Speed management and IIHS research

NCSL Traffic Safety Preconference 2022

July 31, 2022

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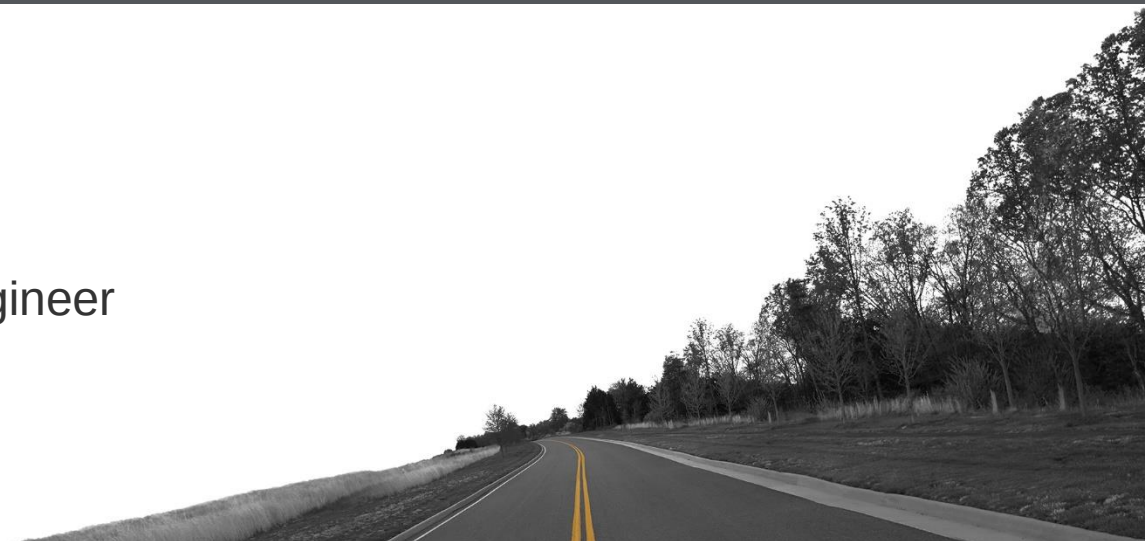

Saving lives. Preventing harm.

IIHS-HLDI mission:

To reduce deaths, injuries and property damage from motor vehicle crashes through **research and evaluation** and through **education** of consumers, policymakers and safety professionals.

Dangers of speed

- It increases the **distance a vehicle travels** from the time a driver detects an emergency to the time the driver reacts
- It increases the **distance needed to stop a vehicle** once the driver starts to brake
- It increases the **risk** that an evasive steering maneuver will result in **loss of control**
- It increases the **crash energy** exponentially

- Speeding has been a factor in **more than 25% of crash deaths** for decades

Patch

Pandemic Revs Up Bad Driver Behavior, U.S. Traffic Fatalities

February 11, 2021

San Francisco Examiner

Reckless driving has increased since pandemic

April 15, 2021

THE VERGE

The pandemic was the bloodiest year for driving in over a decade

June 4, 2021

The Washington Informer

Uptick in Speeding, Reckless Driving During Pandemic Hasn't Let Up

August 9, 2021

4 WASHINGTON

Pandemic Didn't Slow Down Drunk Driving or Speeding

October 30, 2021

Johns Hopkins Bloomberg School of Public Health
Global Health NOW

Reckless Driving: An Unexpected Pandemic Trend

September 4, 2019

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In 2020, fatalities increased

In speeding-related crashes

17%

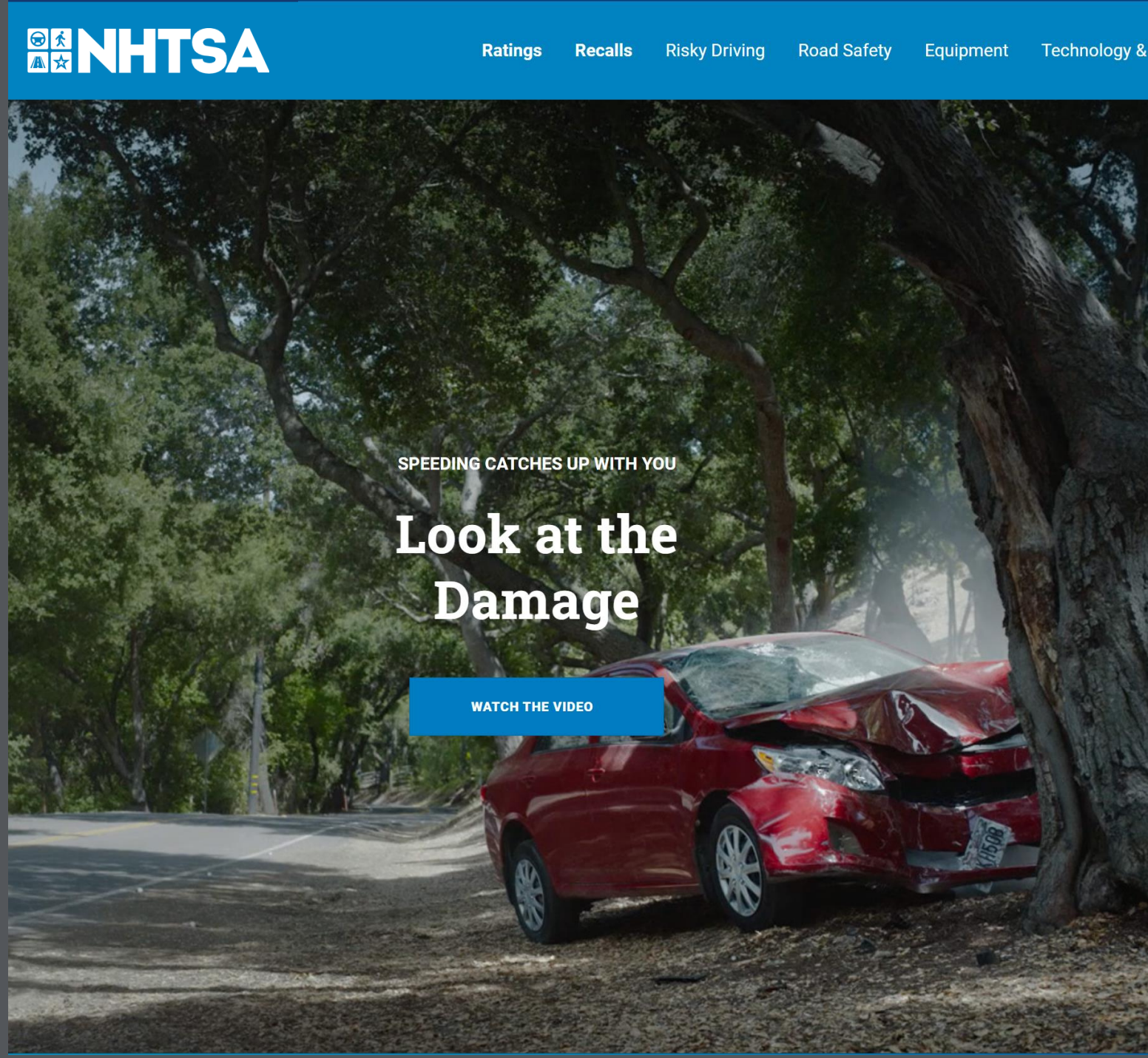
Addressing speeding is challenging

Inconsistencies between perception of speeding and speeding behavior

A 2020 national survey (AAA Foundation for Traffic Safety)		
	Respondents who thought it was *extremely, very, or moderately dangerous* to drive	**Respondents who admitted doing so in the past 30 days**
15 mph over the speed limit **on freeways**	80%	45%
10 mph over the speed limit **on residential streets**	88%	35%

