Source: Adobe Stock

Speed Safety Cameras are a Proven Safety Countermeasure

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Federal Highway Administration

Outline

- National Roadway Safety Strategy/Safer Speeds
- Proven Safety Countermeasures (PSCs)
- Speed Safety Cameras
- Integrating Equity
- Noteworthy Practices

Source: Alexander Oganezov / stock.adobe.com

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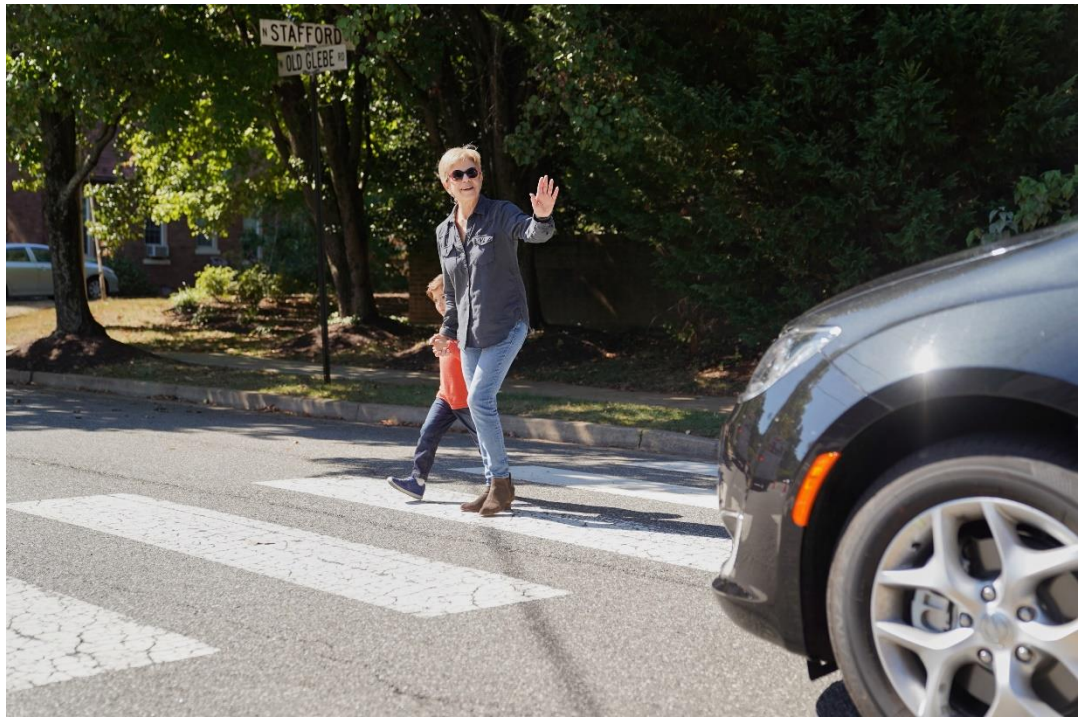
Source: Getty Images

