

Red Light and Speed Cameras

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Issue

This report updates OLR Report [2010-R-0073](#) on the number of states that allow the use of red light and speed cameras (automated enforcement), and briefly summarizes studies of the programs' effectiveness, the public's attitude towards the programs, and recent federal and state legislation concerning them.

Summary

According to the Insurance Institute for Highway Safety (IIHS), a nonprofit research organization funded by auto insurers, as of September 2017, 420 communities (including towns, residential districts and school zones) in 23 states had red light camera programs and 142 communities in 14 states had speed camera programs (including statewide work zone speed camera programs in Illinois, Maryland, and Oregon).

Some states explicitly authorize, limit, or prohibit the use of speed or red light cameras. Communities in some other states use them without a specific authorization. The [Governors Highway Safety Association \(GHSA\)](#) notes that 10 states prohibit the use of red light cameras, and 13 states prohibit (with narrow exceptions) the use of speed cameras.

An IIHS summary of state laws is available [here](#).

In 2010, the Texas Transportation Institute [reviewed](#) a number of studies on the effectiveness of red light camera programs. Those studies generally found that red light cameras substantially reduce red light violation rates and crashes resulting from running red lights, but might increase the

incidence of rear-end collisions. Overall, the studies found, the use of red light cameras usually reduces crash severity by reducing more severe right angle crashes while sometimes increasing less severe rear-end collisions.

A 2017 National Transportation Safety Board (NTSB) [review of](#) speed cameras and speeding-related crashes reported that the use of the cameras reduced the overall number of crashes and of the number of those crashes resulting in fatalities and serious injuries.

While generally accepted in the localities where they are in use, the federal Centers for Disease Control and Prevention (CDC) notes that efforts to implement the programs are often opposed by those who believe that the cameras intrude on privacy or that they are primarily used to raise revenue through fines rather than to improve safety.

The most recent federal transportation funding act prohibits the use of certain highway funds for automated enforcement programs, but federal funding may be available from other sources.

According to the [National Conference of State Legislature](#) (NCSL), in 2016, 24 states considered 99 bills related to red light and speed cameras, some of which would have prohibited their use. The Connecticut legislature has considered 10 bills on automated traffic enforcement since 2010, but has not enacted any of them. The most recent proposal, authorizing a speed camera pilot program, was introduced in the 2016 session.

Automated Traffic Enforcement

Automated traffic enforcement is the use of technology such as red light and speed cameras and radar to enforce traffic safety laws.

Red light cameras are linked to traffic signals and typically take two photos when a motorist enters an intersection on a red light – one showing the vehicle entering the intersection and another showing it driving through the red light. The cameras record the date, time of day, time elapsed since the beginning of the red signal, vehicle speed, and license plate. Usually, tickets are mailed to owners of vehicles captured on camera.

Automated speed enforcement systems use radar, lasers, or speed cameras to identify vehicles that exceed the speed limit by a predetermined amount. Typically, radar signals trigger cameras to photograph vehicles speeding past a specified point, and date, time, location, and speed information are recorded along with the photo. The photos, stamped with the date and time, are used to identify the vehicle owner and citations are mailed to violators.

In some cases, jurisdictions contract with private operators to run automated enforcement programs.

Effectiveness of Red Light Cameras

In 2010, the Texas Transportation Institute reviewed a number of studies on the effectiveness of red light camera programs, finding that while the studies differed in many respects, there were “clear and undeniable” trends.

“If installed at locations with significant red light running crashes and/or violations, over a group of intersections” the [report](#) said, “red light cameras:

- substantially reduce red light violation rates
- reduce crashes resulting from red light running
- usually reduce right angle collisions
- may increase rear-end collisions
- may or may not reduce total crashes but rarely result in a substantial increase and
- usually reduce crash severity by reducing more severe right angle crashes while sometimes increasing less severe rear-end collisions.”

The NCSL also reported that while studies of the effectiveness of speed and red light cameras vary, they mostly show a positive impact on traffic safety. The [NCSL report noted that](#) while some studies have found that red light cameras may increase the incidence of rear-end crashes, the presence of the cameras “tend to lead to an overall decrease in the number and severity of crashes.”

