

Effectiveness of Rectangular Rapid Flashing Beacons (RRFBs) at Mid-Block Crosswalks

PROJECT TITLE

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STUDY TIMELINE

Jan 1, 2021 - Dec 31, 2022

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More information about the VTrans Research Program, including additional Fact Sheets, can be found at:
<http://vtrans.vermont.gov/planning/research>

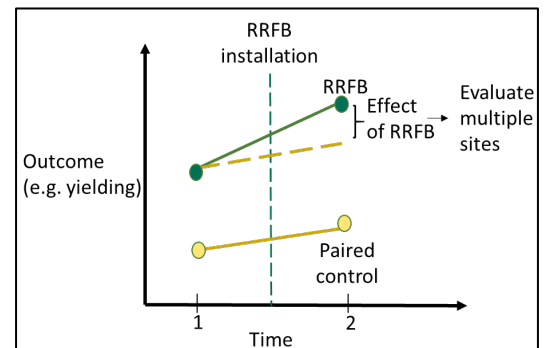
Introduction or Problem Statement

Rectangular Rapid Flashing Beacons (RRFBs) are designed to improve safety by increasing drivers' awareness of pedestrians in mid-block crossings using a pedestrian-activated signal. However, little is known about their effectiveness in rural contexts. This study evaluates the effects of RRFBs on driver and pedestrian compliance and risky behaviors compared with traditional mid-block crossings without RRFBs in Vermont's rural context, including small city and town centers and rural/urban transition zones.



Methodology or Action Taken

We use a before-after controlled study design to evaluate RRFBs' effectiveness in rural contexts. We evaluate RRFB effectiveness before and after an RRFB is installed at six locations across Vermont. For each RRFB installation, we also evaluate a similar "control" location that does not change over the study period. This ensures that the differences



that we observe are attributable to the RRFB installation. RRFB effectiveness is evaluated using video recordings of pedestrian crossings over periods of four to 10 days. We evaluate compliance in terms of rates of driver yielding and pedestrians crossing out of the crosswalk. Risky behaviors evaluated include cars stopping suddenly and pedestrians stepping into the roadway before drivers yield.

Conclusions or Next Steps

Preliminary results from a subset of study locations indicate that installing RRFBs in small and rural locations leads to improvements in compliance and risky behaviors. A full analysis of all study locations will be available in December 2022.

Potential Impacts and VTrans Benefits

Findings from this study will inform state and local RRFB siting guidelines to ensure that they are placed in locations where they are effective and their use is merited. Insights from this study will also be useful for state and local agencies in rural communities across the US.