



NATIONAL SAFETY COUNCIL

Position/Policy Statement

Speeding

POSITION / POLICY:

The National Safety Council supports the establishment of national, state and local speed limits based on safe engineering and roadway design principles. Speed setting standards in the U.S. should be based on the Safe Systems approach to prioritize safety for all roadway users. This approach maximizes safety benefits for all road users, including vulnerable road users, such as bicyclists and pedestrians.

The National Safety Council supports strong enforcement of new and existing speed laws, including – but not limited to – high-visibility enforcement campaigns and automated enforcement efforts (*see position #104, Automated Enforcement*).

The National Safety Council also supports public education efforts to change driver behavior and reduce speeding rates, including utilization of defensive driver programs and other training programs to achieve this goal.

The National Safety Council supports local jurisdictions utilizing their discretion to adjust speed limits to desired safe speed levels using a safe systems approach and seeking authority to do so as needed.¹

The National Safety Council supports in-vehicle technology with the potential to change driver behavior, including speed governors and in-vehicle speed limit displays.

Background on traffic crashes

Motor vehicle crashes have been a leading cause of unintentional injuries and death in the United States for decades. After several years of decline, motor vehicle fatalities are now increasing and trending in the wrong direction. NSC estimates that traffic fatalities were almost 7 percent higher in 2016 than in 2015.²

In addition to the 40,327 people killed on U.S. roads in 2016, NSC also estimates that another 4.6 million were injured enough to seek medical consultation. Not only are fatalities from car

¹ The Safe Systems approach seeks to eliminate roadway deaths by designing a system with the assumption that one of the main causes of a crash is the misalignment between human behavior and system design.

² NSC Injury Facts

crashes devastating to families, injuries from crashes are a personal and public health burden. These crashes also contribute to the high cost of repairing and maintaining roadways. Overall, the costs of these incidents to society are as high as \$416.2 billion.³

Speed as a contributing factor

Speed increases crash risk by increasing the likelihood of being involved in a crash and by increasing the severity of a crash when one occurs. According to the National Transportation Safety Board: “The relationship between speed and crash involvement is complex, and it is affected by factors such as road type, driver age, alcohol impairment, and roadway characteristics like curvature, grade, width, and adjacent land use. In contrast, the relationship between speed and injury severity is consistent and direct. Higher vehicle speeds lead to larger changes in velocity in a crash, and these velocity changes are closely linked to injury severity. This relationship is especially critical for pedestrians involved in a motor vehicle crash, due to their lack of protection.”⁴

From 2005 through 2014, speed was a contributing factor in 112,580 fatalities, or 31 percent of all fatalities, based on police crash reports.⁵ Since 1967, speed has been cited as a causal or contributing factor in 49 major NTSB highway crash investigations, most involving speeding passenger vehicles.⁶

The tables below illustrate the prevalence of speed as a contributing factor in crashes, including the impact on a pedestrian’s ability to survive a crash with a vehicle at different speeds.

Fatalities by Speeding Involvement, 2007–2016

Year	Speeding Involvement				Total	
	Not Speeding		Speeding			
	Number	Percent	Number	Percent	Number	Percent
2007	28,119	68%	13,140	32%	41,259	100%
2008	25,656	69%	11,767	31%	37,423	100%
2009	23,219	69%	10,664	31%	33,883	100%
2010	22,491	68%	10,508	32%	32,999	100%
2011	22,478	69%	10,001	31%	32,479	100%
2012	23,453	69%	10,329	31%	33,782	100%
2013	23,197	71%	9,696	29%	32,893	100%
2014	23,461	72%	9,283	28%	32,744	100%
2015	25,762	73%	9,723	27%	35,485	100%
2016	27,350	73%	10,111	27%	37,461	100%