Source: Getty Images

National Roadway Safety Strategy

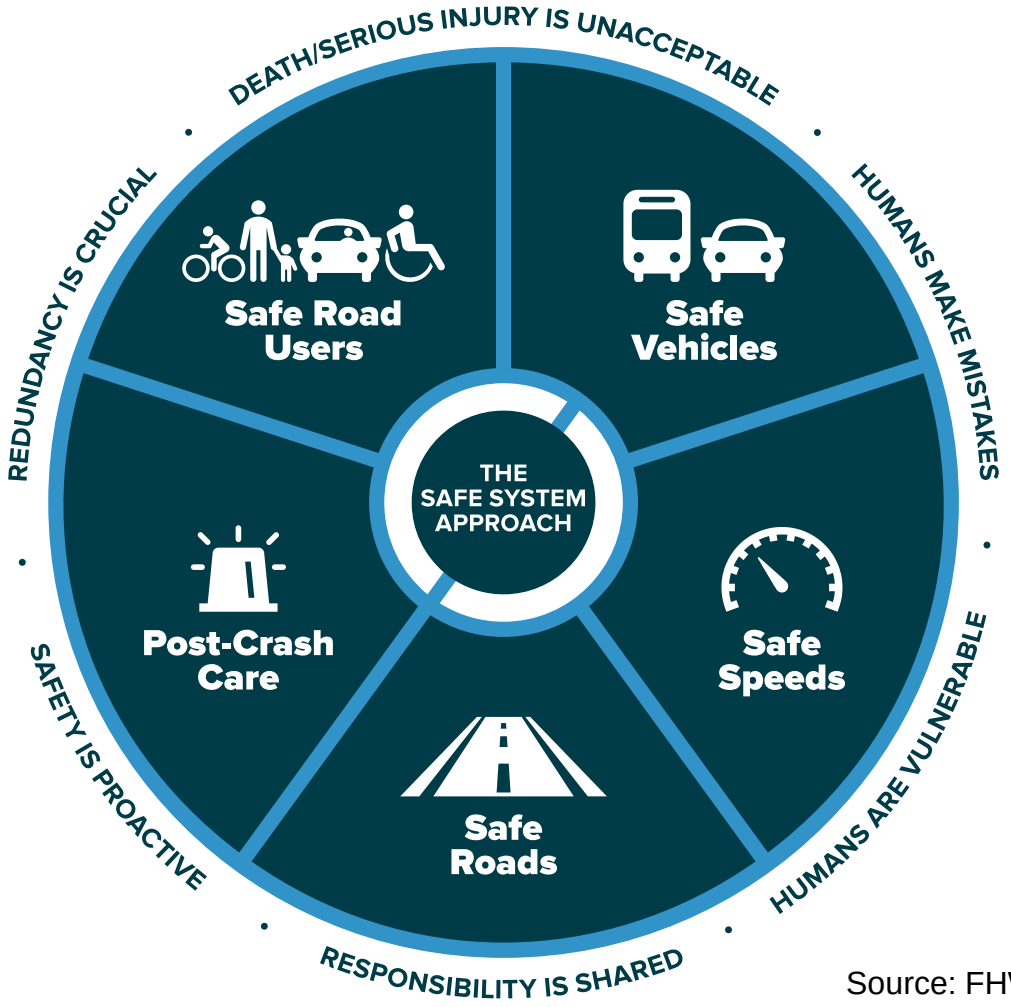
U.S. DOT's comprehensive approach to significantly reducing serious injuries and deaths on our Nation's highways, roads, and streets.

- Sets a Department-wide vision and goal
- Adopts the Safe System Approach
- Identifies new priority actions and notable changes to existing practices
- Leverages new funding and policies in the Bipartisan Infrastructure Law to bring this strategy to life
- Advances equity and climate goals
- Calls others to action



