

# Automated enforcement: research and practice

2024 NCSL Traffic Safety Pre-Conference

August 4, 2024



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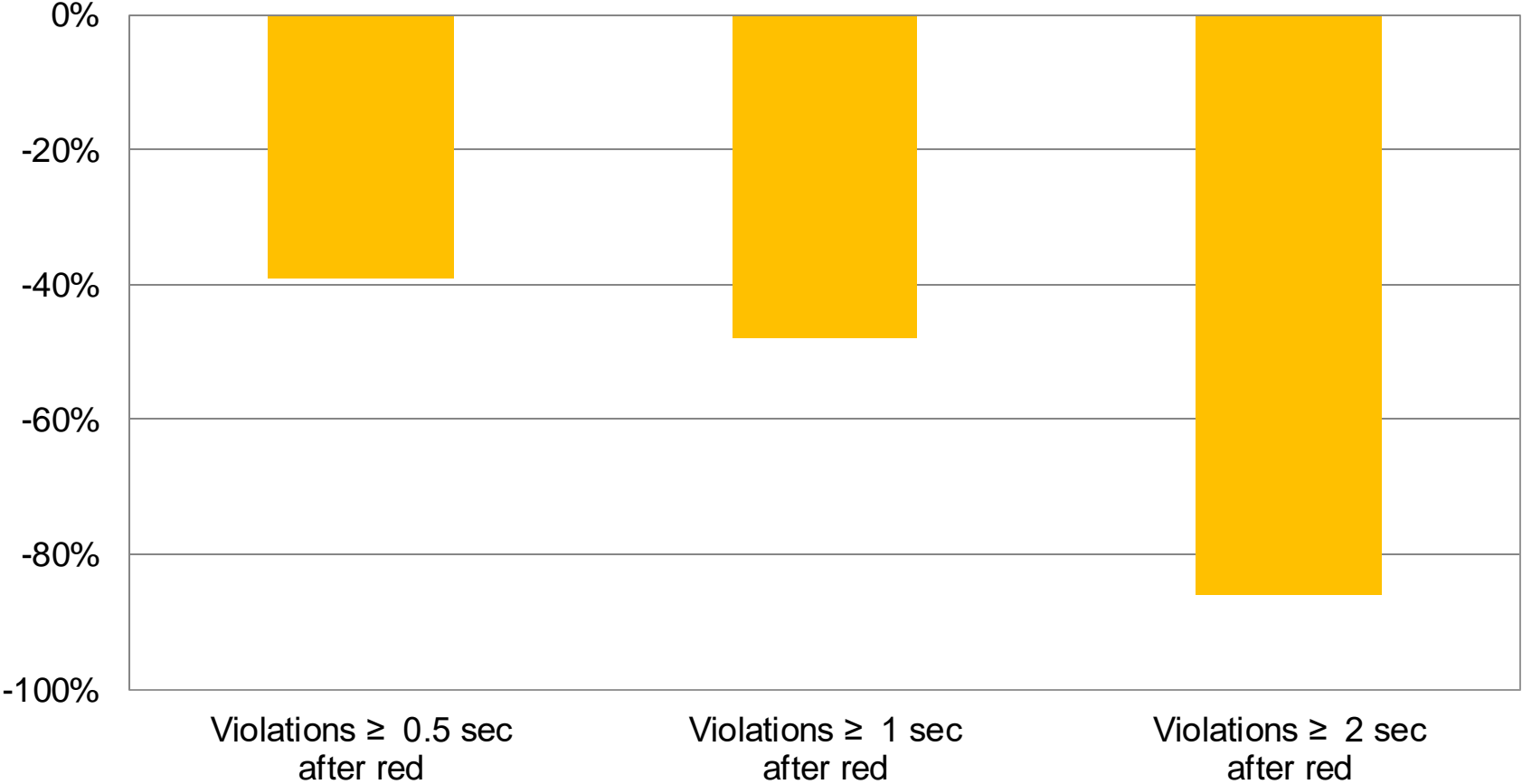