NHTSA launches its first national paid media campaign on speed

Speeding Wrecks Lives



NHTSA launches its first national paid media campaign on speed

Speeding Wrecks Lives

- Several states are conducting speed enforcement campaigns alongside NHTSA's national effort

Cities are lowering speed limits

seattle.gov/visionzero

VISION ZERO

Seattle Department of Transportation

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Lowering speed limits reduced speeds and injuries in Canada, Europe, and Australia

- Research has found reductions in speeds and crashes, especially crashes with severe and fatal injuries, associated with lowering speed limits in urban areas

  From 60 km/h (37 mph) to 50 km/h (31 mph) in Australia

  From 50 km/h (31 mph) to 40 km/h (25 mph) in Canada

  From 30 mph to 20 mph in the United Kingdom

Boston lowered default speed limit on city streets from 30 to 25 mph

- In 2016, the Massachusetts state law was amended to allow lowering speed limits from 30 mph to 25 mph on municipal roads inside densely settled areas or business districts, without conducting engineering studies or seeking further authority from the state.
- Effective January 9, 2017, the default speed limit on City of Boston streets was reduced from 30 mph to 25 mph

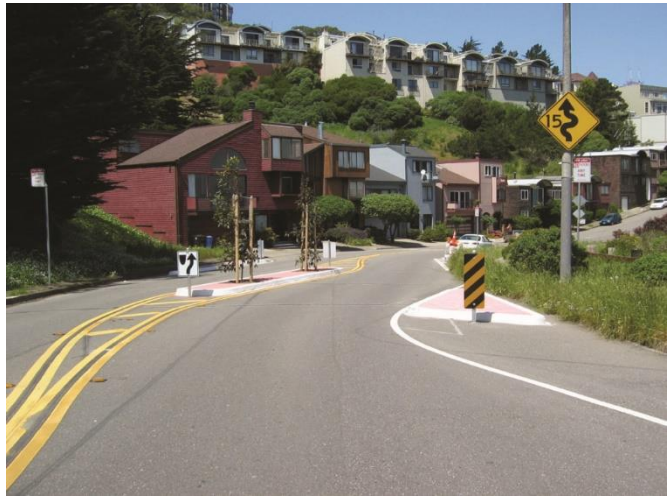
  25 mph signs were posted at gateways into the city or onto city-owned streets

Percent change in mean speeds and odds of vehicles exceeding 25, 30, or 35 mph

Relative to expected without speed limit reduction

Other tools available for managing speeds

Traffic-calming measures, such as roundabouts and speed humps

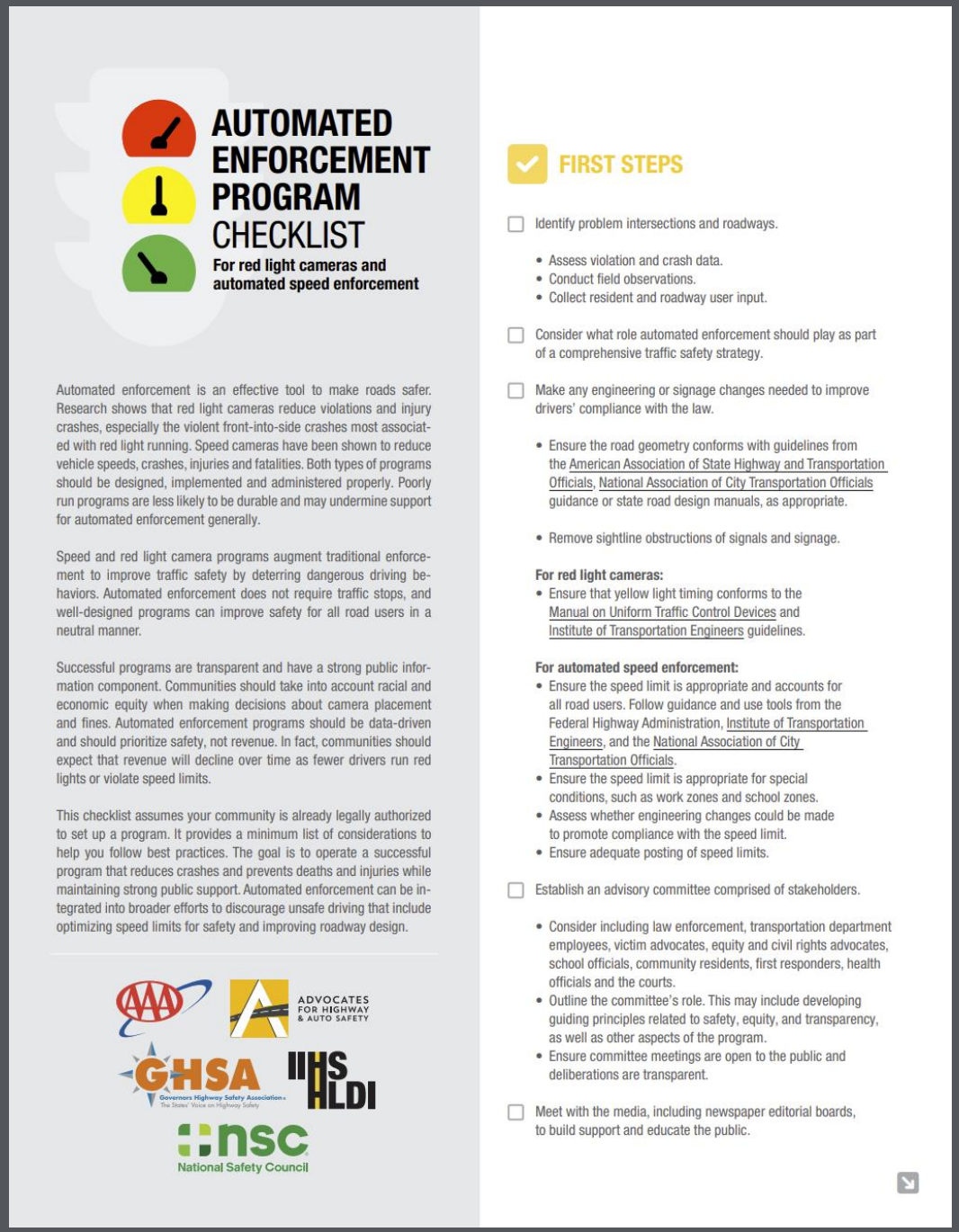


Self-enforcing roadways

Automated speed enforcement

Automated enforcement program checklist

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



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 · Advocates for Highway & Auto Safety · GHSA Governors Highway Safety Association · IIHS 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.

