

Evaluation of Blue Confirmation Lights at Signalized Intersections in Overland Park, Kansas, to Reduce Red Light Running Violations

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Tomás E. Lindheimer
Eric J. Fitzsimmons, Ph.D.
Steven D. Schrock, Ph.D., P.E.
Kwaku Boakye

The University of Kansas

Introduction

Red Light Running (RLR) is a safety concern for communities nationwide. The Federal Highway Administration (FHWA) reported that a total of 676 fatalities in 2009 were due to RLR. There are many strategies to mitigate RLR violations that fall in the categories of engineering, enforcement, or education. This research project focused on confirmation lights, a low-cost countermeasure which enhances enforcement at four-approach intersections.



Example of a Blue Confirmation Light Used at Intersections

Project Description

Confirmation lights were deployed at two intersections in Overland Park, Kansas. Traffic was observed at the treatment sites, nearby signalized intersections (spillover), and control sites. Traffic was recorded before deployment, 1 month after, and 3 months after deployment. A total of 14 intersections were recorded during the morning peak hours (7 a.m. to 9 a.m.) and the afternoon peak hours (4 p.m. to 6 p.m.) for a total of 583 hours of traffic video.

Project Results

A test of proportions showed that overall the confirmation lights did not significantly reduce RLR violations. A violation analysis showed that there was a global increase in RLR violations after deployment, indicating that other factors were involved in the increase of violations observed. Time into the red analysis showed that the majority of RLR violations occurred within 1 second into the red. The negative binomial regression model re-affirmed that the confirmation lights were not a significant factor in the RLR violations observed. The model showed that lane volume, presence of a right-turn lane, and traffic movement (left or through movement) were significant factors. While confirmation lights did not reduce RLR, they were shown to aid law enforcement officers at intersections with a history of RLR where officers were able to pull over and utilize the confirmation lights for enforcement.

Project Information

For information on this report, please contact Steven D. Schrock, Ph.D., P.E.; University of Kansas, Learned Hall 2159B, Lawrence, KS 66045; (785) 864-3418 phone; schrock@ku.edu.

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