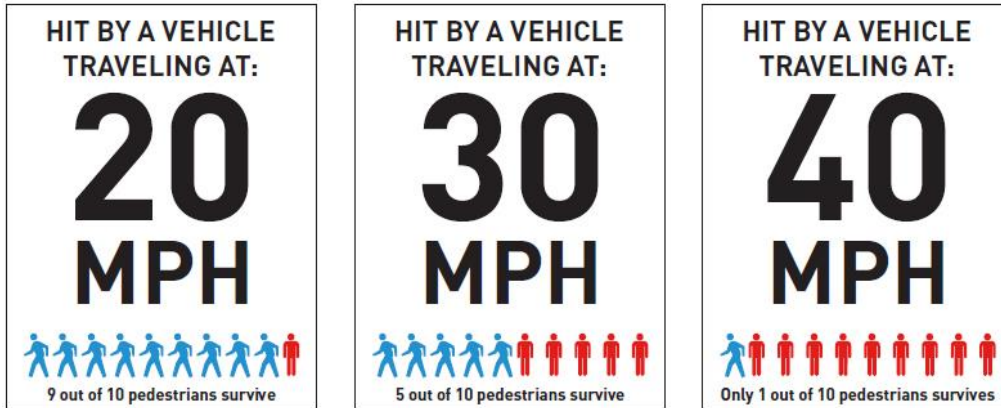
Source: Fatality Analysis Reporting System (FARS) 2007 – 2015 Final File, 2016 Annual Report File (ARF)

³ Ibid

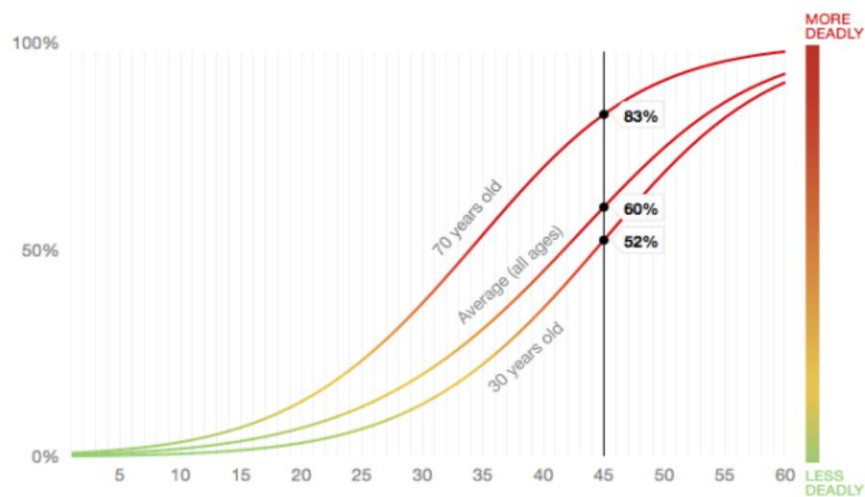
⁴ Ibid

⁵ NTSB/SS-17/01

⁶ Ibid



AAA Foundation for Traffic Safety – Impact Speed and a Pedestrian’s Risk of Severe Injury and Death



The second chart from the AAA Foundation for Traffic Safety clearly demonstrates the logarithmic increase in risk to pedestrians relative to speed increase. According to its research, the standardized risk of death reached 10 percent at an impact speed of 23 mph, 25 percent at 32 mph, 50 percent at 42 mph, 75 percent at 50 mph, and 90 percent at 58 mph. The increase in risk between 32 mph and 50 mph was relatively linear, with each additional 1 mph increase resulting in an average risk increase of 2.8 percentage points.⁷

Impacts of speed limit changes

Initially enacted in 1974 as a temporary measure in response to the Middle East oil embargo, the 55 miles per hour (mph) national maximum speed limit resulted in the positive externality of saved lives. In the year following its enactment, traffic fatalities immediately decreased to 43,000 from 54,000, in large part due to the decrease in speed limits. In response, Public Law

⁷ AAA Foundation for Traffic Safety. Impact speed and a pedestrian’s risk of severe injury or death.

93-643 made this speed limit permanent in the name of highway safety.⁸ However, this limit was slowly raised over time, rising to 65 mph for certain rural interstates in 1987 before being eliminated entirely in 1995.⁹ There has been a trend toward higher speed limits in recent years. Currently several states have speed limits of 80 miles on some sections of interstates and a stretch of highway in Texas has a limit of 85 mph.

