

Retroreflective Signal Backplates

Connecticut Department of Transportation
Bureau of Engineering and Construction

Traffic and Safety Engineering

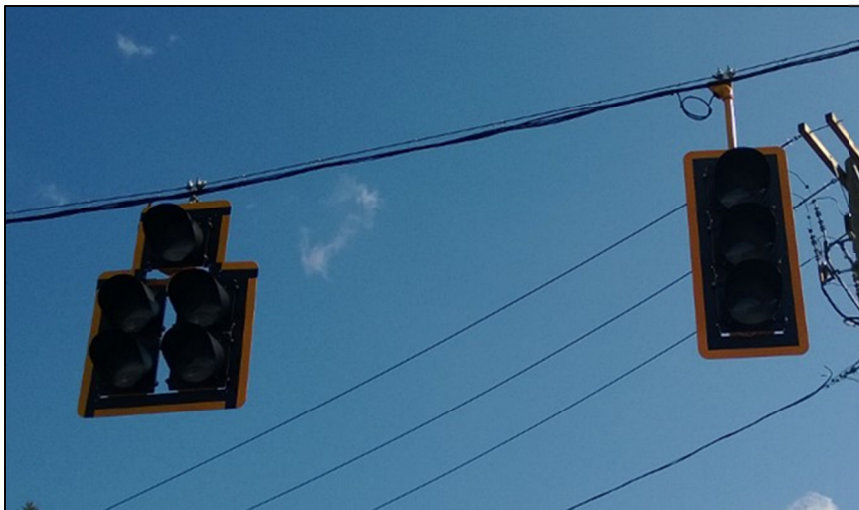
Reducing Red-Light Running Crashes

Nationwide crash statistics reveal that 200,000 crashes are attributed to red-light running annually. Of these crashes, 170,000 (85%) result in injury and 900 (0.5%) are fatal.¹

Retroreflective traffic signal backplates offer a potential low-cost countermeasure to reduce these crashes caused by driver inattentiveness and poor signal visibility (i.e. at night, in fog, or during heavy precipitation).

Retroreflective backplates provide enhancements to a traffic signal's visibility, including:

- Isolation of the traffic signal from background lighting, signs, and visual distractions
- Enhanced traffic signal visibility during power outages
- Alerts drivers of the upcoming signal after driving a long roadway section without signals.²



Retroreflective Backplates in Putnam, CT

Proven Safety Benefits

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The Federal Highway Administration has identified retroreflective traffic signal backplates as a proven safety countermeasure to red-light running crashes. Currently, more than 20 States are using retroreflective backplates.

15%

**REDUCTION IN
VEHICULAR
CRASHES³**

37%

**REDUCTION IN
INJURY
CRASHES³**

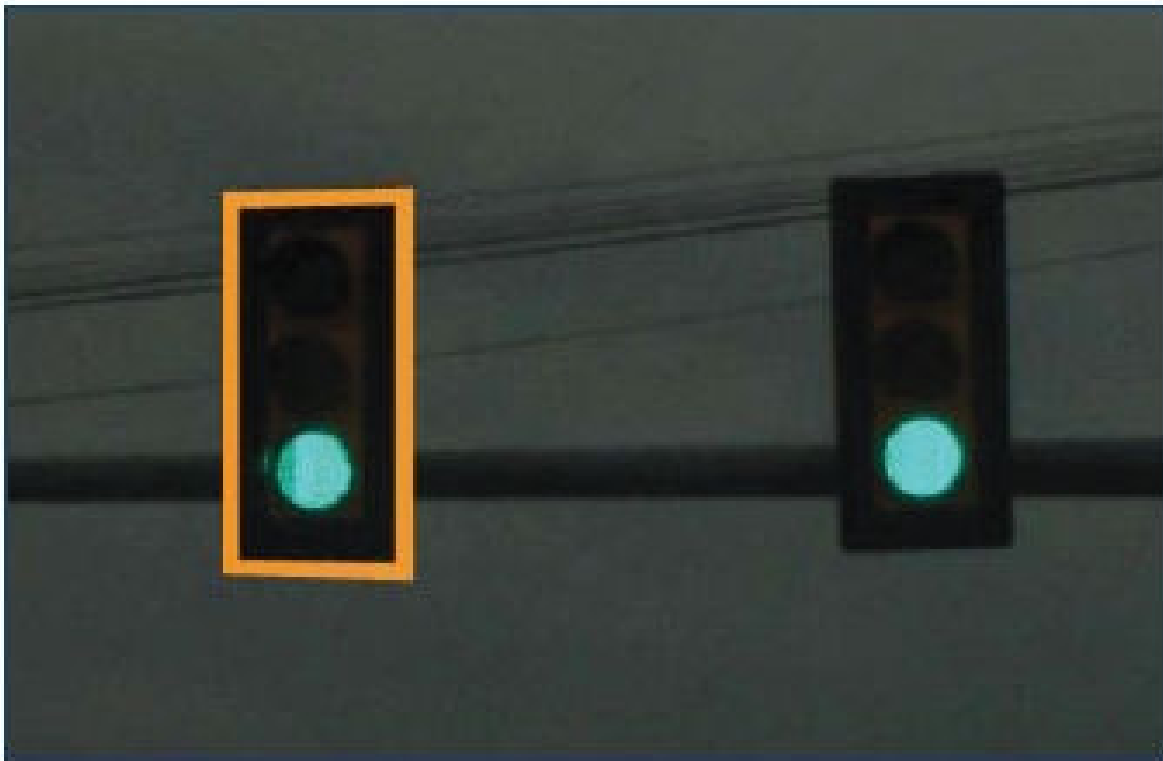
50%

**REDUCTION IN
LATE-NIGHT &
EARLY MORNING
CRASHES³**



Design of Retroreflective Traffic Signal Backplates

Backplates surround the signal housing to improve visibility of the signal. The backplates will have a two inch wide yellow, retroreflective border surrounding the signal housing to further enhance their visibility. Backplates provide a larger contrast area to help make traffic signals more visible in daylight, and the retroreflective tape improves signal visibility at night. All new state-owned traffic signals in Connecticut will be equipped with retroreflective backplates.



Retroreflective Backplates at Night³

Further Information on Retroreflective Backplates

Additional information about retroreflective traffic signal backplates and the locations in which they will be installed can be found at <http://www.ct.gov/dot/cwp/view.asp?a=3199&q=546146> or contact Joseph Ouellette at (860) 594-2721.

References

- 1) Desktop Reference for Crash Reduction Factors, FHWA-SA-07-015, USDOT FHWA September 2007.
- 2) Retroreflective Traffic Signal Backplates Brochure, Virginia Department of Transportation
- 3) Federal Highway Administration. (December, 2009). Retroreflective Borders on Traffic Signal Backplates - A South Carolina Success Story, <http://safety.fhwa.dot.gov/intersection/resources/casestudies/fhwasa09011>