

## THE RED LIGHT RUNNING PROBLEM

In 2002, as many as 207,000 crashes, 178,000 injuries and 921 fatalities in the U.S. were attributed to red light running. Between 1992 and 2000, fatal motor crashes at traffic signals increased 19 percent, outpacing the rise in all other fatal crashes. Public costs exceed \$14 billion per year. More than half of the deaths in red light running crashes are other motorists and pedestrians, so there is no debate that red light runners are dangerous drivers who irresponsibly put others at risk.

The problem in America's cities is even greater, as red light running is the leading cause of urban automobile crashes. In many cities, the yellow light has come to symbolize "hurry up" instead of "slow down."

As a result of countless crashes and tragedies, the American public is deeply concerned with the recent increase in red light running. Most Americans (96 percent) are afraid of being hit by a red light runner, but nearly one in five admit to running a red light in the last ten intersections. The leading excuse given for red light running was neither frustration nor road rage, it was "being in a hurry."

The Insurance Institute for Highway Safety looked at what cities and states have the highest death rates in red light running crashes per 100,000 people.



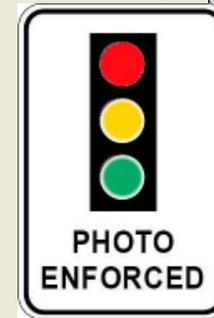
For More Information about Red Light Cameras:

<http://www.stopredlightrunning.com>

<http://www.iihs.org/research/qanda/rlr.html>

<http://safety.fhwa.dot.gov/>

INSURANCE INSTITUTE FOR HIGHWAY SAFETY HIGHWAY LOSS DATA INSTITUTE



# Red Light Cameras

## Automated Enforcement In a Flash!

### How do they work?

At its very basic level, the system is a series of cameras and flashes controlled by a computer, which determines when to capture images based on the speed of a violating vehicle.

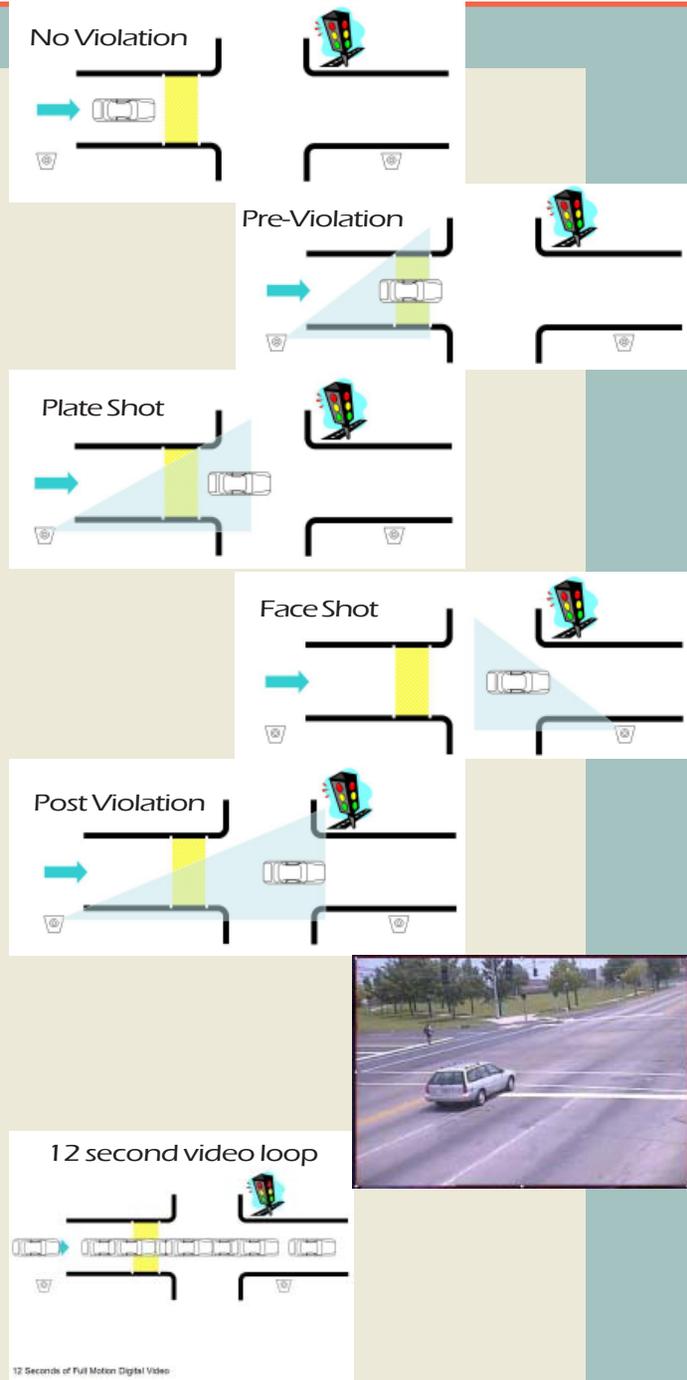
The system is only "armed" during the red phase of the cycle, which eliminates the possibility of a non violating capture. Sounds futuristic doesn't it? However, in reality these types of systems have been around for a very long time. The first systems were introduced in the 1960's. Back then they used regular or "wet film" much like a regular 35mm camera.