Several studies have shown that states raising their speed limits in the aftermath of the national speed limit repeal realized significant increases in total crash rates. The Insurance Institute for Highway Safety (IIHS) found that increases in speed limits had cost 33,000 lives over the two decades ending in 2016, with the 1,900 additional deaths in 2013 alone “essentially canceling out the number of lives saved by frontal airbags that year.”¹⁰

Another study found a 3.2 percent national increase in road fatalities attributable to the raised speed limits, with the highest increases on rural interstates (9.1 percent) and urban interstates (4.0 percent). This same study estimated that 12,545 fatalities and 36,583 injuries were attributable to these same speed limit increases.¹¹

Conversely, a limited number of studies have shown that raising the speed limit has saved lives.¹² However, the overwhelming body of evidence has proven that higher speed limits produce negative safety outcomes.

Interstates

Often, the actual travel speeds are higher than the posted speed limit, especially on interstate highways. This relationship can compound the negative effects of raising speed limits. As an example, Utah increased the speed limits on several sections of rural interstates between 2010 and 2013 to 80 mph from 75. Within the 80 mph zones, mean passenger vehicle and large truck speeds were significantly higher than would have been expected without the increase.¹³

In 2006, Texas raised the daytime speed limit on segments of I-10 and I-20 from 75 mph to 80 mph for passenger vehicles. A study of vehicle speeds after this increase showed an increase in mean speed of 4 mph on I-10 and 9 mph on I-20, when compared to roads in which speeds were not changed. Importantly, this 9 mph increase in speed on I-20 was greater than the 5 mph increase in the speed limit. The proportion of drivers exceeding 80 mph was two times higher on I-10 and 18 times higher on I-20 than prior to the speed limit change.¹⁴

The Flemish government in Belgium lowered speed limits from 90 kilometers per hour (55 mph) to 70 kilometers per hour (43 mph) on several highways in 2001 in pursuit of highway safety improvements. There was a 5 percent decrease in overall crash rates and a 33 percent decrease in the rate of crashes involving serious injuries and fatalities.¹⁵

⁸ Vernon, Cook, Peterson & Dean. Effect of repeal of the national maximum speed limit law on occurrence of crashes, injury crashes, and fatal crashes on Utah highways.

⁹ Ibid

¹⁰ Status Report, Vol. 51, No. 4. Speed limit increases cause 33,000 deaths in 20 years

¹¹ Friedman, Hedeker, Richter. Long-term effects of repealing the national maximum speed limit in the United States.

¹² Lave, Charles. Did the 65 mph speed limit save 3,113 lives?

¹³ Hu, Wen. Raising the speed limit from 75 to 80 mph on Utah rural interstates: effects on vehicle speeds and speed variance.

¹⁴ Rattling, Cheung. Traffic speeds associated with implementation of 80 mph speed limits on West Texas rural interstates.

¹⁵ De Pauw, Daniels, Thierie, Brijs. Safety effects of reducing the speed limit from 90 km/h to 70 km/h.

Cities

Boston found similar results after lowering the default speed to 25 mph from 30 mph in 2017. A study by IIHS found a reduction in mean speeds, an 8.5 percent reduction in the odds of vehicles exceeding 30 mph and a 29.3 percent reduction in the odds of vehicles exceeding 35 mph. The study concluded that lowering the speed limit was an effective countermeasure for reducing speeds and improving safety.¹⁶ However, it is important to note that 18.1 percent of vehicles continued to exceed 30 mph, while 3.8 percent of vehicles exceeded 35 mph.¹⁷

85th percentile speed limits

Unfortunately, safety is often a secondary consideration behind mobility and other concerns. Conventional practices to set speed limits in the U.S. discourage the setting of lower speeds, specifically through the use of the 85th percentile speed as a benchmark.

