

advisory advisory advisory

MORE TICKETS FOR SPEEDING INDICATE HIGHER RISK OF CRASHING IN THE FUTURE

A driver's risk of a crash increases in direct proportion to the number of times the driver has been cited for speed violations in the past. This has been found in Canada and Australia as well as the United States.

U.S. Drivers

California drivers with no speed citations on their records during a three-year period had an average of 135 police-reported crashes per 1,000 drivers during the subsequent three years (see table). Among drivers with one speed citation, the average crash rate was almost 50 percent higher. Among drivers with two or more speed citations, the crash rate more than doubled compared with drivers with no tickets for speed law violations.

Insurance Institute for Highway Safety researchers used these data to develop a statistical model that predicted a 30 percent increase in crash likelihood for each additional speed citation after controlling for driver demographics (age, gender, and licensing status). Previous studies have shown that Californians with traffic law violations (all kinds, not just speeding) or crashes on their driving records have much higher subsequent crash rates than drivers with clean driving records (see Advisory No. 6, August 1988).

Canadian Drivers

Similar findings are evident in an Insurance Corporation of British Columbia study of the records of nearly 3.5 million Canadian drivers. Those with no citations for exceeding the speed limit by less than 25 mph during a four-year period were in an average of 61 police-reported crashes per 1,000 drivers during the same four years. Among drivers with one citation, average crash involvement increased slightly (see table), and among drivers with two or more speed citations (less than 25 mph faster than the posted speed), the crash rate more than tripled.

**Relationship between
speed citations and
crash likelihood**

United States	
1986-88	1989-91
No. of citations on record	Crashes per 1,000 drivers
0	135
1	199
2+	273

Canada	
1991-94	1991-94
No. of citations on record (<25 mph over limit)	Crashes per 1,000 drivers
0	61
1	80
2+	208
No. of citations on record (25+ mph over limit)	Crashes per 1,000 drivers
0	76
1	266
2+	477

The connection between speed citations and crash likelihood among Canadian drivers is stronger when comparisons are based on tickets for severe violations (25+ mph over the speed limit or driving too fast for road conditions). Drivers with no such violations on their records were in an average of 76 police-reported crashes per 1,000 drivers during the four-year period of study. Among drivers with one citation for a severe speed violation, the crash rate more than tripled, and it was more than 6 times higher among drivers with two or more citations.

The study also examined the driving records of 2 million Canadians during a three-year period to estimate crash likelihood during the subsequent two years. Adjusting for driver demographics and previous crash records, researchers developed a statistical model that predicted a 23 percent increase in crash likelihood for each additional speed citation — another 15 percent for each additional severe violation.

Australian Drivers

Based on the records of more than 120,000 drivers licensed in Victoria, Australia, Monash University researchers found that drivers with no citations for exceeding the speed limit by less than 19 mph during a two-year period had 7 injury crashes per 1,000 during the subsequent two years (see table). Among drivers with one citation, the crash rate went up about 40 percent, and it more than doubled among drivers with two or more citations.

When researchers based their analyses on citations for severe violations of speed limit laws (19 mph or more faster than the posted limit), they found an average of 8 crashes per 1,000 licensed drivers with no such citations on their records. The rate nearly tripled for drivers with one citation, and among those with two or more citations the rate multiplied by 9.5.

A statistical model predicted a 27 percent increase in crash likelihood for each additional speed citation. The increase was another 47 percent for each additional citation for a severe violation of speed limit laws.

Relationship between speed citations and crash likelihood

Australia	
1991-92	1993-94
No. of citations on record (<19 mph over limit)	Crashes per 1,000 drivers
0	7
1	10
2+	16
No. of citations on record (19+ mph over limit)	Crashes per 1,000 drivers
0	8
1	22
2+	76

References

U.S. drivers: Insurance Institute for Highway Safety analysis based on data supplied by the California Department of Motor Vehicles.

Canadian drivers: Cooper, P.J. 1997. The relationship between speed behavior (as measured by violation convictions) and crash involvement. *Journal of Safety Research* 28:83-95.

Australian drivers: Diamantopoulou, K.; Cameron, M.; Dyte, D.; and Harrison, W. 1997. The relationship between demerit points accrual and crash involvement. Clayton, Victoria, Australia: Monash University Accident Research Centre (MUARC-116).