



# National Transportation Safety Board

## Safety Issues: Automated Speed Enforcement, Intelligent Speed Adaptation, and National Leadership

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# Automated Speed Enforcement (ASE)

- Speed detection system coupled with a camera
- Citations mailed to vehicle owners or drivers
- Types
  - Fixed
  - Semi-fixed
  - Mobile



Source:  
Washington, DC,  
Department of  
Transportation

# ASE Effectiveness

- 2010 systematic review of 28 ASE studies
  - Every study found crash reductions
  - All crashes reduced 8 to 49%
  - Serious or fatal injury crashes reduced 11 to 44%
- Safety benefits extend beyond ASE sites
- Recognized as effective by NHTSA and CDC

# ASE Usage in United States



Source: IIHS



# ASE and State Law

	States Authorizing ASE with Restrictions	States without ASE Laws	States Prohibiting ASE	Total
States with ASE Programs	10	4	0	14
States without ASE Programs	5	24	7	36
<b>Total</b>	<b>15</b>	<b>28</b>	<b>7</b>	<b>50</b>

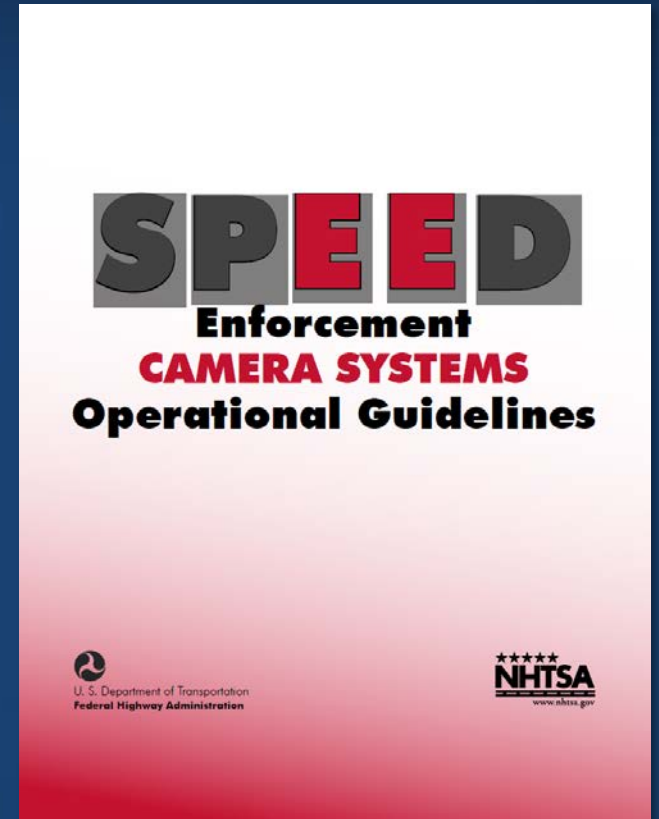
Source: IIHS

# ASE and State Law

- Stakeholders reinforced importance of state-level enabling legislation
- Restrictions in state law limit ASE effectiveness
  - School zones, work zones
  - Officer present

# ASE Best Practices

- *Speed Enforcement Camera Systems Operational Guidelines*
- 63% of ASE program administrators unaware of guidelines
- In 11 of 35 areas, less than 40% of programs aligned with guidelines
- Guidelines do not reflect latest technologies and operating practices



# Point-to-Point Enforcement

- Uses time-synchronized camera system to measure average vehicle speed between two points
- Used in Europe, Australia, New Zealand
- Best suited for limited-access highways



# Point-to-Point Enforcement

- Benefits compared to fixed/mobile ASE
  - Encourages driving speed limit over longer distance
  - Avoids problem of drivers slowing only at ASE site
- 2014 review of effectiveness
  - 51% decline in crashes at fixed ASE sites
  - 56% decline on point-to-point segments
- Not evaluated in US or included in guidelines

# Intelligent Speed Adaptation (ISA)

- In-vehicle system determines speed limit in effect via GPS database and/or sign-detecting camera
- Alerts driver or actively prevents vehicle from exceeding speed limit

# Current ISA Implementations

- Advisory systems available in US
- Related capabilities also offered
  - Adaptive cruise control
  - Fixed speed limiters
- Active ISA available in Europe



Source: Ford Motor Company

# ISA Effectiveness

- 2001, Sweden
  - 284 vehicles with active ISA for 5 to 11 months
  - 85th percentile speeds decreased 0.6 to 4.7 mph
- 2014, Maryland
  - 78 “chronic speeders” used advisory ISA for 4 weeks
  - Speeding > 8 mph decreased from 18 to 13%

# National Leadership

- Few negative social consequences to speeding
- No national leader for issue
- Drivers underappreciate risks
- Changing behavior requires coordinated effort



# Traffic Safety Campaigns

- Effective for several traffic safety issues
  - Impaired driving
  - Occupant protection
- Successful for speeding at local level
- No NHTSA-coordinated national speeding campaign
- State participation incomplete and inconsistent



# Incentivizing Speed Management Activities

- Highway Safety Program
  - 10 focus areas, including speeding
  - Allocated by state population, road miles
- National Priority Safety Program
  - Seven priority areas, not including speeding
  - States apply for incentive grants

# DOT Speed Management Team

- Established in 2000 with representatives from FHWA, NHTSA, FMCSA
- Published *Speed Management Program Plan* in 2014
  - 71 planned actions
  - 35 ongoing, 8 completed as of December 2016
  - 5 year timeline
- Planned actions complement or enhance recommendations proposed in this safety study