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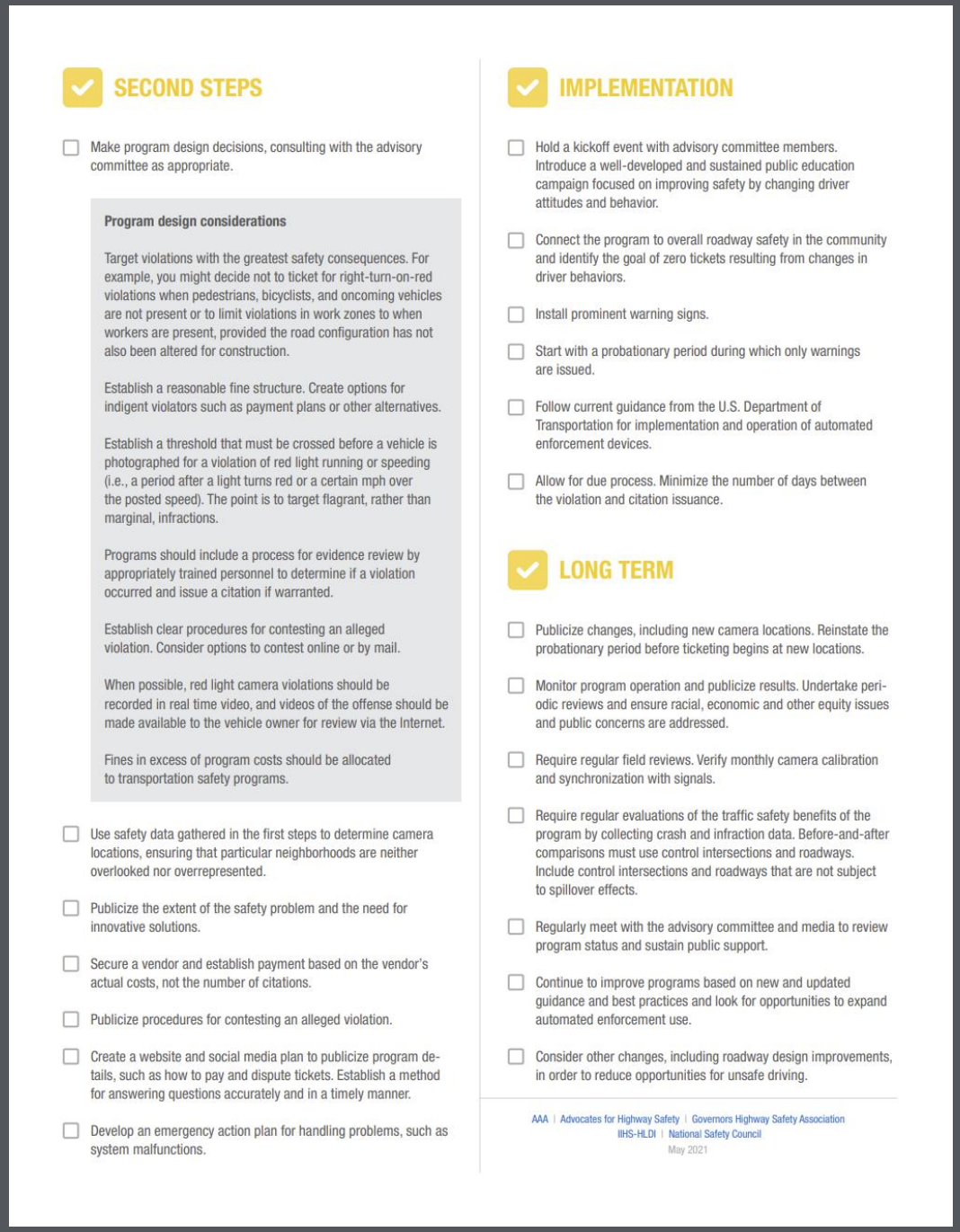
Automated enforcement program checklist

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



SECOND STEPS

- [ ] Make program design decisions, consulting with the advisory committee as appropriate.

Program design considerations

Target violations with the greatest safety consequences. For example, you might decide not to ticket for right-turn-on-red violations when pedestrians, bicyclists, and oncoming vehicles are not present or to limit violations in work zones to when workers are present, provided the road configuration has not also been altered for construction.

Establish a reasonable fine structure. Create options for indigent violators such as payment plans or other alternatives.

Establish a threshold that must be crossed before a vehicle is photographed for a violation of red light running or speeding (i.e., a period after a light turns red or a certain mph over the posted speed). The point is to target flagrant, rather than marginal, infractions.

Programs should include a process for evidence review by appropriately trained personnel to determine if a violation occurred and issue a citation if warranted.

Establish clear procedures for contesting an alleged violation. Consider options to contest online or by mail.

When possible, red light camera violations should be recorded in real time video, and videos of the offense should be made available to the vehicle owner for review via the Internet.

Fines in excess of program costs should be allocated to transportation safety programs.

- [ ] Use safety data gathered in the first steps to determine camera locations, ensuring that particular neighborhoods are neither overlooked nor overrepresented.
- [ ] Publicize the extent of the safety problem and the need for innovative solutions.
- [ ] Secure a vendor and establish payment based on the vendor's actual costs, not the number of citations.
- [ ] Publicize procedures for contesting an alleged violation.
- [ ] Create a website and social media plan to publicize program details, such as how to pay and dispute tickets. Establish a method for answering questions accurately and in a timely manner.
- [ ] Develop an emergency action plan for handling problems, such as system malfunctions.

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

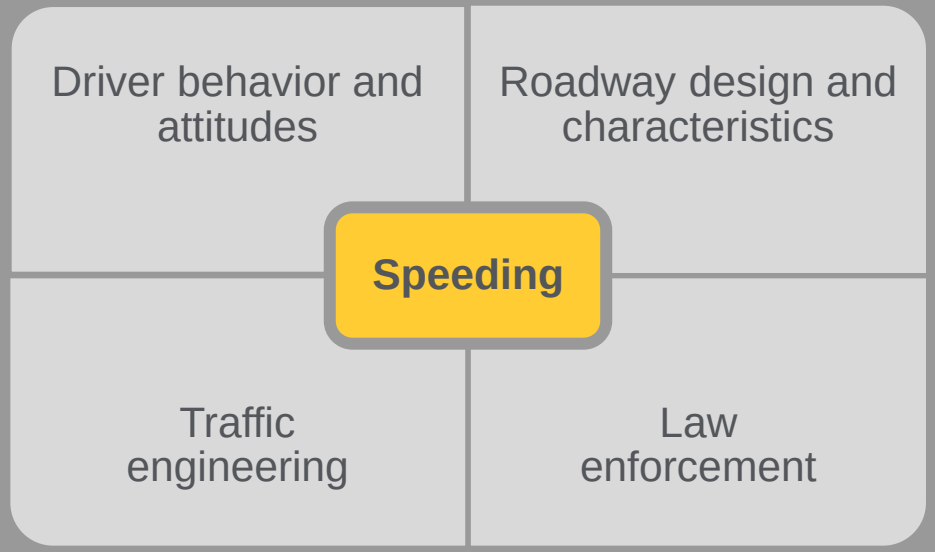
- [ ] Publicize changes, including new camera locations. Reinstate the probationary period before ticketing begins at new locations.
- [ ] Monitor program operation and publicize results. Undertake periodic reviews and ensure racial, economic and other equity issues and public concerns are addressed.
- [ ] 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 comparisons must use control intersections and roadways. 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.