Source: NHTSA

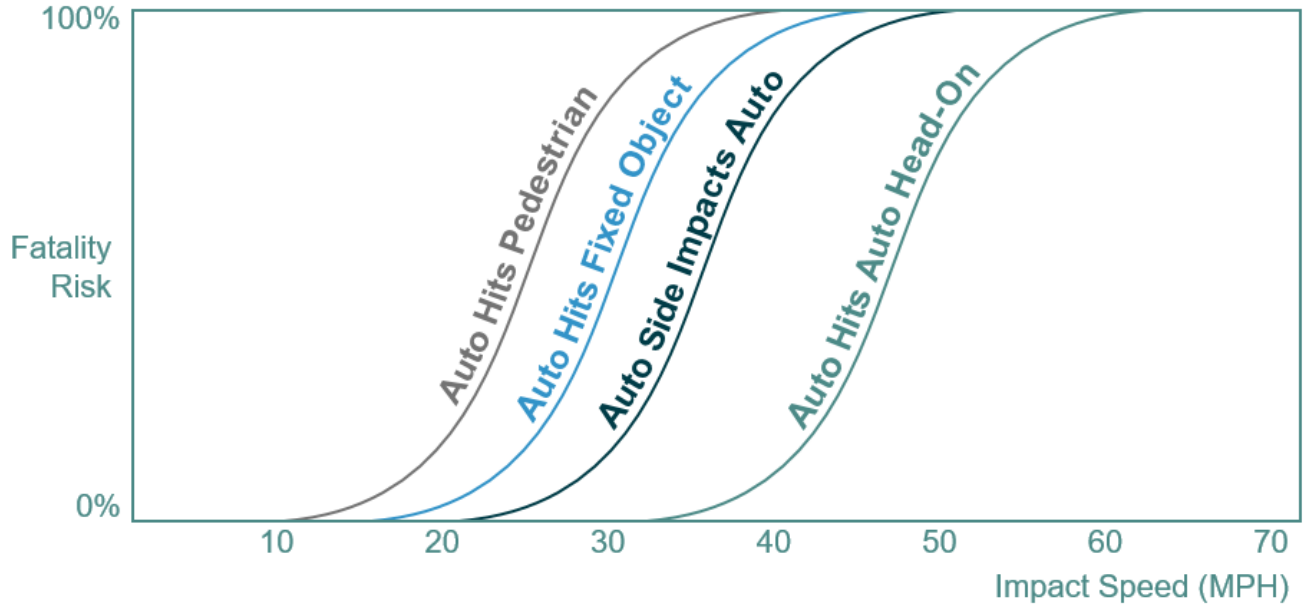
Safe System Approach



Source: FHWA

Safer Speeds in the NRSS

Promote safer speeds in all roadway environments through a combination of thoughtful, context-appropriate roadway design, targeted education and outreach campaigns, and enforcement.



Source: FHWA

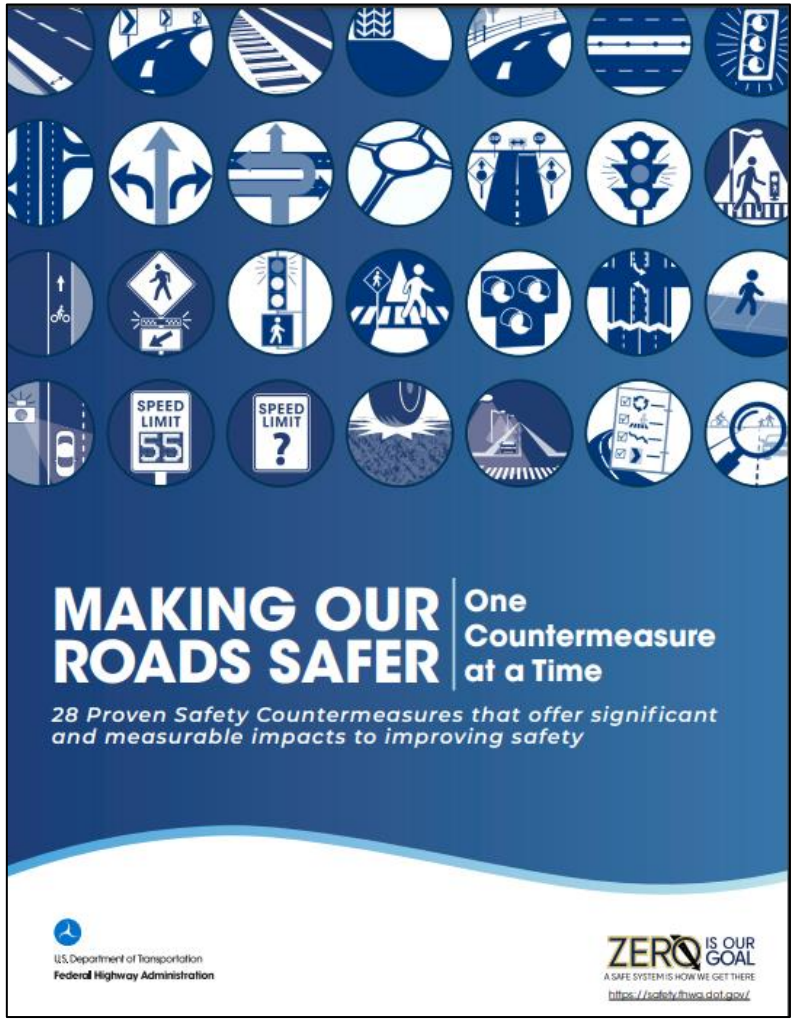
Safer Speeds

Departmental Actions for Safer Speeds

- Clarify the applicability and **correct use of key approaches to speed limit setting, like the 85th percentile,** to account for all road users and leverage best practices such as variable speed limits
- Implement a robust, **multimodal speed management program** that takes a holistic approach to vehicle speeds and speeding via infrastructure interventions, speed limit setting, education, and enforcement
- Elevate noteworthy practices on **re-engineering roads to slow down vehicles**, and create roadway designs that **"self-enforce"** appropriate vehicle speeds
- Study and pilot **automated speed enforcement** strategies designed to ensure their equitable application.