# Red light safety cameras



# Reduction in likelihood of red light violations associated with red light safety cameras

## Arlington, VA



# Effects of red light safety cameras on fatal crash rates in large cities

- ▶ Study groups

  - 57 cities that began programs

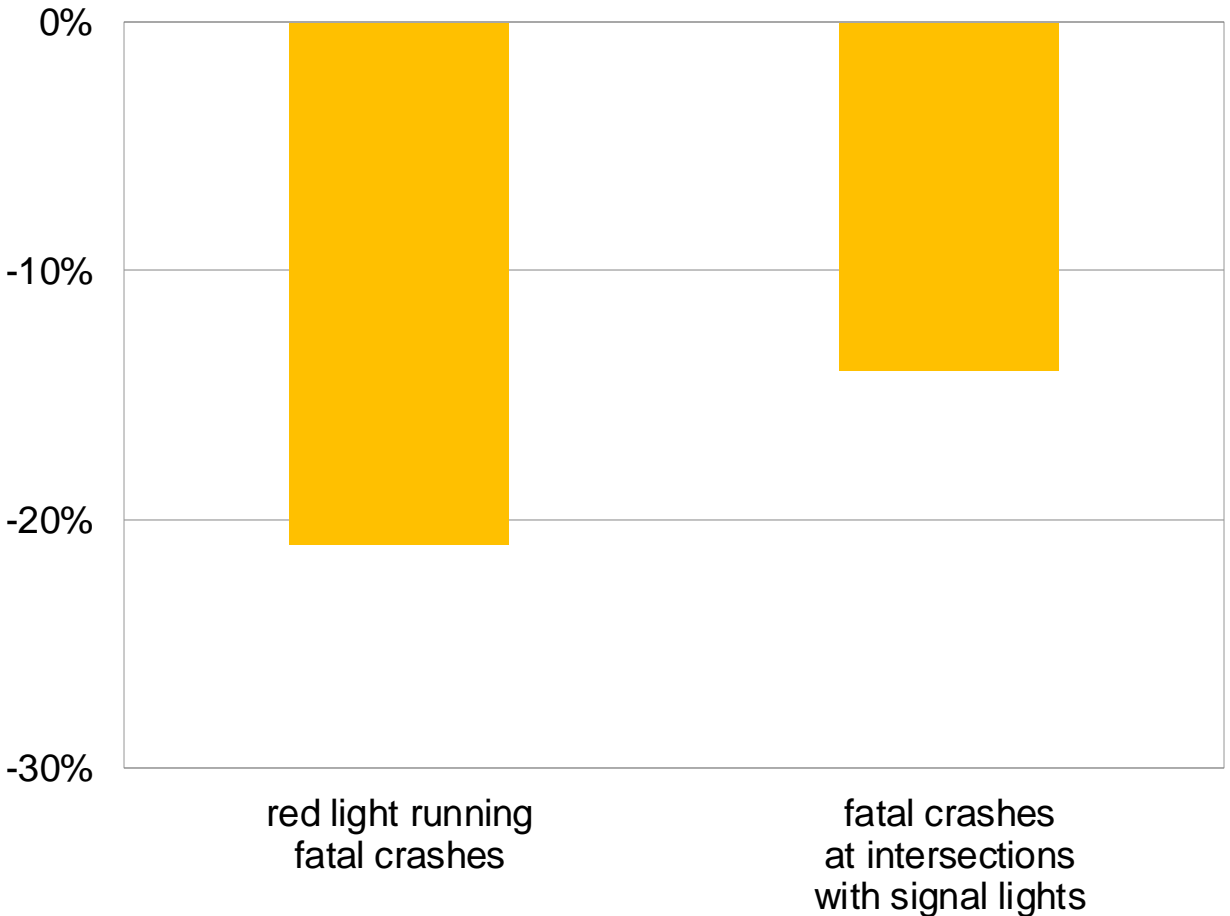
  - 33 cities without cameras

- ▶ Study period: 1992-2014

- ▶ Trends in per capita fatal crash rates compared

- ▶ Accounted for effects of population density and unemployment rates

# Reductions in fatal crash rates associated with red light safety cameras



# Effects of turning off red light safety cameras on fatal crash rates in large cities

- ▶ Study groups

  - 14 cities that terminated programs during 2010-14

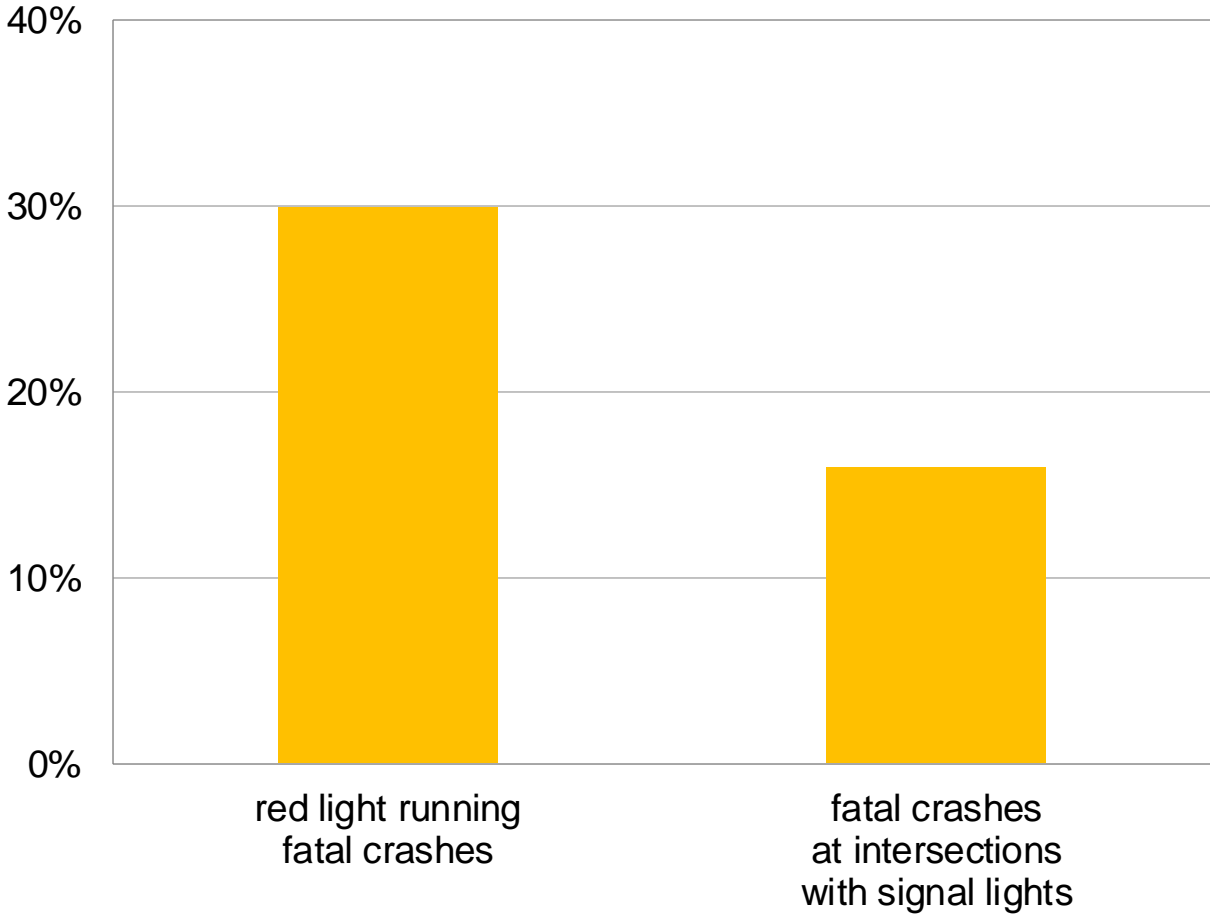
  - 29 regionally-matched cities with continuous camera programs