AAA | Advocates for Highway Safety | Governors Highway Safety Association
IIHS-HLDI | National Safety Council
May 2021

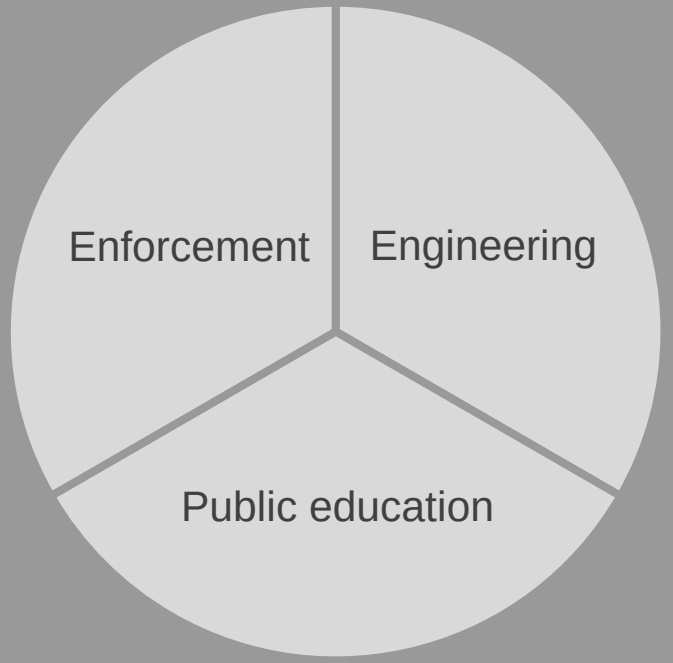
IIHS HLDI

A comprehensive program is necessary to address speeding

Speeding is a complicated issue



A comprehensive program is necessary



Many speed management programs do not always involve all the necessary strategies

