Road to Zero Coalition recommendations

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In-vehicle alerts, speed limiters needed to curb epidemic of aggressive driving
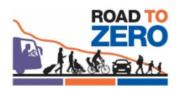
December 6, 2023

LIMITED TO 70 mph

The Insurance Institute for Highway Safety and other members of the Road to Zero Coalition are urging automakers, regulators and fleet operators to promote intelligent speed assistance (ISA) and speed limiters to help curb an epidemic of speeding that has contributed to a spike in traffic deaths since 2020.

"Speeding causes more than a quarter of all crash deaths every year, accounting for more than 12,000 lost lives in 2021," said Jessica Cicchino, vice president of research at IIHS. "In-vehicle technologies can be an important part of the solution."

ISA uses a camera that reads posted signs or GPS mapping software to identify the prevailing speed limit and alerts drivers when they're going too fast. Some systems also discourage speeding more aggressively by reducing power to the engine once the driver crosses the limit.

For all U.S. drivers, the coalition's Accelerating Technology Working Group recommends warning-based, or "advisory," ISA systems as a starting point. Such systems will be required for all new vehicles in the European Union in 2024. For commercial operators and public fleets, the coalition recommends promoting ISA or speed limiters, which prevent the vehicle from exceeding a preset maximum speed. Some organizations already use one or the other, and the goal is to increase the number of fleets that embrace the technologies.

ROAD TO ZERO

Recommendations for vehicle-based approaches to prevent speeding
Accelerating Technology Working Group | December 6, 2023

Speeding is a persistent safety problem that accounts for more than 25% of traffic fatalities each year. Over 12,000 lives were lost in speeding-related crashes in 2021 (Stewart, 2023). Vehicle speeds have increased since the beginning of the COVID-19 pandemic, and these higher speeds have contributed to the alarming increase in traffic deaths the United States has experienced since 2020 (Office of Behavioral Safety Research, 2021). The National Highway Traffic Safety Administration (NHTSA) estimates that speeding-related crashes led to over $45 billion in costs annually from property damage, medical care, lost productivity, and other effects (Blincoe et al., 2023).

The U.S. Department of Transportation (USDOT) adopted the Safe System Approach as its guiding paradigm for addressing roadway safety (2022). Safer speeds are central to designing a safe system that builds in redundancy and accounts for human vulnerability, as higher speeds increase the likelihood of both crashing and becoming seriously injured when a crash occurs. Safer speeds require designing roads with this objective in mind and setting and enforcing appropriate speed limits that consider all road users. Safer vehicles are another element of a safe system. In addition to protecting their occupants in a crash, safer vehicles are equipped with technology that can prevent or mitigate crashes. This includes technology that contributes to safer speeds.

There are several types of technology that can assist a driver in controlling the vehicle's speed. **Speed limiters**, also known as **speed governors**, prevent the driver from exceeding a fixed speed (e.g., 65 mph). Speed limiters have been used by commercial fleets for years, and in 2022 the Federal Motor Carrier Safety Administration issued an advanced notice of supplemental rulemaking announcing their intention to mandate speed limiters on large trucks.

Other systems warn the driver when the vehicle exceeds a preset speed. Systems designed for teen drivers may mute the audio system or inform a parent, in addition to warning the driver.

Intelligent speed assistance (ISA) takes the speed limit into account. ISA identifies speed limits using a camera that reads posted speed limit signs and/or GPS linked to a database of speed limits. Advisory ISA provides information to the driver by displaying the current speed limit or issuing a warning when the vehicle exceeds it. Some vehicle models in the United States are equipped with advisory ISA, and the systems that include speed warnings typically allow the driver to choose how many miles per hour over the speed limit they can go before an alert is issued.

Other forms of ISA more actively prevent a driver from speeding by providing resistance from the accelerator pedal or limiting power to the engine. Compared with advisory ISA, this type of ISA is rare in the United States. A small number of vehicle models allow the driver to configure adaptive cruise control so that the system automatically reduces the vehicle's set speed when a speed limit reduction is detected. ISA that controls acceleration can be temporarily overridden, usually by pressing hard on the accelerator pedal or pushing a button.

In addition to being built into vehicles, speed assistance capabilities are available through phone apps and aftermarket devices that can be added to vehicles. A number of app-based teen monitoring systems include speed warnings. Aftermarket ISA that actively controls speeds has been installed on commercial and public fleets, including on city- and county-owned vehicles in several locations as part of ISA pilot programs.

Promote ISA on privately-owned passenger vehicles

▶ Market ISA as a "driver assistance" technology

▶ Urge NHTSA to

Identify a performance standard for ISA (that at a minimum, warns the driver) and require on new vehicles

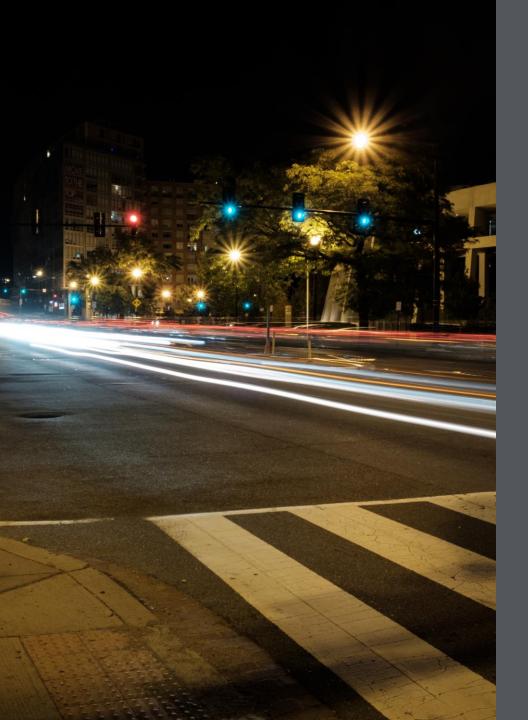Add ISA to the New Car Assessment Program

Promote ISA and speed limiters to public and commercial fleets

▸ Grant funding

▸ Promote to new fleets

▸ Educate fleet managers about aftermarket ISA products

▸ Incentivize implementations that are easier to purchase or manage

Promote ISA and speed limiters to high-risk groups

▸ Parents of teens

▸ High-risk speeding offenders

Improve public acceptance of ISA

▶ Develop myth-busting talking points

▶ Develop guidance on speed tolerance for ISA relative to speed limit

Improve speed limit information quality

▸ Standardize sources of mapped speed limit information

▸ Push updated speed limit maps to vehicles with ISA without requiring owners to pay a subscription

▸ Encourage development of V2X

▸ Educate state DOTs about maintenance issues that can affect camera-based ISA

Investigate benefits of current ISA systems on passenger vehicles

▸ Determine how often drivers keep current systems turned on

▸ Determine effects of current ISA and intelligent ACC systems on speeding behavior

Incorporate vehicle-based technology into national conversation on speed

▸ Encourage advocacy groups to highlight ISA in their road safety vision

▸ Encourage inclusion of ISA in the Safer Speeds section of USDOT's National Roadway Safety Strategy

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THANK YOU

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