FHWA's Proven Safety Countermeasures

- Launched in 2008
- Updated in 2012, 2017, and 2021
- 28 countermeasures
- Selection Criteria
  - Proven effective
  - Not widespread deployment
- Guidance and Technical Assistance



Source: FHWA

28 Proven Safety Countermeasures

SPEED MANAGEMENT

Speed Safety Cameras

Variable Speed Limits

Appropriate Speed Limits for All Road Users

ROADWAY DEPARTURE

Wider Edge Lines

Enhanced Delineation for Horizontal Curves

Longitudinal Rumble Strips and Stripes

SafetyEdge[SM]

Roadside Design Improvements at Curves

Median Barriers

INTERSECTIONS

Backplates with Reflective Borders

Corridor Access Management

Left- and Right-Turn Lanes at Two-Way Stop-Controlled Intersections

Reduced Left-Turn Conflict Intersections

Roundabouts

Systemic Application of Multiple Low Cost Countermeasures at Stop-Controlled Intersections

Yellow Change Intervals

PEDESTRIAN/BICYCLIST

Crosswalk Visibility Enhancements

Bicycle Lanes

Rectangular Rapid Flashing Beacons

Leading Pedestrian Interval

Medians and Pedestrian Refuge Islands in Urban and Suburban Areas

Pedestrian Hybrid Beacons

Road Diets (Roadway Reconfiguration)

Walkways

CROSSCUTTING

Pavement Friction Management

Lighting

Local Road Safety Plans

Road Safety Audits

Source: FHWA

2021 New PSCs

Rectangular Rapid Flashing Beacons (RRFBs)

Lighting (Intersection and Segments)

Crosswalk Visibility Enhancements

Pavement Friction Management (CPFM and HFST)

Wider Edge Lines

Bicycle Lanes

Variable Speed Limits

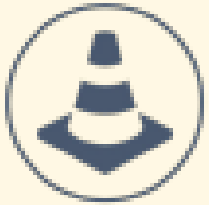
Speed Safety Cameras

Appropriate Speed Limits for All Road Users

Variable Speed Limits (VSL)

CONGESTION

INCIDENTS



WORK ZONES

INCLEMENT WEATHER

Source: FHWA

- Safety Effectiveness
  - **34%** reduction for total crashes.
  - **65%** reduction for rear-end crashes.
  - **51%** reduction for fatal and injury crashes.
- Particularly effective on
  - Urban and rural freeways
  - High-speed arterials > 40 mph

Source: WSDOT

Appropriate Speed Limits for All Road Users

- Applications
  - Legislative Statutory Speed Limits
  - Non-Statutory Speed Limits
    - MUTCD/Engineering Judgement
    - Expert Systems Tools
      - USLIMITS2
      - NCHRP Report 966: Posted Speed Limit Setting Procedure and Tool
    - Safe System Approach
- Considerations
  - A range of factors
  - Speed limit setting to be used with other strategies

Source: FHWA, TRB

Speed Safety Cameras (SSCs)

- Fixed-point units
  - Up to 54% reduction for all crashes
  - Up to 47% reduction for injury crashes
  - 63% reduction in speeding during school hours (New York City)
- Point to Point (P2P) units
  - Up to 37% reduction for fatal and injury crashes
- Mobile units
  - Up to 20% reduction for fatal and injury crashes

Source: Getty Images

Speed Safety Cameras (SSCs)