These programs tend to be implemented in urban areas

Speed Forum, April 2019

GHSA
Governors Highway Safety Association
The States' Voice on Highway Safety

IIHS HLDI

The National Road Safety Foundation
NRSF

- Two speed management pilot programs selected for funding

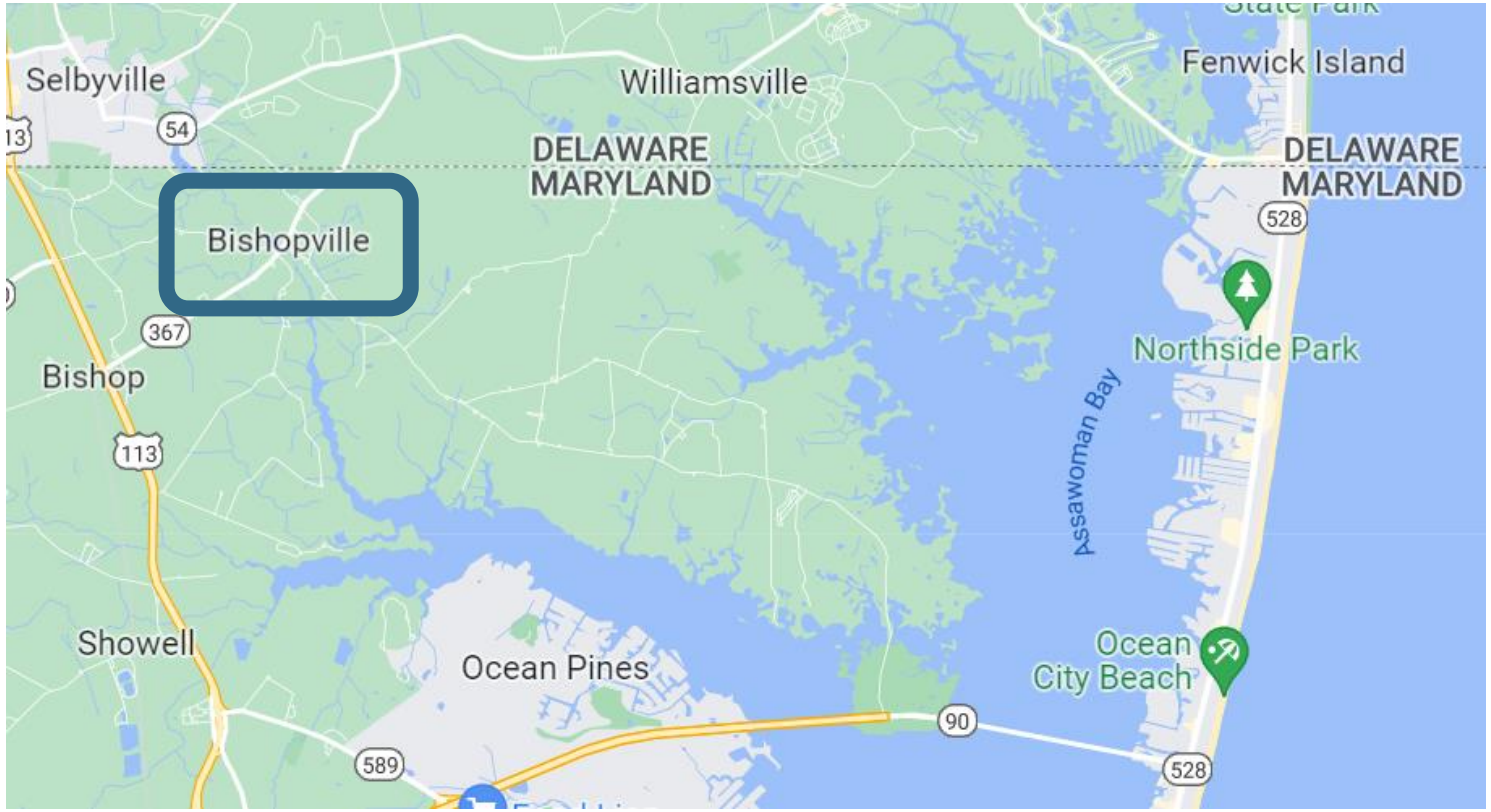
  On a rural road in Maryland

  In an urban area (Richmond) in Virginia

  $100,000 for each state

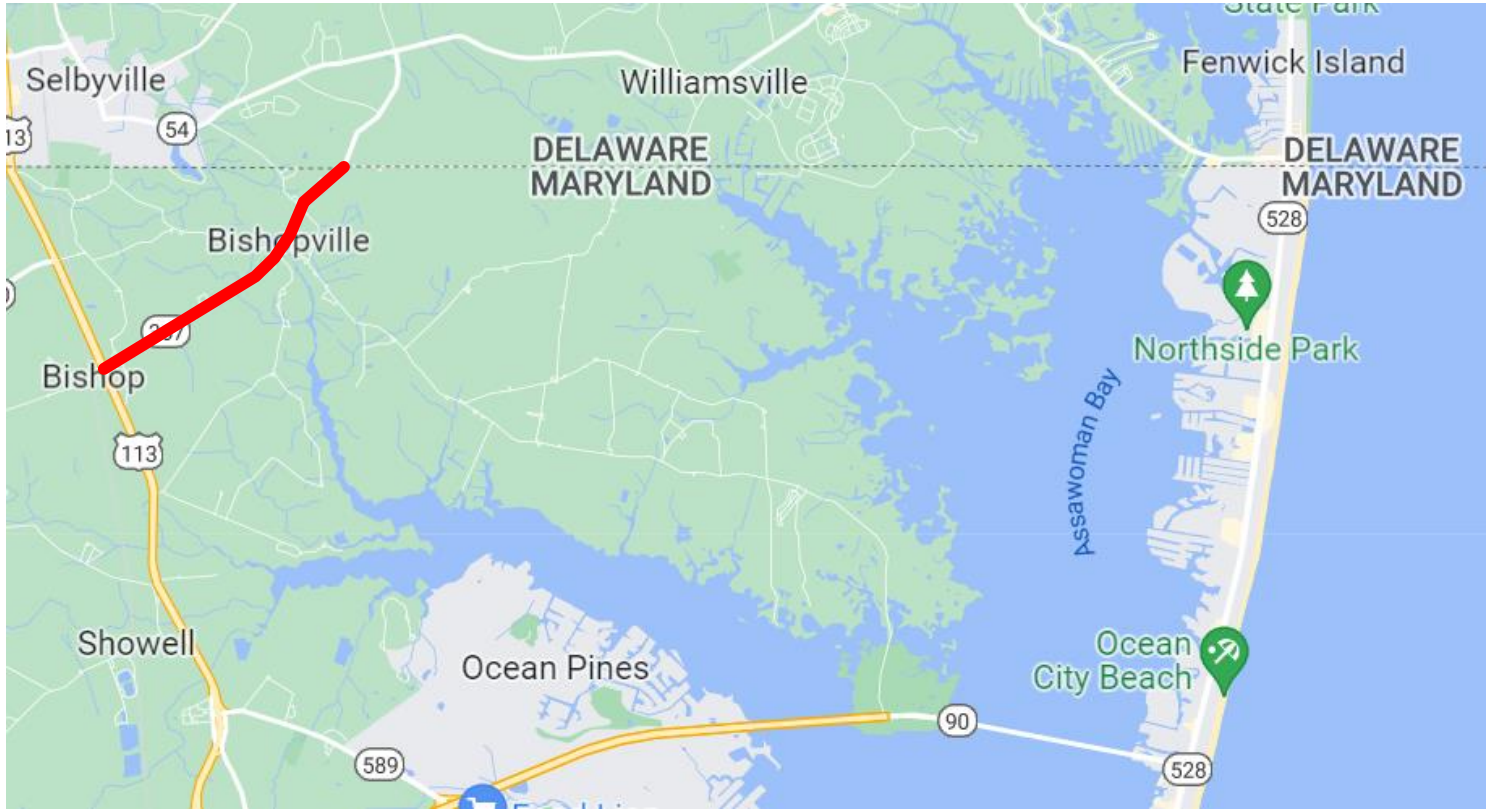
- Combined countermeasures: engineering, enforcement, communications/education

Maryland speed pilot program



- A 2.4-mile corridor on MD 367 in Bishopville
- Program took place in summer 2021

MD 367-Bishopville Rd



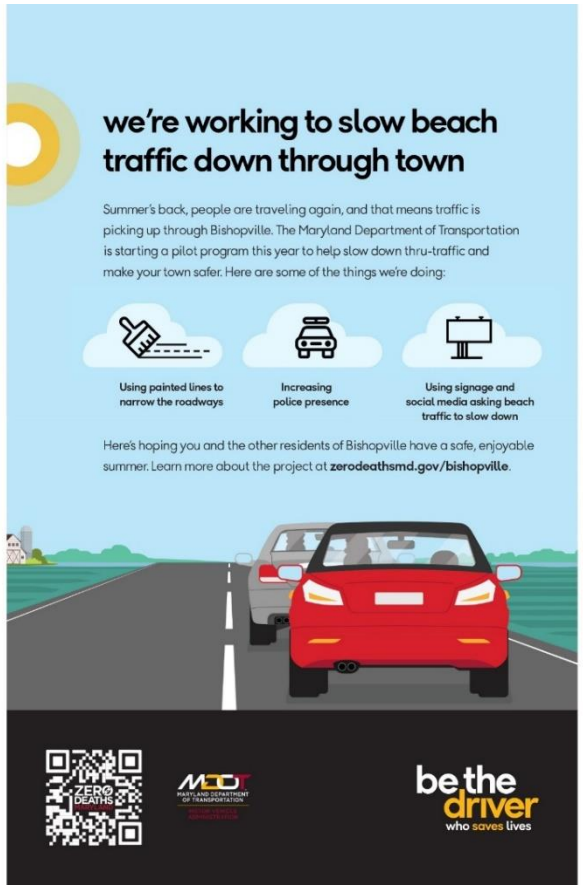
- Rural two-lane undivided road with no access control
- A popular route for beach traffic in summer
- Speeding a known problem

Engineering treatments

White and yellow striping widened from 5’ to 10”

Two radar-based speed feedback signs

Public outreach



Flyers distributed to local businesses and residents

Roadside signs placed along the MD 367 corridor

Paid media and high-visibility enforcement waves

- Four waves throughout August

  Five days per enforcement wave

  Media wave preceded each enforcement wave and continued through the end of wave

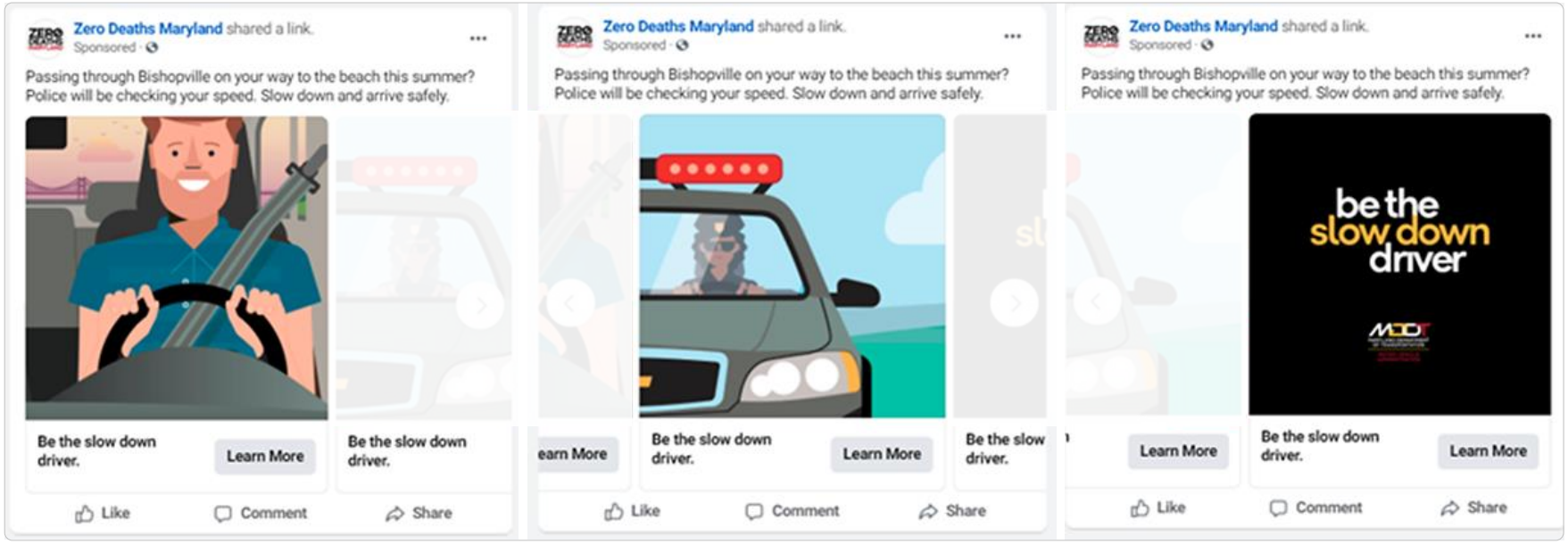
- Enforcement

  Requested no tolerance for 10 mph or more over speed limit – discretion left to officer making stop