- ▶ Study period beginning the year city turned cameras on through end of 2014

- ▶ Trends in per capita fatal crash rates compared

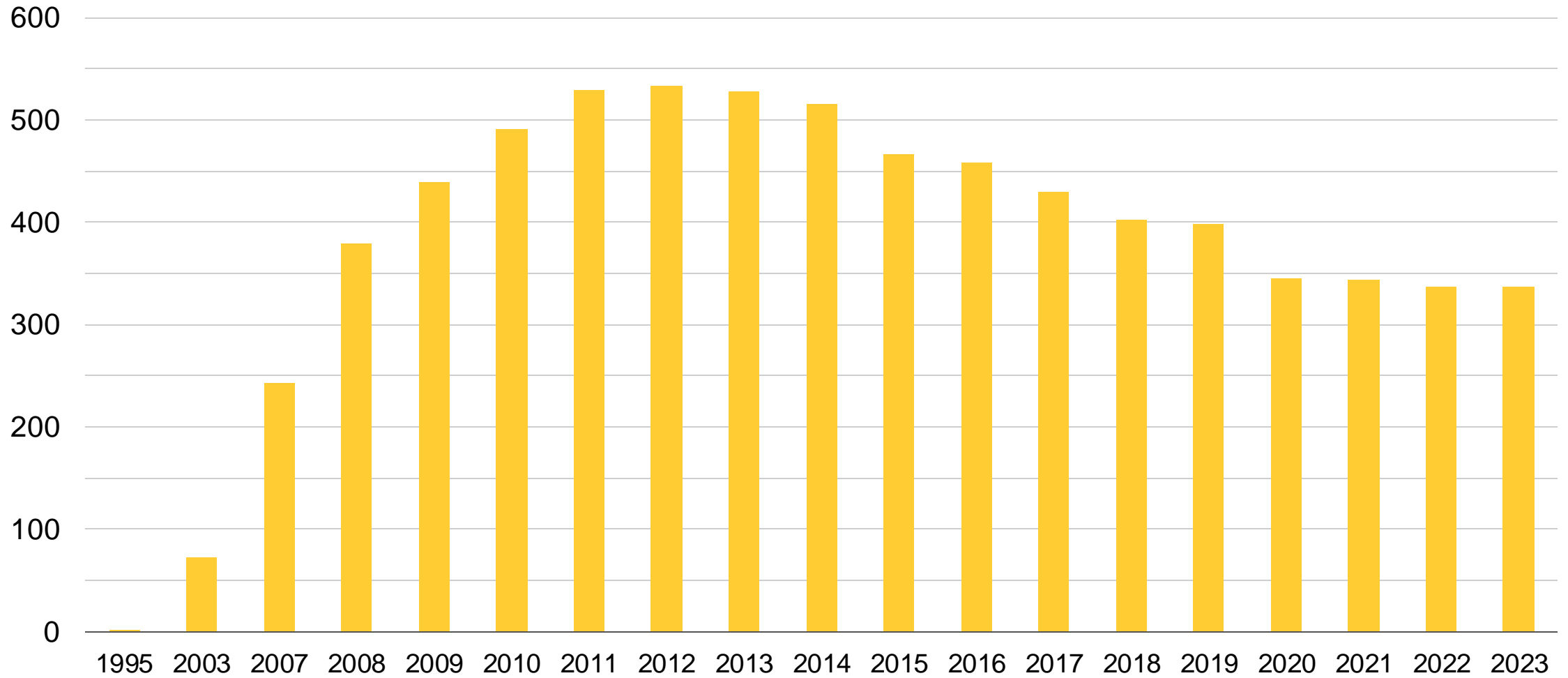
- ▶ Accounted for effects of population density and unemployment rates