Today's systems have joined the computer age and utilize full digital technology, making them reliable, accurate and easy to maintain. Most red light camera systems operate from three very simple principles: detection, calculation, and actuation.

The system must first detect that a violation is about to occur. This is done by induction loop technology, radar or video detection. After having detected a violation the system must then calculate the optimum timing for capturing the violation sequence and then finally, the system must actuate the system and using high speed digital technology, capture the violation with high resolution cameras and video.

Beginning with the first drawing at the top of the page, center column, we see that the light is in the red phase and a vehicle is approaching the detection system. The second drawing shows the vehicle crossing the detection device while the light is red. This causes the first image to be created, what we call the "pre-violation" image. It will show the vehicle clearly behind the violation line and the traffic signal in the red phase. If the vehicle were to stop and remain there no violation would take place. The next image illustrated is termed the plate image. This image is taken from the rear of the vehicle in order to capture the license plate information for a DMV inquiry. At this point a violation has occurred because the vehicle has now crossed the violation line during the red phase.

The next image is termed the "face image". This captures the driver's face behind the wheel of the violating vehicle. In California the driver must be identified in order to issue a valid traffic citation. Finally, the last image taken is called the "post violation" image. It shows that the vehicle did in fact continue on through the intersection against the red light. Now along with the four digital still images a 12 second video loop is captured displaying the entire capture sequence. There are 6 seconds of pre-violation video and 6 seconds of post-violation video.



## Why My Town?

Many communities are faced with the dilemma of ever increasing traffic and not enough traffic officers to effectively enforce traffic laws. The ultimate goal of any enforcement program is to modify the behavior of drivers in order to make our streets safer. This effort involves not only the police department, who is charged with enforcing our traffic laws but also the city traffic engineers, who constantly review current traffic patterns and look for solutions to improve not only traffic flow but safety as well.

With resources stretched to their limits many cities have begun to look to technology to assist and supplement their safety efforts. Red light camera programs are only one method that can assist in the reduction of violations and the crashes they cause. Your town is committed to this goal through education, the application of technology and a commitment to provide its citizens with safer more efficient travel.

Prior to commencing any automated enforcement program cities typically undertake a study of statistical information regarding collision and violation data. These studies take anywhere from 6 months to a year. After data is collected and analyzed non-enforcement solutions are looked and applied where applicable. This can include something as small as repainting crosswalk markings and verifying yellow light timings to comprehensive traffic flow studies to determine the need and application of automated enforcement.

When the decision is made to implement automated enforcement a well defined and governed process begins. Automated enforcement systems are well regulated by state law and have many safeguards that have been legislated in order to give the public a high level of confidence in their application.

Your own agency would be happy to answer any questions regarding its program and how it operates in your town.