The 85th percentile speed refers to the speed at – or below – which 85 percent of vehicles are traveling. This measurement is obtained by conducting a speed survey of vehicles that are already on the road, operating under the assumption that the majority of drivers are capable of selecting the appropriate speeds for the road, traffic and weather conditions, and are operating at reasonable and prudent speeds.¹⁸ This practice emerged in the 1940s and is now considered standard practice for traffic engineers. In examining speed, the NTSB concluded that while the 85th percentile speed is accurate in measuring traffic flow, there is no strong evidence to suggest that it “equates to the speed with the lowest crash involvement rate”.¹⁹

IIHS cites numerous studies of travel speeds that have shown a feedback loop of increases in highway speed limits leading to increases in the 85th percentile speed, thus resulting in further highway speed limit increases.²⁰ IIHS states that “if speed limits are raised to meet a current 85th percentile speed, a new, higher 85th percentile speed likely will result”.²¹

Enforcement efforts

Enforcement efforts, including high-visibility enforcement, have proven to be an important component in driving behavior change on our roadways. The National Safety Council believes that robust enforcement efforts, including the expansion of automated enforcement technologies, are necessary to save lives (*see position #104, Automated Enforcement*). Multiple studies have validated the effectiveness of enforcement, including high-visibility enforcement efforts.

As with other negative traffic behaviors, deterrence-based sanctions, such as monetary fines, “points” on licenses and license suspensions and revocations, are used to deter drivers from exceeding the speed limit.

According to the National Highway Traffic Safety Administration, core components of high-visibility enforcement are vigorous traffic enforcement and education, as well as messaging to

¹⁶ Wen, Cicchino. Lowering the speed limit from 30 to 25 mph in Boston: effects on vehicle speeds.

¹⁷ Ibid

¹⁸ NTSB. Reducing speeding-related crashes involving passenger vehicles.

¹⁹ Ibid

²⁰ Farmer, Charles. A point-by-point response to “speed or greed: does automated traffic enforcement improve safety or generate revenue?”

²¹ Ibid

remind the public that enforcement is taking place. This messaging and visible enforcement is meant to reinforce a motorist's fear of being caught in violation of the law.²² In the case of a high-visibility enforcement campaign, this fear is generated around being caught in violation of a specific law, such as a texting, using a handheld cell phone, speeding or impaired driving.

Between 2012 and 2011, NHTSA piloted high-visibility enforcement demonstration projects in Hartford, Connecticut, and Syracuse, New York, focused on handheld cell phone use, with the goal of determining whether – and to what extent – these efforts changed observed electronic device use among drivers. Motorist surveys showed an increase of awareness that handheld laws were being enforced, and roadside observations indicated that the rates of talking on handheld phones and texting declined in both Hartford and Syracuse.²³ A separate study conducted in California and Delaware between 2012 and 2013 also found observed handheld cell phone use dropped substantially.²⁴

Local flexibility

Municipalities need increased flexibility to set safe speed limits on streets in developed areas. Most states prohibit cities and counties from setting jurisdiction-wide speed limits below a state-wide statutory limit, even on city-owned streets. Further, state law often sets higher limits on state-owned roads within cities, even though design conditions might be the same from state to city-owned streets, leading to driver confusion.

These restrictions place the burden of proof on municipalities seeking to lower speeds for safety and force a time-consuming case-by-case analysis, resulting in a patchwork of speed limits, rather than a consistent Safe Systems approach.

The ability to set lower speeds is also a key design flexibility issue. State laws generally assume that lower speed limits are an *outcome* of street design or traffic calming measures, but practitioners widely recognize that lower speeds are often needed to *enable* engineers to use safer design options. States and cities should be afforded the much-needed discretion to adjust speed limits to desired safe speed levels, allowing states and cities to improve safety for people traveling by all modes.

This position statement reflects the opinions of the National Safety Council but not necessarily those of each member organization.

Adopted by the National Safety Council, 2018

²² NHTSA. Process overview of the high-visibility enforcement programs targeting handheld device users in California and Delaware.

²³ Ibid

²⁴ NHTSA. Evaluation of the NHTSA distracted driving high-visibility enforcement demonstration projects in California and Delaware.