

ROADWAY SAFETY INSTITUTE

Advancing roadway safety with user-centered solutions

UTC Project Information	
Project Title	Estimation of Traffic Conflicts at Signalized Intersections Using High-Resolution Traffic Signal Data
University	University of Minnesota
Principal Investigator	Gary Davis
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Funding Source(s) and Amounts Provided (by each agency or organization)	Minnesota Department of Transportation: \$150,000
Total Project Cost	\$150,000
Agency ID or Contract Number	UTC Grant Number: DTRT13-G-UTC35 MnDOT contract 99008 work order 155 CTS# 2015013
Start and End Dates	05/27/2014 – 03/31/2017
Brief Description of Research Project	<p><i>Final report abstract:</i></p> <p>This project explores the possibility of using high-resolution traffic signal data to evaluate intersection safety. Traditional methods using historical crash data collected from infrequently and randomly occurring vehicle collisions can require several years to identify potentially risky situations. By contrast, the proposed method estimates potential traffic conflicts using high-resolution traffic signal data collected from the SMART-Signal system. The potential conflicts estimated in this research include both red-light running events, when stop-bar detectors are available, and crossing (i.e. right-angle) conflicts. Preliminary testing based on limited data showed that estimated conflict frequencies were better than AADT for predicting frequencies of angle crashes. With additional validation this could provide a low-cost and easy-to-use tool for traffic engineers to evaluate traffic safety performance at signalized intersections.</p>
Describe Implementation of Research Outcomes (or why not implemented)	Nothing to report.
Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	Nothing to report.

Last updated (5/14/2018)



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Web Links <ul style="list-style-type: none">• Reports• Project website	http://www.cts.umn.edu/Research/ProjectDetail.html?id=2015013 http://www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2582

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