# Increases in fatal crash rates associated with turning off red light safety cameras



# U.S. communities with red light safety cameras

1995 to 2023



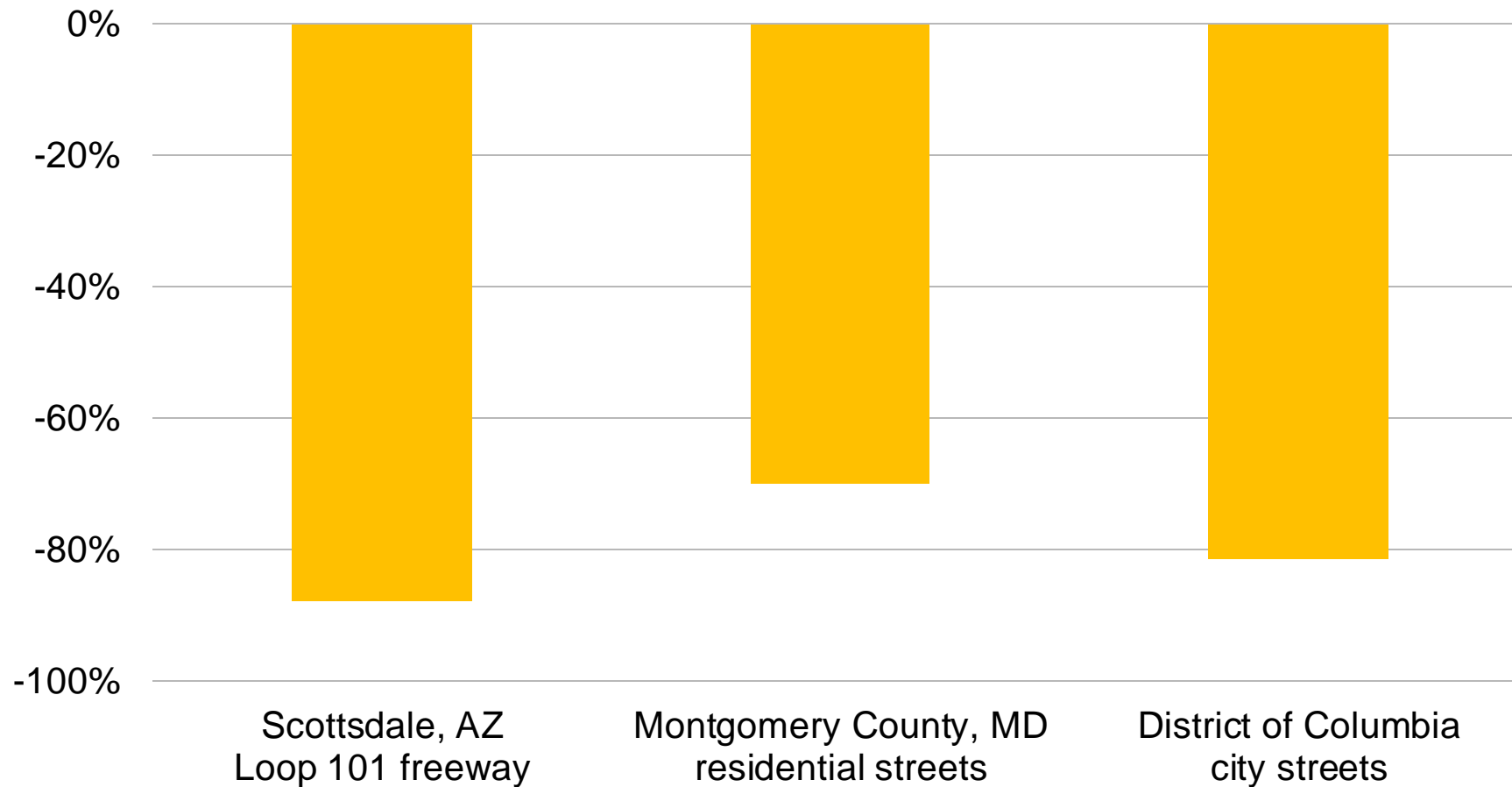


# Speed safety cameras



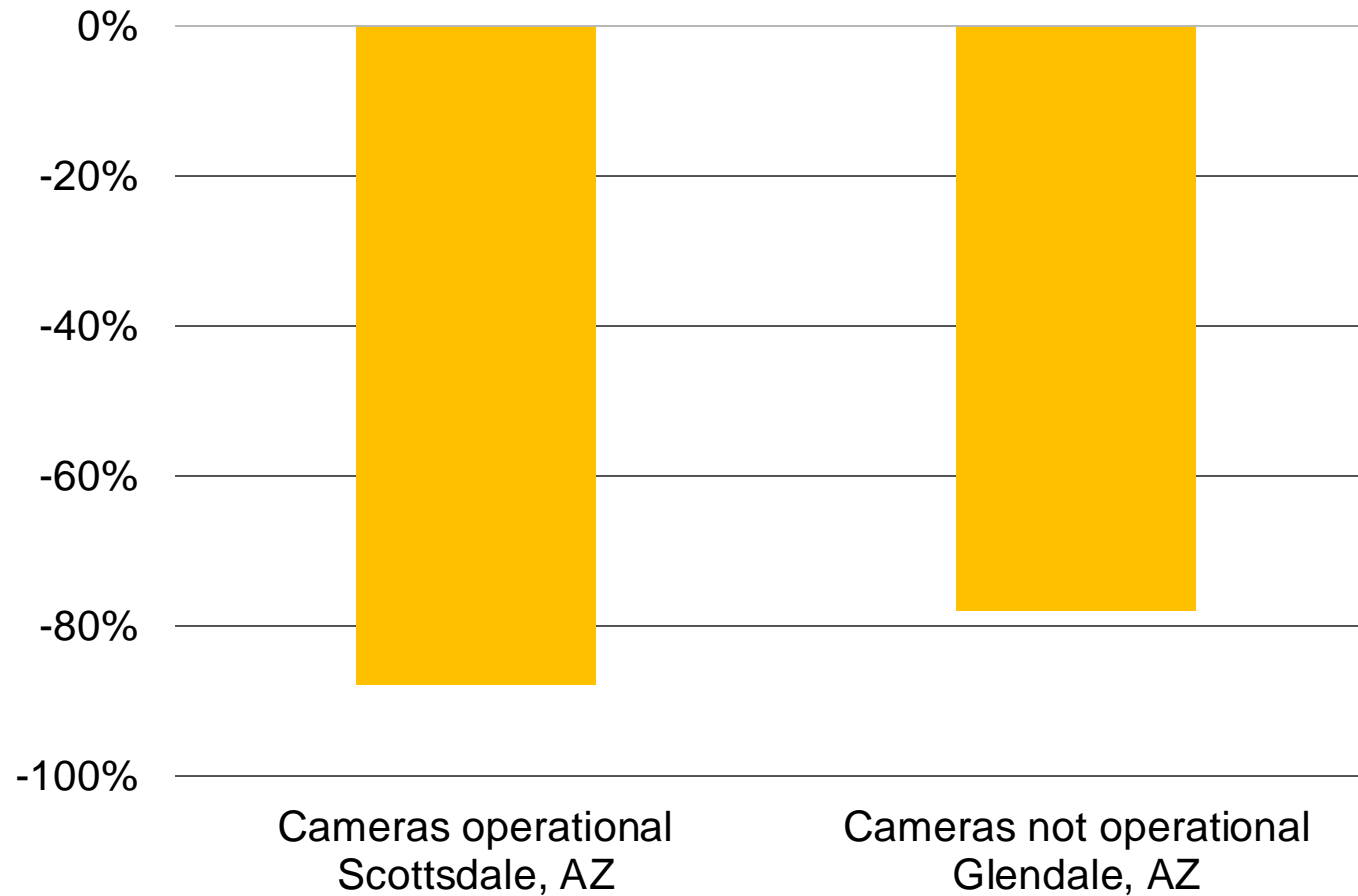
# Reductions in proportion of vehicles exceeding speed limit by more than 10 mph

