



NYC Fleet



Intelligent Speed Assistance (ISA) NYC Fleet

Road to Zero Webinar: Expanding the Use of Intelligent Speed Assistance
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The Crisis of Speeding

- In 2021 there were 12,330 fatalities in speeding-related crashes; the highest since 2007.
- Speed was involved in 29% of total traffic fatalities.
- 35% of male drivers and 21% of female drivers between 15 to 20 years old involved in fatal crashes in 2021 were speeding.
- In 2016, 442 pedestrians lost their lives due to speeding vehicles. In 2020, this number skyrocketed to 562, up more than 27%
- More than 328,000 people were injured in speeding related crashes in 2021.
- In New York State, 36 percent of all traffic fatalities in 2021 listed speeding as a contributing factor.

These are not just numbers...



Fernanda Gill, 15; Jesie Gil 16; Ashley Rodriguez, 15
July 10, 2022

Slower Speeds Save Lives

- Due to the laws of physics, every time your speed doubles the distance needed to stop a vehicle quadruples.
- Total stopping distance includes perception, reaction, and braking time. For a light duty vehicle, stopping distance traveling at 30MPH is 106 feet, at 40MPH is 157 feet, and at 50MPH is 220 feet.
- Pedestrians struck by a vehicle going 20MPH have a 90% chance of survival. Pedestrians struck at 40MPH have an 20% chance of survival.
- Chance of a severe injury doubles when hit by a car going 31MPH as opposed to 23MPH
- The larger and heavier the vehicle, the more potential danger in a crash for vulnerable road users.

Conventional Countermeasures

- Lowering speed limits
- Increased enforcement including the expansion of speed camera programs
- Changing road designs to encourage proper vehicle speeds
- Marketing of educational messages to drivers
- Mandated driver safety programs for repeat offenders
- Increased fines and penalties

But what if the car could prevent speeding...



Speed Governors Are Not ISA

- Speed Governors typically are set at an extremely high maximum speed as high as 135 MPH. These have little to no effect on preventing deaths or serious injuries on our roads.
- Speed Governors are not dynamic. Even if set at lower speeds, governors would not add extra protection in locations such as school zones.
- Governors are not “connected” devices. There is no alert mechanism in case the governor is disconnected or not functioning properly.
- Standard governors are not adjustable “over the air”.

Passive ISA, Driver Alerts

- Passive Intelligent Speed Assistance systems are dynamically connected to the speed limit of the road the vehicle is being operated on.
- This form of ISA is engineered using vehicle cameras and road signs, GPS and virtual maps, or both.
- These systems can include several options including acoustic warnings, vibrating warnings, haptic feedback through the acceleration pedal, or overridable speed control.
- European Union mandate taking effect in July 2024 for all new cars is a passive ISA system.
- Systems often designed to be easily turned off by drivers.

Active ISA, Speed Limiting

- Like passive versions, active ISA is engineered using vehicle cameras and road signs, GPS and virtual maps, or both.
- Active ISA is a true speed limiting device with the system designed to keep the vehicle at the speed limit or a threshold speed below or above the posted speed limit.
- Systems may come with a temporary or limited driver assistance button for where circumstances warrant.
- Drivers can not easily override or turn off the system. For professional fleets, supervisors or managers have full system control.
- Active ISA systems include the ability to control speed “over the air”.

Challenges to ISA/Myth Busting

- Speeding “saves time”
- Speed Limits are “too low”
- Intelligent Speed Assistance is not a mature technology and due to GPS issues, road design, and other factors will not work.
- “Big Brother”
- Speeding can be solved by enforcement and road design
- Other technologies in vehicles already address reducing collisions.

Challenges to ISA Myth Busting

- Increasing your average road speed from 40mph to 50mph will only save about three minutes a day for most drivers. This change in speed will also result in requiring an additional 65 feet to stop your vehicle to avoid a crash.
- Increased speed limits does not result in vehicles adhering more to speed limits but rather just increases average road speed. Large number of drivers believe 5-15 over is acceptable no matter what the speed limit.
- Pilot programs across the USA including in New York City are proving that the technology works.
- ISA does not collect any personal information. Most new vehicles on our roads and the phones we plug into them collect a significant amount of vehicle related data.
- Additional safety measures such as enforcement and road design changes are important and needed but vehicle technology such as ISA are part of the solution.
- Most vehicle technologies that are currently on the market focus on driver and occupant safety and not the safety of other drivers and vulnerable road users.

ISA Effectiveness (University of Leeds Study)

ISA type	Reduction in Injury Crashes	Reduction in Serious Crashes	Reduction in Fatal Crashes
Advisory ISA	-3%	-4%	-5%
Assisting (Overridable) ISA	-12%	-17%	-23%
Non-Overridable ISA	-29%	-40%	-49%

NYC Pilot Progress And Results

- The City of NY has now expanded its active ISA pilot to 300 vehicles, leading the nation in promoting active intelligent speed assistance.
- The pilot includes 50 school buses in partnership with NYCSBUS which will become first large rollout of ISA nationally with school buses.
- Thirteen City agencies and fourteen types of vehicles are involved including box, collection, and dump trucks.
- NYC has operated more than 1,000,000 miles to date on ISA.
- Of these, 99% of the miles were driven within the set speed parameters.
- The City has seen a 37% reduction in hard braking in ISA equipped vehicles which is an indicator of unsafe driving behavior.
- DCAS and Volpe will issue a report on ISA later in the year.

Safe Streets For All (SS4A) Grant

- In December 2023 US DOT announced that the City of New York was awarded \$2.4 million in federal grant funding to expand the active ISA speed management program.
- Combined with the city's funding match this will enable an additional 1,700 installs across all types of city vehicles.
- Installations expected to begin in FY25-FY26.
- At the end of the rollout, DCAS will operate at least 2,000 vehicles on active ISA, the largest program in the US.

Recommendations for Implementation

- Educate drivers and the public on what ISA is and how it works
- Consider starting with speed thresholds when implementing ISA
- Provide driver training and/or documentation
- Develop a feedback loop for larger fleet rollouts
- Discuss additional benefits of ISA beyond safety (reduced fuel consumption/reduced emissions, reduction in speeding tickets, insurance costs)
- For private vehicle owners, one potential use of ISA is with young, teenage age, early drivers
- Look for legislative action that can be taken to advance use

Current/Future Technology Integrations

- Driver Alcohol Detection System for Safety (DADSS)
- Surround Camera Programs
- Low Bridge Collision Prevention
- Remote Vehicle Deceleration

Additional Links

- [Slowing down in the city using intelligent speed assistance \(NY1\)](#)
- [A new vehicle system could stop you from driving above the speed limit \(CNN\)](#)
- [First-of-its-kind technology aims to keep NYC school buses, pedestrians more safe \(ABC7NY\)](#)
- [NYC Fleet Vision Zero Page](#)

Contact

For more information, go to the NYC Fleet website:
<http://www.nyc.gov/html/dcas/html/employees/fleet.shtml>

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DCAS

THANK YOU