

TRAFFIC AND SAFETY INFORMATIONAL SERIES FREQUENTLY ASKED QUESTION #25

WON'T A FLASHING YELLOW LIGHT DRAW MORE ATTENTION TO A SIGN?

A flashing beacon is a blinking light that is often used to draw attention to particular intersections and other situations where drivers need to be warned of unexpected or hazardous conditions. It is a common belief, but not always true, that the addition of a flashing yellow light will reduce the speed of vehicles using the roadway. In addition, flashing lights may initially draw attention to a particular situation but lose some of their attention value over time. Flashing yellow lights are a type of flashing beacon.

WHEN SHOULD FLASHING LIGHTS BE USED?

If a driver needs to be alerted to an area that requires greater than normal care, flashing lights could be installed. The lights can be installed immediately at an intersection or in combination with the intersection advance warning signs. However, flashing beacons should only be used to warn drivers of *unusual* conditions that are not readily apparent. These situations could include intersections on high-speed roadways, obstructions in the roadway, special roadway conditions, narrow bridges, or other conditions hidden from the driver.

It is important that a flashing yellow light be warranted before it is installed. If too many unwarranted yellow flashing lights are installed (e.g., they are installed at locations that are not unusual or unexpected), the beacons that are truly necessary may start to be ignored. When this happens, the effectiveness of all the flashing lights is reduced, and crashes can result.

The *Manual on Uniform Traffic Control Devices* (MUTCD) allows four types of flashing beacons to be installed:

1. *Intersection control beacon.* This type of flashing light is used at intersections controlling two or more directions of travel. These beacons are intended for use at intersections where traffic or physical conditions do not justify conventional traffic signals, but where high crash rates indicate a special hazard.
2. *Warning beacon (hazard identification beacon).* The warning beacon is only used to supplement a warning or regulatory sign. Warning beacons may be applied to warn of an obstruction in or adjacent to the roadway at midblock crosswalks, to supplement advanced warning signs, or at intersections where a warning is required.
3. *Speed limit sign beacon.* A flashing speed limit sign beacon is to be used where a fixed or variable speed limit sign is used. This beacon may be used where appropriate to show that the posted speed limit is in effect.

4. *Stop Sign Beacon.* A stop sign may be supplemented with a stop sign beacon if further attention is necessary to identify a hazard. This type of flashing lights can be very effective where an intersection is located just beyond a curve that is hidden from a vehicle's view.

RESEARCH SHOWS THAT FLASHING LIGHTS MAY NOT BE EFFECTIVE

There has been some research into the effectiveness of flashing lights. A study by Cynecki and Sparks in the *Institute of Transportation Engineers Journal* was performed to determine whether flashers were successful in reducing illegal vehicle movements, primarily running red lights. This study found that speeds and violation rates of red lights actually increased after flashing beacons were added to advance warning signs at two school crossings. The study concluded that it is an incorrect assumption that flashing lights control what drivers view as safe behavior. In general, the actual presence of children was found to have the most substantial impact on vehicle speeds. It was also found that a flashing light blends into the existing scenery the longer it operates. This produces a situation in which the flashing light loses its value. Overall, the authors of the study believe that flashing lights are most applicable in a high-speed rural environment with unusual geometry characteristics, at locations with frequent pedestrian crossings, and along roadways with a large number of unfamiliar drivers.

Another study that discussed the effectiveness of flashing beacons at intersections appeared in *Transportation Research Record* in January 1977. This study found that intersection control beacons had the greatest effect on the fastest vehicles and less of an impact on vehicles traveling at or near the average vehicle speed along the roadway. In addition, an analysis of the speed data revealed no significant change in the average speed at an intersection when a flashing beacon was added to a "Stop Ahead" sign. There was, however, a significant reduction in the amount that the speeds varied among vehicles.

For more information

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Wouldn't a flashing yellow light draw more attention to a sign?

We sometimes get requests for a flashing light to be added to a sign. It is believed that this would draw drivers' attention to a sign and encourage them to slow down. You may be surprised to learn that this is not always true. Traffic engineers study and evaluate what locations would benefit from flashing lights and at what locations flashing lights would be a detriment. Here are some of their findings:

Flashing lights are used to alert drivers to conditions that are unusual and/or unforeseeable

Flashing lights should be used to warn drivers of unusual conditions that are not readily apparent and that require more than normal care—for example, when there is an obstruction in the roadway ahead or a narrow bridge around a curve. Some flashing lights are effective in high-speed rural environments where the roadway suddenly changes, at locations where pedestrians frequently cross, and along roadways that experience a large number of drivers who are unfamiliar with the roadway. If conditions are not unusual or unforeseeable, flashing lights may not be necessary or make the roadway any safer.

When flashing lights are overused, they may become ineffective

The effectiveness of flashing lights at any given location decreases with time. Studies have shown that when flashing lights are used too often, some drivers stop paying attention to them. Drivers may even start to ignore important signs that aren't supplemented by flashing lights.

Existing signs are often adequate

Unless conditions are unusual and/or unforeseeable, existing unlighted signs are often effective in conveying their message to drivers.

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