- “Be the SLOW DOWN Driver” media campaign

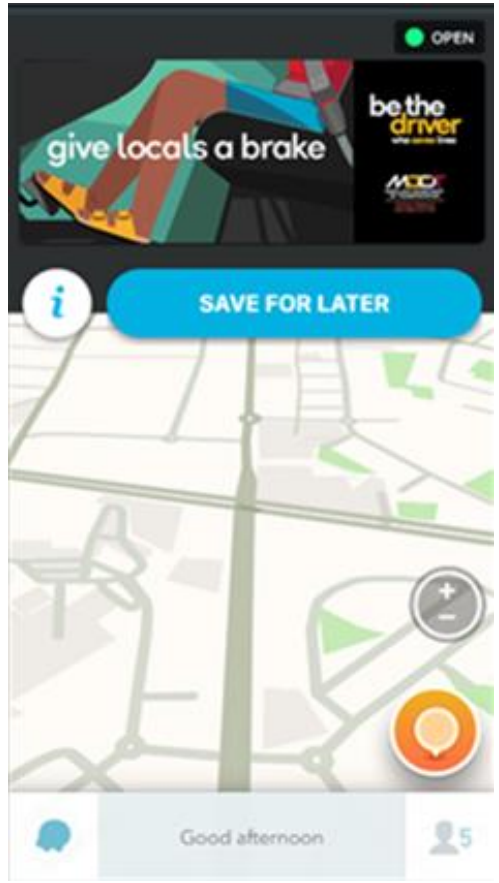
Social media

Facebook, Instagram, and Snapchat

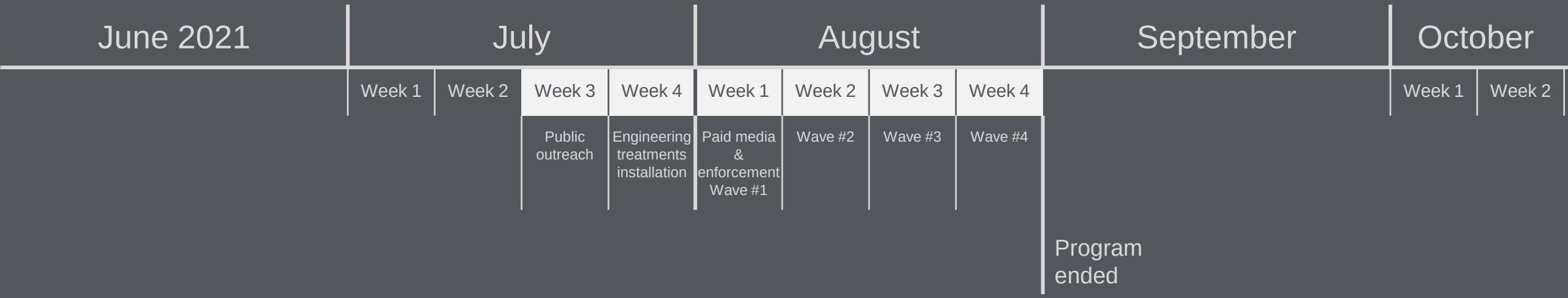


Full page inserts in
The Dispatch

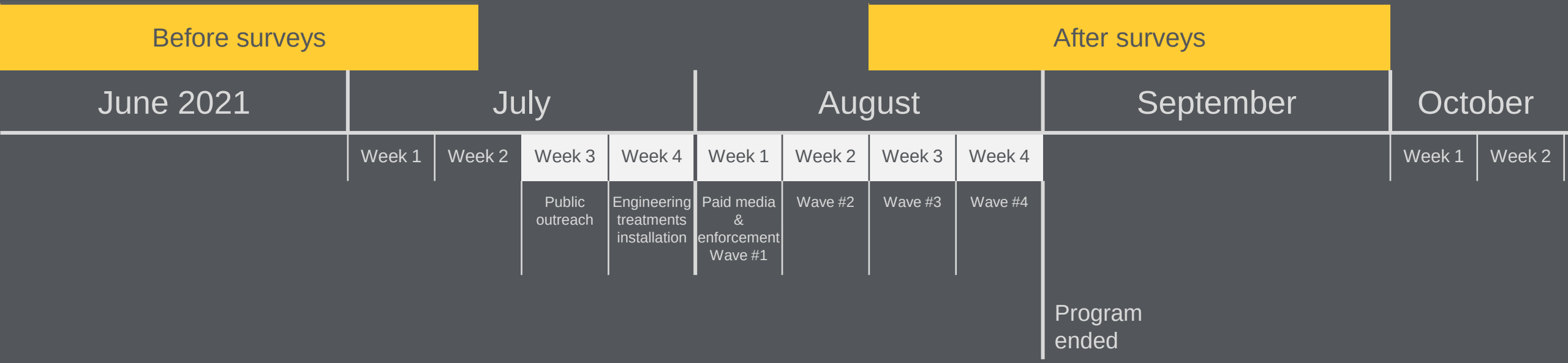
Billboards



Waze ads


June 2021
July
August
September
October
Week 1
Week 2
Week 3
Week 4
Week 1
Week 2
Week 3
Week 4
Week 1
Week 2
Public outreach
Engineering treatments installation
Paid media & enforcement Wave #1
Wave #2
Wave #3
Wave #4
Program ended