6 to 8 months after speed safety camera enforcement



# Spillover effects from speed safety cameras

Reductions in proportion of vehicles exceeding speed limit by more than 10 mph



# Montgomery County speed safety cameras

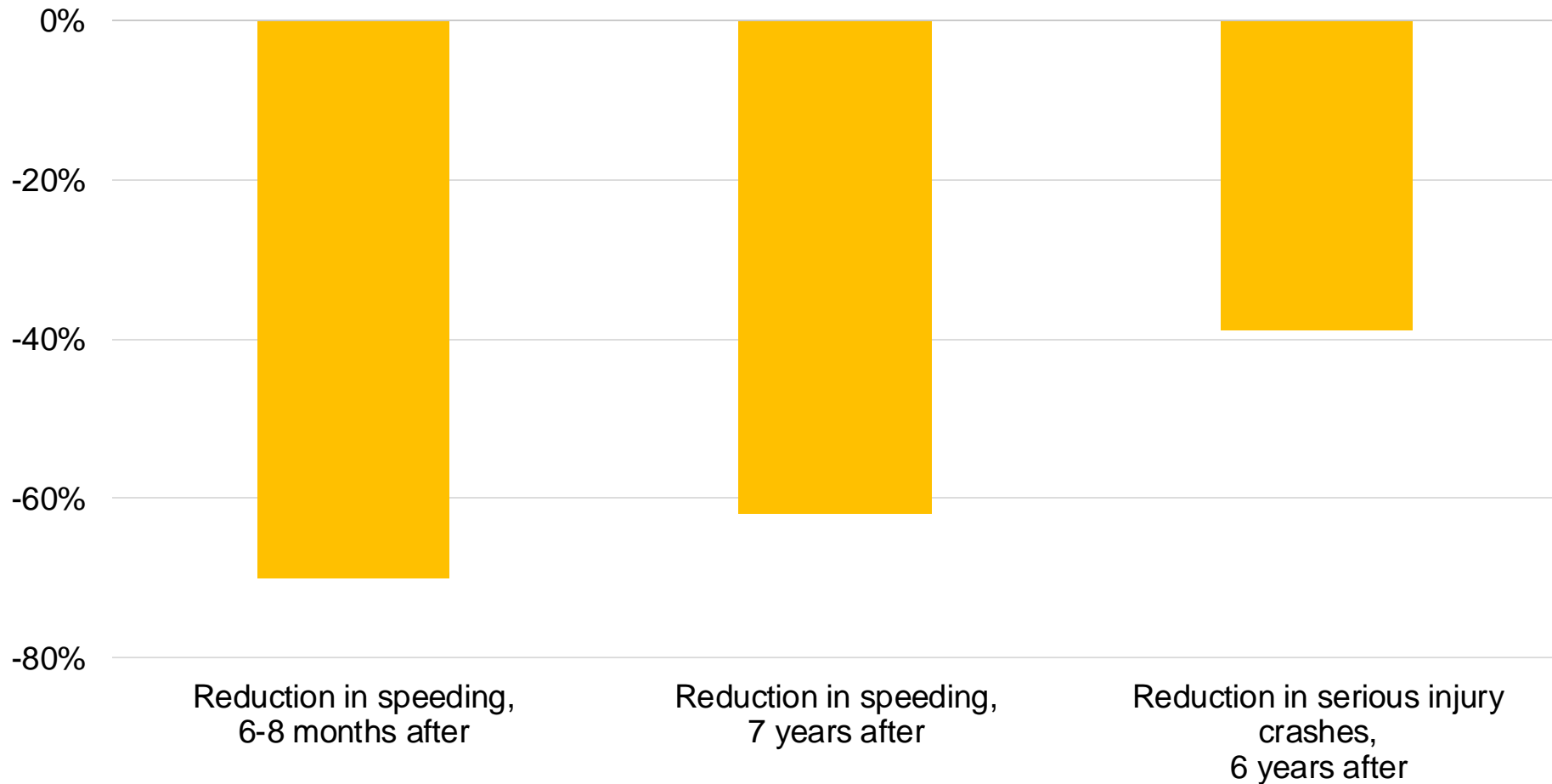
First Maryland community to use  
speed safety cameras beginning  
May 2007

