

ROADWAY SAFETY INSTITUTE

Advancing roadway safety with user-centered solutions

UTC Project Information	
Project Title	Examining the Impact of ASE in Work Zones on Driver Attention
University	University of Minnesota
Principal Investigator	Nichole Morris
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Funding Source(s) and Amounts Provided (by each agency or organization)	Minnesota Department of Transportation: \$218,660
Total Project Cost	\$218,660
Agency ID or Contract Number	UTC Grant Number: DTRT13-G-UTC35 MnDOT contract 99008 work order 152 CTS# 2015012
Start and End Dates	06/06/2014 – 01/31/2016
Brief Description of Research Project	<p><i>Final report abstract:</i></p> <p>Each year, there are over 500 fatal crashes in work zones in the U.S., with over 100 road construction workers killed on work sites (NSC, 2011; FARS, 2011). Speed and distraction are among the top contributing factors to work zone crashes (Garber & Zhao, 2002; Mountain, Hirst, & Maher, 2005; Wilson, Willis, Hendrikz, Le Brocque, & Bellamy, 2006). The purpose of this study was to investigate the impact of different types of speed enforcement methods on driver attention in work zones. The investigation not only examined enforcement methods currently used in Minnesota, but also examined how implementing automated speed enforcement (ASE), which is not currently used in Minnesota, may influence driver attention and behavior in simulated work zones. Overall, the results do not appear to support the hypothesis that ASE without dynamic speed display sign (DSDS) improves driver attention in work zones. There is some evidence, however, that drivers did heighten their visual attention in work zones with ASE+DSDS enforcement. Drivers fixated on the secondary task display less frequently in the ASE+DSDS condition compared to other enforcement types while they traveled in the downstream portion of the work zone. The largest effects of the study were found among the age groups, with younger and older drivers exceeding the speed limit most often and varying their speed slightly depending on the type of enforcement present. Middle-aged drivers exhibited the greatest speed control and tended to abide by the speed limit to the same extent regardless of the type of enforcement present.</p>
Describe Implementation of Research Outcomes	Nothing to report.

Last updated (9/30/2019)



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(or why not implemented) Place Any Photos Here	
Impacts/Benefits of Implementation (actual, not anticipated)	Nothing to report.
Web Links <ul style="list-style-type: none">• Reports• Project website	<ul style="list-style-type: none">• http://www.cts.umn.edu/Research/ProjectDetail.html?id=2015012• http://www.cts.umn.edu/Publications/ResearchReports/reportdetail.html?id=2492