Public awareness of the speed pilot program



Public awareness

- Whether residents were aware of program elements

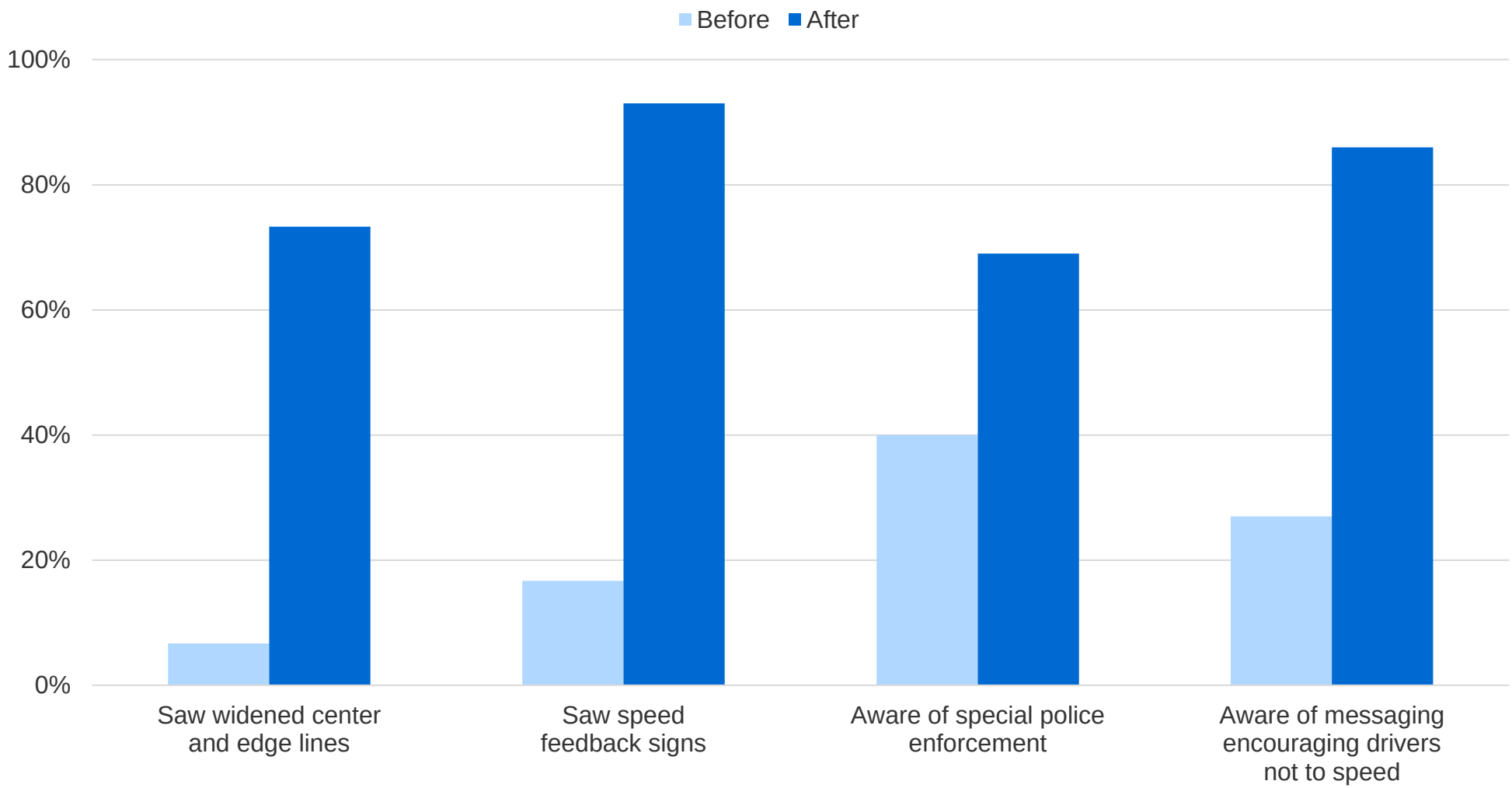
Widened edge
and center lines

Speed
feedback signs

Special police
enforcement

Message

Proportion of survey respondents who were aware of program elements



Public awareness

- Whether residents were aware of program elements

Widened edge
and center lines

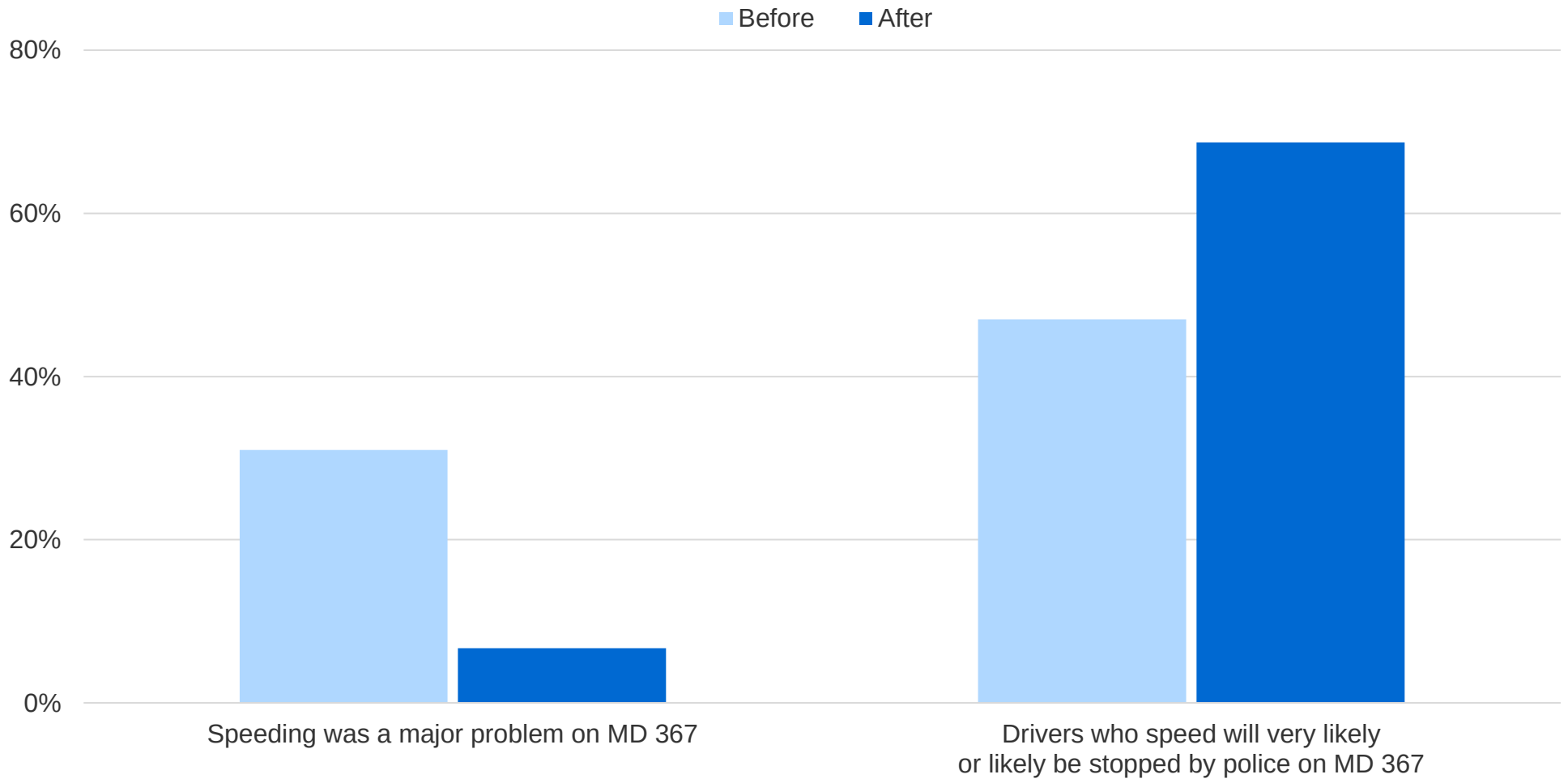
Speed
feedback signs

Special police
enforcement

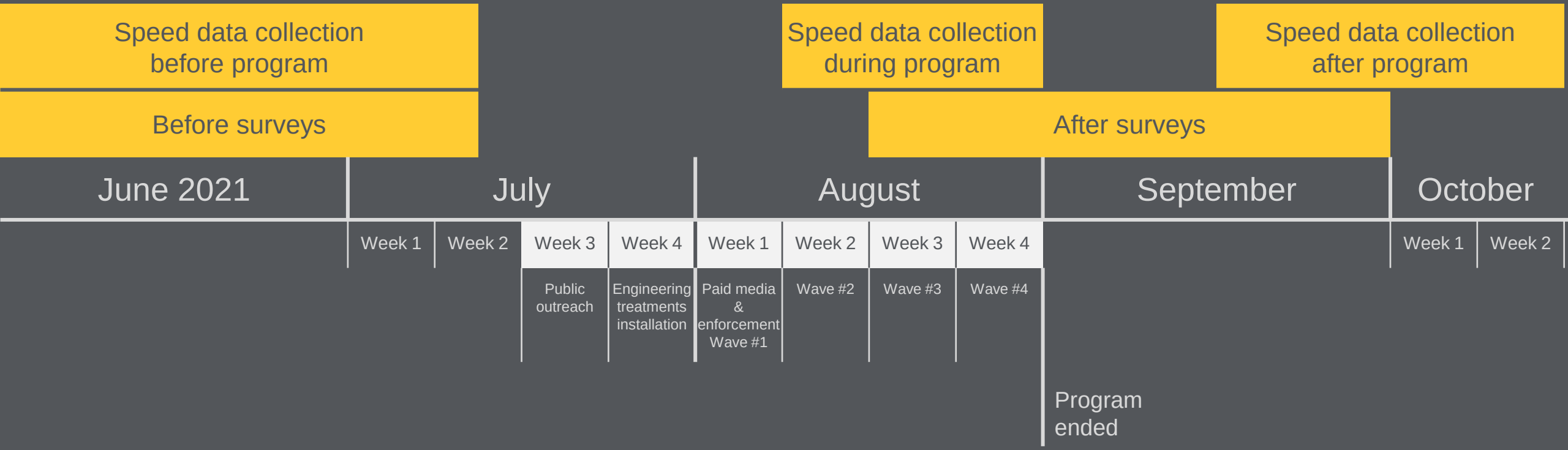
Message

- How much of a problem was speeding on MD 367
- How likely drivers who speed would get stopped by police on MD 367