[In 2016, an IIHS study](#) found that there were 21% fewer fatal red light running crashes per capita in cities with cameras than would have occurred without cameras, and 14% fewer fatal crashes of all types at intersections with traffic signals. The same study compared the fatal crash rate in 14 cities that terminated red light camera programs between 2010 and 2014 with 29 cities that maintained the cameras. Researchers found the rate of fatal crashes was 30% higher in the cities that shut down the cameras than it would have been if the cameras had remained on.

Effectiveness of Speed Cameras

According to a 2017 NTSB [publication](#), several federal agencies consider speed cameras to be one of the most effective speeding countermeasures. The NTSB report noted that a 2010 review of more than two dozen speed camera studies reported that all the studies found a lower number of crashes where speed cameras were used, including crashes resulting in fatalities or serious injuries.

IIHS said its research has found that speed camera installation has long-term benefits. Speed cameras were first introduced in Montgomery County, Maryland in 2007. In 2014, seven years after their introduction, researchers found that the cameras had reduced by 59% the likelihood of a motorist driving at more than 10 miles over the speed limit compared to similar roads in nearby counties without such cameras. Researchers also found a “spillover effect” on roads where the cameras were not in use. The likelihood of injuries dropped 27% on roads where the speed limit was 40 mph, even though cameras were only used on roads with a maximum speed limit of 35 mph. More on this study can be found [here](#).

Public Attitude Towards Red Light and Speed Camera Programs

Public surveys typically show strong support for red light cameras and somewhat weaker support for speed cameras, [according to the CDC with](#) support highest in communities that have the cameras.

The CDC said that efforts to begin new programs often are opposed by those who believe the cameras intrude on individual privacy, are an inappropriate extension of law enforcement authority, or are installed as means to increase revenue through fines rather than improve safety. A 2005 Federal Highway Administration [publication](#) advises states and localities that contract with private operators for red light camera programs to oversee the programs and to avoid paying the private operators on the basis of the number of citations or tickets issued.

IIHS found that, despite “strong support” for red light cameras in communities that have them, a “vocal minority” has prompted some jurisdictions to end the programs. “While programs are still launched in some places,” IIHS said, “the total number of communities with red light cameras fell to 467 in 2015 from a peak of 533 in 2012.”

The Federal FAST Act and Automated Traffic Enforcement

The federal FAST (Fixing America's Surface Transportation) Act of 2015 prohibits states from using federal Highway Safety Improvement Program funds to buy, operate, or maintain automated traffic enforcement cameras, except in school zones from 2016 through 2020 (23 U.S.C. § 148). The systems may be eligible for other federal funding.

The FAST Act requires, beginning in 2018, that states with automated enforcement systems conduct biennial surveys listing all such systems in the state and comparing them with federal red light camera program guidelines (23 U.S.C. § 402).

States Considering Automated Enforcement Legislation in 2016

According to NCSL, 24 states considered 99 bills related to red light and speed cameras in 2016. Arizona, Colorado, Florida, Maryland, Michigan, Missouri, and Virginia considered bills that would end automatic traffic enforcement programs in those states. Arizona now prohibits automated enforcement on state highways. The Colorado legislature adopted legislation to limit the use of speed and red light cameras to school and construction zones, but the governor vetoed the measure. None of the other bills passed.

Connecticut Legislative Proposals, 2010-2017

Ten bills on automated traffic enforcement were introduced in the eight legislative sessions from 2010 through 2017, the most recent in 2016. Of these, only two, [SB 706](#) in 2011, and [HB 5458](#) in 2012, were reported favorably out of committee.

[SB 706](#), which would have allowed municipalities with more than 60,000 people to use red light cameras, died in the Judiciary Committee. [HB 5458](#), which would have created a six-year window for municipalities with at least 48,000 people to use red light cameras, died in the House.

In addition, language that would have permitted the state Department of Transportation to establish a pilot program to monitor automated speed enforcement in two or more highway work zones was eliminated from [HB 5411](#) before that bill was enacted in 2016 as [PA 16-151](#).

Additional Information

CDC fact sheets on red light and speed cameras can be found [here](#) (red light cameras) and [here](#) (speed cameras).

The National Cooperative Highway Research Program (NCHRP)'s [NCHRP Report 729](#) examines successful automated enforcement programs and explores the factors contributing to their success.

[A 2013 IIHS report](#) stated that red light running rates declined at Arlington, Virginia intersections equipped with cameras, finding that “the decreases were particularly large for the most dangerous violations, those happening 1.5 seconds or longer after the light turned red.”

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