Applications

- Fixed units
- Point-to-Point (P2P) units
- Mobile units

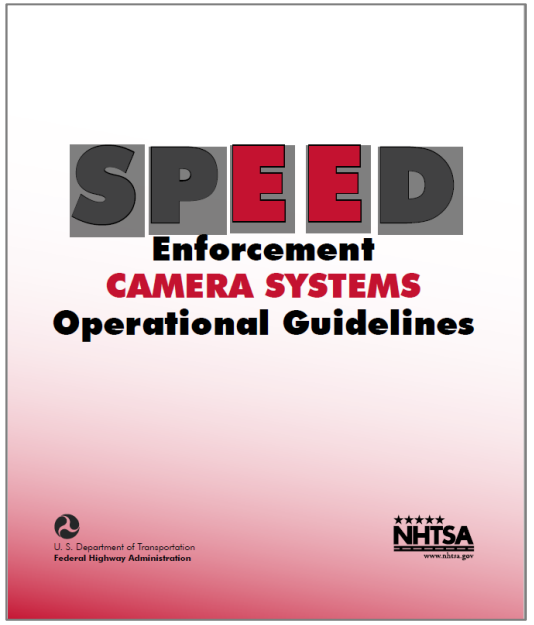
Considerations

- Public trust is essential
- Use overt and covert enforcement to encourage drivers to comply with speed limits everywhere.
- Conduct legal and policy review if SSCs are authorized within a jurisdiction.
- USDOT published SSC Guidelines in 2008, with an update ongoing.

Source: Vision Zero Network

History: Joint FHWA/NHTSA Guidelines

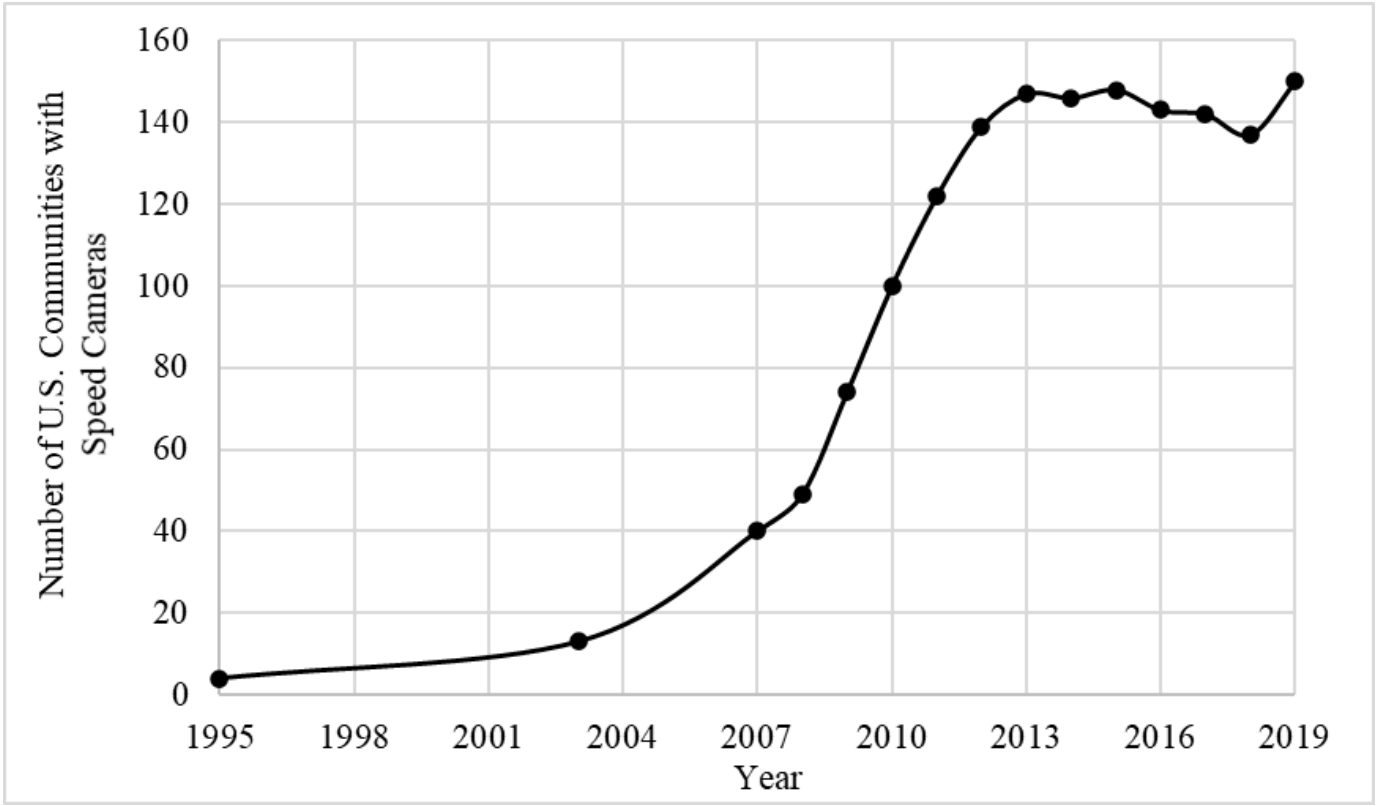
- The *Speed Enforcement Camera Systems Operational Guidelines* was published in 2008 (jointly by FHWA and NHTSA).
- NTSB Recommendation H-17-29 to FHWA: Work with NHTSA to update the Guidelines to reflect the latest technologies and operating practices.