Proportion of survey respondents who thought…

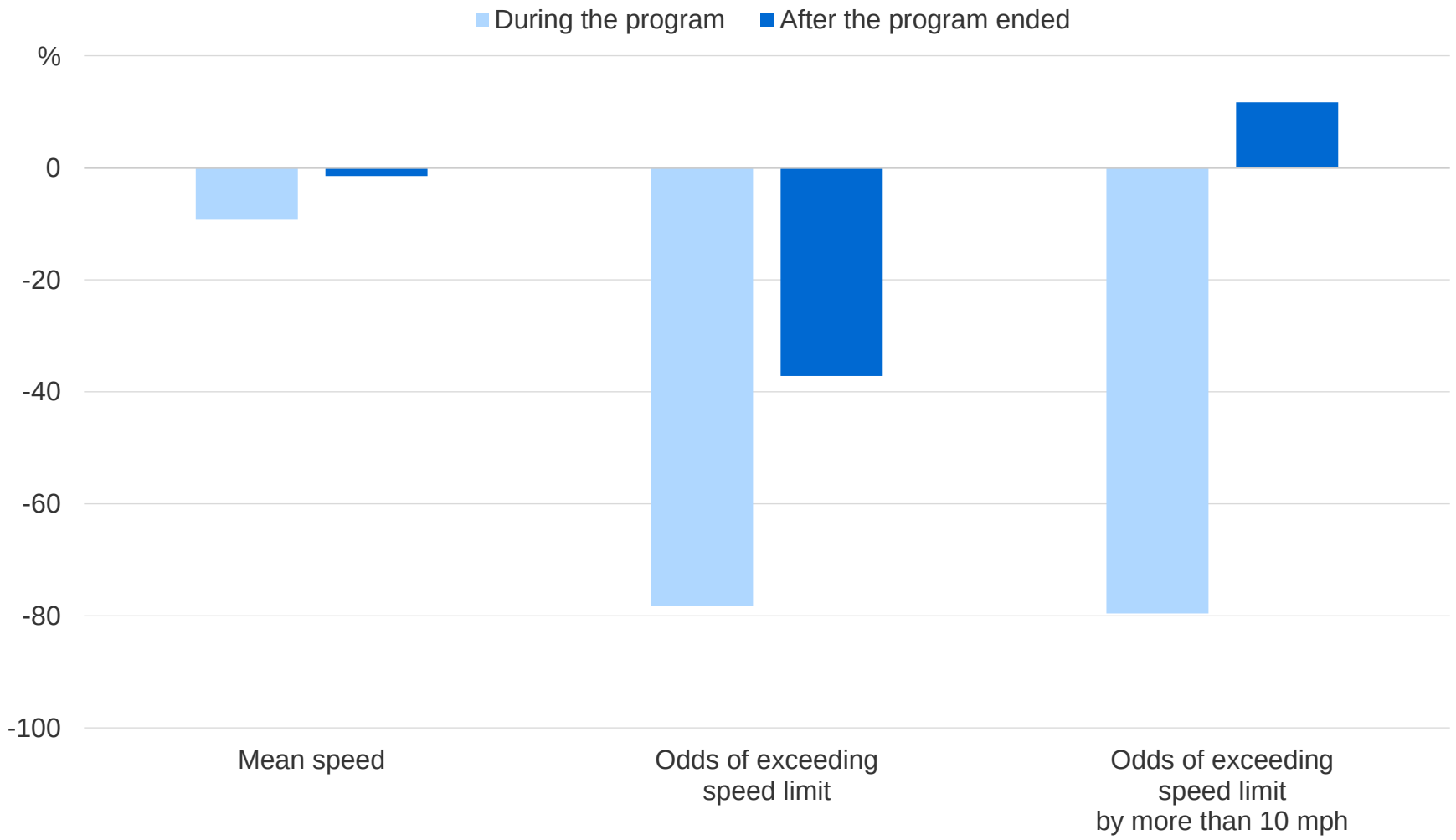


Program effects on speeds



Percent change in mean speeds, and odds exceeding speed limit and exceeding speed limit by more than 10 mph

Relative to expected without pilot program



Comprehensive speed management program can reduce speeding

- Similar program is recommended for use in other communities to reduce speeding and change speeding culture
- Program should be long-term sustainable
  - Speed cameras
  - Engineering treatments
  - Periodically repeated enforcement and communication countermeasures

Next steps

- Speed management program in Richmond, Virginia will begin

  Speed cameras in school zones

  “OUR TOWN, SLOW DOWN” media campaign

  Engineering countermeasures: speed tables in residential areas

Insurance Institute for Highway Safety
Highway Loss Data Institute

iihs.org

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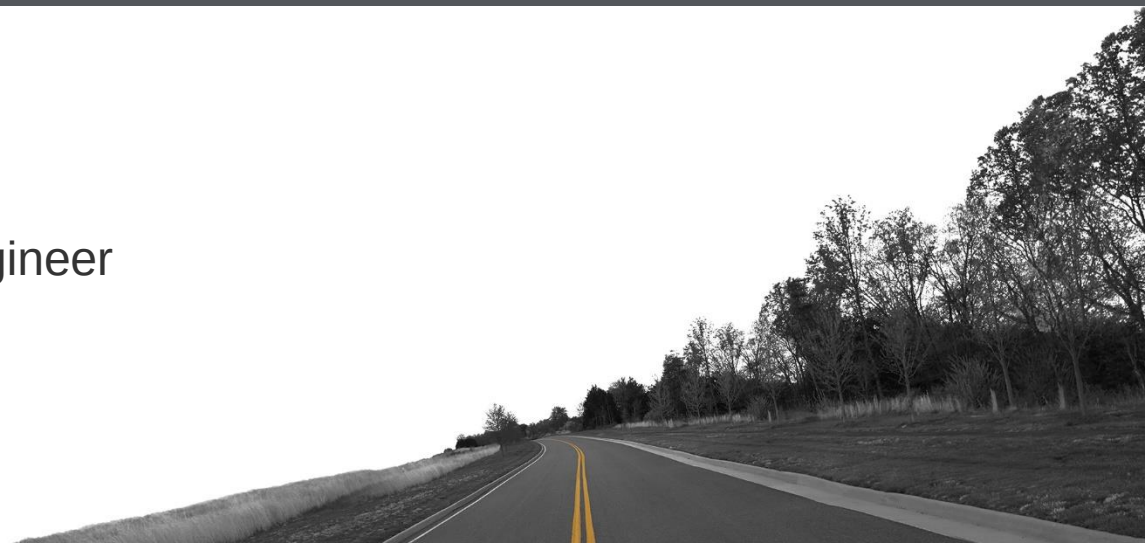
THANK YOU

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