School zones and residential streets  
with speed limits of 35 mph or less



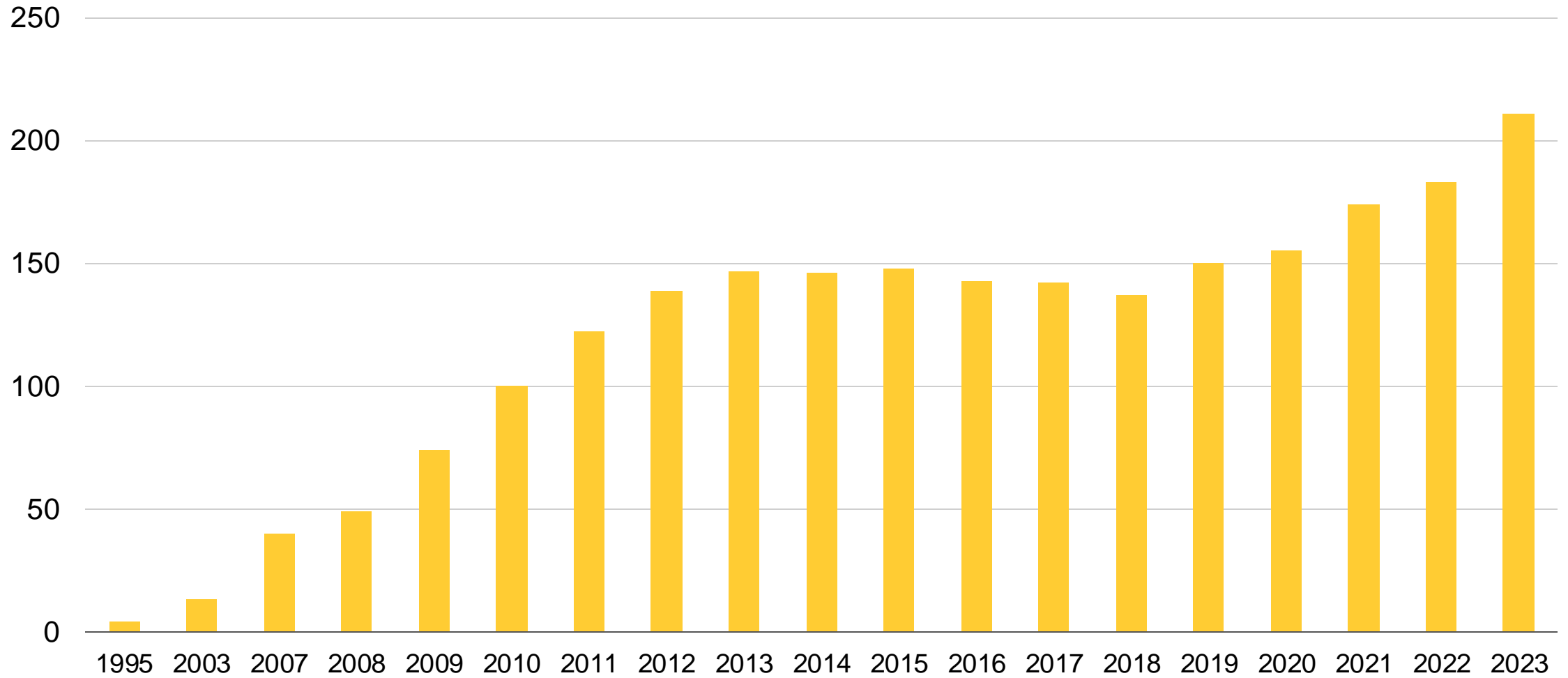
# Reductions in speeding and serious injury crashes associated with speed safety cameras

Montgomery County, Maryland



# U.S. communities with speed safety cameras

1995 to 2023



# Automated enforcement program checklist

Outlines best practices for establishing successful red light and speed safety camera programs with broad public support.