Source: NHTSA and FHWA (2008)

Growing Number of SSC Programs

SSC programs have grown in the United States since the publication of the 2008 Guide.



Source: FHWA
Data Source: IIHS, 2021

What will be addressed in the Update?

2008 SSC Guide:

- Chapter 1: Introduction.
- Chapter 2: General Considerations and Planning
- Chapter 3: Program Startup
- Chapter 4: Operations
- Chapter 5: Violation Notice Processing, Delivery
- Chapter 6: Violation Notice Receipt and Adjudication
- Chapter 7: Program Evaluation.
- Appendix: ASE Practice in the United States, Additional Resources.

Updated SSC Guide:

- Address equity in each stage:
  - Engagement of equity stakeholders during planning implementation and evaluation.
  - Evaluating impact along demographic and social categories.
  - Assure underserved communities are not disproportionality impacted by SSC citations, surveillance and fines.
  - Focus on reduction of fatalities and serious injuries, not revenue generation.
  - Assuring equitable site locations based on safety improvement, not citation generation.
  - Seeking Public trust through transparency.
  - Encourage use of funds gathered through SSCs for longer-term engineering improvements – prioritize these investments in underserved communities.
- Addition of case studies to share existing practices

Site Location

- Underserved communities may experience disparities in traffic fatalities and serious injuries.
- Site locations should be based on safety data not citation data.
- It is important to site SSCs in overburdened communities to redress the risk of fatal and serious injury crashes caused by speeding.
- However, it is critical to **monitor any disproportionate impacts of SSCs to minimize the burdens of penalties on underserved or overburdened communities**.
- Since underserved or overburdened communities may experience a disproportionate impact from SSCs, these communities can be prioritized for longer-term engineering solutions.

Penalty Structures

- Recognize that underserved communities may be **disparately impacted** by SSC penalties.
- Encourage **innovative penalty structures**, including:
  - Low fines
  - Alternative penalties like community service and road safety courses
  - Progressive fines based on income
  - Emphasize consistent and fair penalties as opposed to burdensome penalties

New York City

Program Background

- SSC program owned and maintained by NYCDOT
- SSCs permitted in 750 school zones
  - Operate Monday-Friday 6:00 a.m. to 10 p.m.
  - Enforce quarter mile radius from school entrance
- Issues $50 fine to the registered vehicle for speed 10 mph or more over speed limit
  - Fine issued regardless of the violating speed or whether it was a repeat offense.
  - No points are given to the vehicle owner's license (NYCDOT, 2017).

New York City

Program Benefits

- Safety:
  - Reduction in speeding
  - Low rate of repeat citations
  - Reduction in fatal crashes and injury crashes
  - Consistent enforcement compared with non-camera locations
- Equity:
  - No interaction between driver and law enforcement officer
  - Lower ticket cost; $50 compared to $180 and more for a “traditional” speeding ticket
  - No points on driver’s license

Seattle

School Zone Speed Safety Camera Program

- Fixed camera program since 2012
- 17 cameras in school zones – operational when school zone signs are flashing.
- Contracted with vendor to lease cameras
  - Fixed price contract does not depend on amount of revenue or number of citations.
  - Contract delineates vendor and city responsibilities.
- Site selection criteria
  - Speed, camera necessity, volume, geographic balance.
- Revenues go to school traffic safety and pedestrian safety projects.

