



## Backplates with Retroreflective Borders



SAFETY BENEFIT:

**15%**  
Reductions in total  
crashes

Source: CMF Clearinghouse, CMF ID 1410.

Backplates added to a traffic signal indication improve the visibility of the illuminated face of the signal by introducing a controlled-contrast background. The improved visibility of a signal head with a backplate is made even more conspicuous by framing it with a retroreflective border. Signal heads that have backplates equipped with retroreflective borders are more visible and conspicuous in both daytime and nighttime conditions.

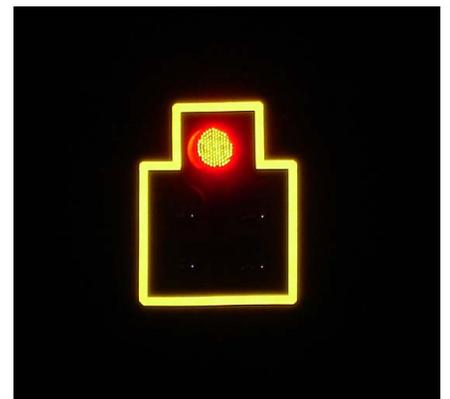
This treatment is recognized as a human factors enhancement of traffic signal visibility, conspicuity, and orientation for both older and color vision deficient drivers. This countermeasure is also advantageous during periods of power outages when the signals would otherwise be dark, providing a visible cue for motorists.

Transportation agencies should consider backplates with retroreflective borders as part of their efforts to systemically improve safety performance at signalized intersections. Adding a retroreflective border to an existing signal backplate is a very low-cost safety treatment. The most effective means of implementing this proven safety countermeasure is to adopt it as a standard treatment for signalized intersections across a jurisdiction.



Example of a signal backplate framed with a retroreflective border.

Source: FHWA



Retroreflective borders are highly visible during the night.

Source: South Carolina DOT

→ For more information on this and other FHWA Proven Safety Countermeasures, please visit <https://safety.fhwa.dot.gov/provencountermeasures>.

