



# OLR RESEARCH REPORT

January 18, 2013

2013-R-0074

## **SPEED LIMIT INCREASES AND ACCIDENT RATES**

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You asked if raising speed limits results in an increase in the number or rate of motor vehicle accidents. Much of the information in this report is from a 2006 National Cooperative Highway Research Program (NCHRP) report. NCHRP researches problems affecting highways.

### **SUMMARY**

Numerous studies of the relationship between increased speed limits and accident rates have been conducted since 1987, when states were allowed to increase maximum speed limits from 55 miles per hour (mph) to 65 mph. According to the NCHRP, the studies did not identify a clear relationship.

Consequently, NCHRP conducted its own study to help guide state highway officials and policy makers in setting speed limits. It examined these earlier studies, surveyed state transportation and police departments, and collected and analyzed relevant data.

The NCHRP study found that higher speed limits were associated with an increased likelihood of deaths and incapacitating injuries. It found that increasing a speed limit from 55 to 65 mph on an "average" section of high speed road resulted in about a 3% increase in the total number of crashes and a 24% increase in the likelihood that a vehicle occupant would be fatally injured. This increased crash rate would yield a 28% increase in the number of fatalities following the speed limit increase.

The study also found a similar, but lesser, impact when speed limits were raised from 65 to 75 mph. In those cases, the total number of crashes increased by 0.64%, increasing the probability of a fatality by 12%, with an overall increase of 13% in total fatalities. Although the analysis did not explain why a smaller increase occurred at the higher speeds, the study suggested that people may drive more cautiously when driving faster, or that roads deemed appropriate for a 75 mph limit are safer.

A subsequent study published in the American Journal of Public Health found about a 3.2% increase in road fatalities attributable to the raised speed limit on all roads in the U.S. The highest increases were on rural and urban interstates. The researchers attributed 12,545 deaths and 36,583 injuries in fatal crashes over a 10-year period to increased speed limits nationwide.

## **CHANGES IN NATIONAL SPEED LIMIT LAWS**

In 1974, a National Maximum Speed Limit (NMSL), designed chiefly to conserve fuel, took effect, establishing a national maximum speed limit of 55 mph.

Congress relaxed the law in 1987, allowing states to set speed limits of up to 65 mph on interstate roads in areas with fewer than 50,000 people ("rural interstates").

In 1995, Congress repealed the NMSL, allowing states to set their own speed limits (or none at all) on their roads. Most states have since increased the speed limits on some or all of their roads

## **STUDIES OF THE IMPACT OF INCREASED SPEED LIMITS ON ACCIDENT RATES**

### ***Study Conclusions***

In the years following both changes in the law, researchers conducted numerous studies on the relationship between higher speed limits and accident rates. The studies' results varied, depending, in part, on the analytical methods used and limits on the type of data available. (Most of the studies looked only at accidents in which a fatality occurred, since only these must be reported to the federal Fatality Analysis Reporting System.)

For example, according to a 2005 presentation by the Insurance Institute for Highway Safety (IIHS), five studies conducted on the effects of the 1987 law allowing states to raise speed limits to 65 mph on rural interstates variously found:

1. a 15% increase in fatalities on rural interstates,
2. a 22% increase in fatal crashes on rural interstates,
3. a 19% increase in fatalities on rural interstates relative to other roads,
4. no increase in fatality rates on rural interstates (and a 12% decrease in fatality rates on rural interstates where the 55 mph limit was retained), and
5. in states that raised speed limits to 65 mph, a 3% to 5% decrease in statewide fatality rates.

Similarly, three studies of the effects of the full repeal of NMSL in 1995 variously found a:

1. 15% increase in fatalities and 17% increase in fatality rates on interstates with increased speed limits;
2. 35% increase in fatalities in states with 70 mph speed limits and 38% increase in fatalities in states with 75 mph speed limits; and
3. 6% increase in fatalities and 15% increase in injuries on interstates, and 2% decrease in fatalities and 3% increase in injuries on non-interstates.

A fourth study found that raising speed limits insignificantly increased fatalities and significantly reduced injuries. We have attached the IIHS presentation.

### ***NCHRP Study***

A 2006 NCHRP study ([http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp\\_rrd\\_303.pdf](http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rrd_303.pdf) and [http://www.ce.utexas.edu/prof/kockelman/public\\_html/NCHRPSpeedLimits17-23.pdf](http://www.ce.utexas.edu/prof/kockelman/public_html/NCHRPSpeedLimits17-23.pdf)) took note of the disparity in findings. Based on the studies, it said, "it is clear that the more dire predictions made about the likely safety effects of the NMSL relaxation and repeal have not come to pass. Although some researchers have found significant changes in the

crash experience of roadways that underwent speed limit changes, others have not, and it is fair to say that a broad consensus as to the effects of the speed limit changes still has not emerged."

NCHRP's own study found that increasing a speed limit from 55 to 65 mph resulted in a 3.3% increase in the total number of crashes and a 28% increase in the predicted number of fatalities.

The study found a lesser impact when speed limits were raised from 65 to 75 mph. In those cases, the total number of crashes increased by 0.64%, and the number of predicted fatalities increased by 13%, or about half the fatality increase predicted when the speed limit rose from 55 to 65 mph.

### ***American Journal of Public Health Study***

A subsequent study, published in the September 2009 American Journal of Public Health (<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2724439/>), analyzed the number of fatalities and injuries in crashes from 1995 to 2005 on rural interstates, urban interstates, and non-interstates nationwide.

Researchers found about a 3.2% increase in road fatalities attributable to the increased speed limit on all road types. The highest increases were on rural interstates (9.1%) and urban interstates (about 4%). Injuries incurred in fatal crashes rose about 3.9% on all roads combined and by about 11.9% on rural interstates. The researchers estimated that, over the 10 year period, 12,545 deaths and 36,583 injuries in fatal crashes were attributable to the increased speed limits.

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