil Venere, (765) 494-4709, venere@purdue.edu

Study finds many motorists don't see need to heed speed limits

WEST LAFAYETTE, Ind. - Research suggests U.S. motorists are growing increasingly cynical about the relevance of speed limits, and a new study indicates many motorists are more likely to think they can drive safely while speeding as long as they won't get caught.

"So the faster you think you can go before getting a ticket, the more likely you are to think safety's not compromised at higher speeds," said Fred Mannering, a professor of civil engineering at Purdue University.

Mannering used a series of mathematical equations in "multinomial logit models" to calculate probabilities based on data from a survey of 988 motorists in Tippecanoe County, Ind., where Purdue is located.

Findings generally agree with other data taken in recent years.

"For whatever reason, respect for speed limits seems to have deteriorated," Mannering said. "A 2002 survey indicated two-thirds of all drivers reported they exceeded the posted speed limit, and roughly one-third reported driving 10 mph faster than most other vehicles. These figures are even more disturbing when you consider that they're self-reported and likely to be understating the degree of speeding problems."

The Indiana survey participants were asked: "At what point do you feel speeding becomes a threat to the personal safety of you and your family?" The motorists were given three choices: 5 mph, 10 mph or 20 mph over the speed limit.

The survey was taken before and after a 2004 media campaign launched in the county stressing the dangers of speeding that included radio and newspaper messages.

Using survey data, Mannering applied a series of mathematical equations in a model to estimate the probabilities of speed and safety viewpoints for drivers in various categories.

Findings are detailed in a research paper appearing in the journal *Transportation Research Part F: Traffic Psychology and Behavior*, available both online and in an upcoming print edition of the journal.

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"The intent of the study was to statistically assess drivers' perception of the relationship between speed limits and safety," Mannering said. "In recent decades it has become more common for speed limits to be set for political reasons rather than for safety reasons. Consequently, the motoring public seems to have increasingly begun questioning the rationality of speed limits. This is evident in observed speed data that show the majority of drivers routinely exceed posted speed limits."

Of the 988 drivers in the survey, 21 percent thought it was safe to drive up to 5 mph over the speed limit, 43 percent thought it was safe to drive up to 10 mph over and 36 percent thought it was safe to drive up to 20 mph over the speed limit.

"The new findings show that the speed enforcement is critical to motorists' safety perceptions," Mannering said. "Let's say you think enforcement is getting lax and the speed at which you think you will get a ticket goes up from 7 mph over the speed limit to 10 mph over the speed limit. If that happens, our statistical results indicate that you would be 27 percent more likely to think you can safely drive up to 20 mph over the speed limit."

The research showed the media campaign relating to the dangers of speeding had no statistically significant impact on drivers' views on speeding and safety.

Other findings showed that women who have never been stopped for speeding are 68 percent more likely to think that it's only safe to drive 5 mph over the speed limit compared to all men and other women who have been stopped for speeding. Both men and women drivers who have been stopped for speeding in the last year are about 25 percent more likely to believe that it is safe to drive up to 20 mph over the speed limit than those who have not.

"This is probably because people who habitually speed are not significantly deterred by being stopped for speeding," Mannering said. "They might become slightly more conservative, but it doesn't slow them down to the level of people who are inherently more conservative."

The findings also showed that people get progressively more conservative about speeding as they age. A 25 year-old driver is 75 percent more likely to think it is safe to drive up to 20 mph over the speed limit than a 50 year-old driver.

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Related Web sites:

Fred Mannering: https://engineering.purdue.edu/CE/People/view_person?group_id=1920&resource_id=2089

Fred Mannering's Transportation Research Part F: Traffic Psychology and Behavior article:

http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6VN8-4TMHKYT-

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Transportation Research Part F: Traffic Psychology and Behaviour:
<http://www.sciencedirect.com/science/journal/13698478>

ABSTRACT

An Empirical Analysis of Driver Perceptions of the Relationship between Speed Limits and Safety

Fred Mannering, Professor of Civil Engineering and Economics (by courtesy)

Purdue University

In recent decades it has become more common for speed limits to be set for political reasons rather than for safety reasons. As a consequence, the motoring public seems to have increasingly begun questioning the rationality of speed limits. This is evident in observed speed data that show that the majority of drivers routinely exceed posted speed limits. A key motivating factor in drivers' tendency to exceed the speed limit is that they believe that the excess speed does not threaten safety. This paper specifically studies this matter by using a survey that asked drivers how fast above the speed limit they feel they can drive before safety is threatened. A probabilistic model is estimated using data gathered from 988 drivers in Indiana. Estimation findings show that drivers' perception of the speed above the speed limit at which they will receive a speeding ticket is a critical determinant of what they believe is a safe speed - suggesting that enforcement plays an important role in safety perceptions. Other variables found to be significant factors in determining the speed above the speed limit at which safety is first threatened include age, gender, being previously stopped for speeding, age at which drivers were first licensed, and drivers' ethnicity.