Funding

- Highway Safety Improvement Program (HSIP) Funding
- Other Federal funds and grants
- Integrate into policies and practices

Summary

- SSCs are a FHWA Proven Safety Countermeasure that can reduce roadway fatalities and injuries by 20 to 37 percent.
- The primary function of an SSC program is to address speeding-related safety problems within a jurisdiction that cannot be addressed more effectively with other countermeasures.
- Integrating equity is critical at every stage of a successful SSC Program.
- Jurisdictions who explore the use of SSCs must consider equity and civil rights concerns in all stages of an SSC program (planning, design, operation, and evaluation).

Speed Management Resources

United States Department of Transportation

U.S. Department of Transportation
Federal Highway Administration

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FHWA Highway Safety Programs

Home / Safety / Speed Management Safety

- Speed Management Safety
- USLIMITS2
- Facts & Statistics
- Engineering Speed Limits
- Traffic Calming ePrimer
- Ongoing Research
- Reference Materials
- Related Web Site Links

Reference Materials

- Speed Management Practices
- Self-Enforcing Roadways: A Guidance Report
- Speed Management ePrimer for Rural Transition Zones and Town Centers
- Speed Management Outreach Materials
  - Lower Citywide Speed Limits and Design Changes: Safer city arterials for all road users [PDF 1.34 MB]
  - Speed Limit Basics [PDF, 1.25 MB]
  - Speed Management Countermeasures: More than Just Speed Humps [PDF 1.37 MB]
  - Speed Management Case Study: Georgia Department of Transportation Setting Speed Limits with Help from USLIMITS2 [PDF 1.01 MB]
  - Speed Management Case Study: Reducing Excessive Speeding in Rural Communities in Iowa [PDF, 1.15 MB]
  - Noteworthy Practice Booklet – Speed Management [PDF, 3.98MB]
    - Case Study 1: Strategic Speed Management Program – CITY OF AUSTIN, TEXAS, [PDF 824KB]
    - Case Study 2: Self-Enforcing Roadways – CITY OF GOLDEN, CO, [PDF 604KB]
    - Case Study 3: Setting Credible Speed Limits – NEW HAMPSHIRE DOT, [PDF 605KB]
    - Case Study 4: High Visibility Enforcement – CITY OF ORO VALLEY, ARIZONA, [PDF, 289KB]
    - Case Study 5: Successful Strategies for Adoption of Safety Cameras – NEW YORK CITY, NEW YORK, [PDF 534KB]
    - Case Study 6: Targeted Reporting of Speeding-Related Crashes – ARIZONA DOT, [PDF 470KB]
    - Case Study 7: Consistent Speed Limits for Vulnerable Road Users – Examples from Various Agencies, [PDF 1.97MB]
    - Case Study 8: Network Approach to Setting Speed Limits NEW ZEALAND TRANSPORT AGENCY, [PDF 315KB]
- Integrating Speed Management within Roadway Departure, Intersections, and Pedestrian and Bicyclist Safety Focus Areas

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If you are deaf, hard of hearing, or have a speech

https://highways.dot.gov/safety/speed-management/reference-materials

PSC Resources

https://highways.dot.gov/safety/proven-safety-countermeasures

Source: FHWA

Improving Road Safety for All Users on Federal-Aid Projects Request for Information (RFI)

- National Roadway Safety Strategy and the Moving to a Complete Streets Design Model: A Report to Congress on Opportunities and Challenges include commitments and strategies to address national crisis of traffic fatalities and serious injuries
- Request Comments on:
  - Whether changes to FHWA's Design Standards regulation or other FHWA regulations are needed to better serve all users;
  - How the safety performance of Federal-Aid projects should be assessed; and,
  - How to include features that improve safety performance across Federal-Aid projects.
- Use information gathered to consider future rulemakings, guidance and other resources
- Docket No. FHWA-2021-0011 in Federal Register (Open through March 20, 2023)

View and Comment on the RFI

https://www.federalregister.gov/documents/2023/02/03/2023-02285/improving-road-safety-for-all-users-on-federal-aid-projects

Questions

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