

# Intelligent Speed Adaption (ISA)



An in-vehicle technology that uses GPS and sensors to monitor and adjust vehicle speed, helping drivers comply with speed limits to reduce speeding-related crashes and improve road safety.

## Implementation Strategy

### How and Where to Apply

- ISA systems should be applied to urban, suburban, and rural roadways where speeding-related crashes are prevalent, such as school zones, residential areas, and construction zones.
- Integrated into vehicles to either provide advisory warnings or intervene by limiting acceleration to ensure compliance with posted speed limits.
- NHTSA** has highlighted ISA as a key component in promoting safe driving behavior and reducing the frequency of speed-related accidents.

### Use in a Safe System Approach

ISA supports the Safe System Approach by addressing excessive speed, reducing crash likelihood and severity, especially in areas with vulnerable road users like pedestrians and cyclists. It helps ensuring adherence to posted speed limits.

### Key Stakeholders

Government agencies (transportation departments, law enforcement), Vehicle manufacturers.

### Proactive Implementation

Integrating speed-monitoring systems into vehicles to ensure adherence to speed limits before crashes occur. This includes using GPS, digital maps, and onboard sensors to monitor vehicle speeds in real-time, providing advisory warnings or limiting acceleration. The design should prioritize seamless integration with existing vehicle technologies, supported by accurate speed limit data, and align with broader initiatives.

## Countermeasure Overview

**Objective:** Keep vehicles from encroaching into opposite lane  
**Strategy:** Provide center two-way left-turn lanes for four- and two-lane roads

### Selected Related Countermeasures

- CM1 Automated speed enforcement cameras
- CM2 Lower posted speed (55 to 45 mph)
- CM3 Vehicle activated speed limit

**Cost:** High

**Service Life:** 8 years

**Benefit-Cost Ratio:** 7.9:1

## Targeted Solution



### CONTRIBUTING FACTORS

- Driver failure to comply with speed limits
- Aggressive driving



### TARGET CRASH TYPE

- Speeding



### ROAD FACILITY TYPE

- N/A



### AREA TYPE

- All

## Safety Linkage



### NCHRP 500 Series

Speeding-related Crashes



### AASHTO'S TOWARD ZERO DEATHS

Safer Vehicles

### SAFE SYSTEM APPROACH

Safe Speeds

### SAFE SYSTEM ROADWAY DESIGN

TIER 1

TIER 2

TIER 3

TIER 4

Tier 3

ISA Systems. Source: FutureTransport-News



Limits vehicle speed to safe levels using onboard technology.



### Resources

- [Intelligent Speed Assistance | NHTSA](#)

