

Characteristics of Traffic Flow in 55 and 65 mph Speed

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In 1974, a national maximum speed limit (NMSL) of 55 mph was introduced to reduce the consumption of fuel. NMSL was followed by a dramatic reduction in the number of fatal crashes and Congress decided to continue with the 55 mph speed limit. In 1987, states were allowed to increase the speed limit to 65 mph on certain rural interstates. New Jersey did not change the 55 speed limit at that time since “very little mileage qualified as rural interstate.” In May 1998, New Jersey designated 475.49 miles of roadway for a 65 mph speed limit for an 18-month study period. The suspension of NMSL has rekindled the debate over the effect of increased speed limits on frequency and severity of accidents.

This research assessed the effect of the increased speed limit on safety and travel speeds, and examined other unanticipated impacts including the shifts in lane distribution, traffic diversions, and spillover effects - such as, increase in average speeds and crashes in highway sections that did not increase their speed limits.



Highlights of the research findings:

- In general, an increase in the speed limit does lead to an increase in average speeds, although the magnitude of this increase is less than the increase in the speed limit.
- Speed is directly related to the severity of crash injury. Probability of severe injury increases sharply with the increase in the impact speed of a vehicle. The relationship between speed and frequency of multi-vehicle crashes is more complicated.
- The impact of the increase in speed limit on speed dispersion is not consistent across studies.
- There seems to be a relationship between speed dispersion and safety. The safety effect of speed dispersion appears to be most important for the fastest rather than the slowest drivers.
- Very little is known about the effect of speed limit on spillover or diversion of traffic to high-speed roads.

Prof. Srinivasan is currently Principal Investigator for “Expert system for recommending speed limits in speed zones,” (NCHRP project 3-67), which builds on lessons learned in this project.

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