ADVOCATES FOR HIGHWAY & AUTO SAFETY



## AUTOMATED ENFORCEMENT PROGRAM CHECKLIST

For red light cameras and automated speed enforcement

Automated enforcement is an effective tool to make roads safer. Research shows that red light cameras reduce violations and injury crashes, especially the violent front-into-side crashes most associated with red light running. Speed cameras have been shown to reduce vehicle speeds, crashes, injuries and fatalities. Both types of programs should be designed, implemented and administered properly. Poorly run programs are less likely to be durable and may undermine support for automated enforcement generally.

Speed and red light camera programs augment traditional enforcement to improve traffic safety by deterring dangerous driving behaviors. Automated enforcement does not require traffic stops, and well-designed programs can improve safety for all road users in a neutral manner.

Successful programs are transparent and have a strong public information component. Communities should take into account racial and economic equity when making decisions about camera placement and fines. Automated enforcement programs should be data-driven and should prioritize safety, not revenue. In fact, communities should expect that revenue will decline over time as fewer drivers run red lights or violate speed limits.

This checklist assumes your community is already legally authorized to set up a program. It provides a minimum list of considerations to help you follow best practices. The goal is to operate a successful program that reduces crashes and prevents deaths and injuries while maintaining strong public support. Automated enforcement can be integrated into broader efforts to discourage unsafe driving that include optimizing speed limits for safety and improving roadway design.

AAA  
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GHSA  
IHS HLDI  
nsc  
National Safety Council

### FIRST STEPS

- Identify problem intersections and roadways.
  - Assess violation and crash data.
  - Conduct field observations.
  - Collect resident and roadway user input.
- Consider what role automated enforcement should play as part of a comprehensive traffic safety strategy.
- Make any engineering or signage changes needed to improve drivers' compliance with the law.
  - Ensure the road geometry conforms with guidelines from the American Association of State Highway and Transportation Officials, National Association of City Transportation Officials guidance or state road design manuals, as appropriate.
  - Remove sightline obstructions of signals and signage.
- For red light cameras:**
  - Ensure that yellow light timing conforms to the Manual on Uniform Traffic Control Devices and Institute of Transportation Engineers guidelines.
- For automated speed enforcement:**
  - Ensure the speed limit is appropriate and accounts for all road users. Follow guidance and use tools from the Federal Highway Administration, Institute of Transportation Engineers, and the National Association of City Transportation Officials.
  - Ensure the speed limit is appropriate for special conditions, such as work zones and school zones.
  - Assess whether engineering changes could be made to promote compliance with the speed limit.
  - Ensure adequate posting of speed limits.
- Establish an advisory committee comprised of stakeholders.
  - Consider including law enforcement, transportation department employees, victim advocates, equity and civil rights advocates, school officials, community residents, first responders, health officials and the courts.
  - Outline the committee's role. This may include developing guiding principles related to safety, equity, and transparency, as well as other aspects of the program.
  - Ensure committee meetings are open to the public and deliberations are transparent.
- Meet with the media, including newspaper editorial boards, to build support and educate the public.

### IMPLEMENTATION

- Hold a kickoff event with advisory committee members. Introduce a well-developed and sustained public education campaign focused on improving safety by changing driver attitudes and behavior.
- Connect the program to overall roadway safety in the community and identify the goal of zero tickets resulting from changes in driver behaviors.
- Install prominent warning signs.
- Start with a probationary period during which only warnings are issued.
- Follow current guidance from the U.S. Department of Transportation for implementation and operation of automated enforcement devices.
- Allow for due process. Minimize the number of days between the violation and citation issuance.

### LONG TERM

- Publicize changes, including new camera locations. Revisit the probationary period before ticketing begins at new locations.
- Monitor program operation and publicize results. Undertake periodic reviews and ensure racial, economic and other equity issues and public concerns are addressed.
- Require regular field reviews. Verify monthly camera calibration and synchronization with signals.
- Require regular evaluations of the traffic safety benefits of the program by collecting crash and infraction data. Before-and-after include control intersections and roadways that are not subject to spillover effects.
- Regularly meet with the advisory committee and media to review program status and sustain public support.
- Continue to improve programs based on new and updated guidance and best practices and look for opportunities to expand automated enforcement use.
- Consider other changes, including roadway design improvements, in order to reduce opportunities for unsafe driving.

Insurance Institute for Highway Safety  
Highway Loss Data Institute

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**THANK YOU**



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