

ROADWAY SAFETY INSTITUTE

Advancing roadway safety with user-centered solutions

| UTC Project Information | |
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| Project Title | Evaluation of the Smart Work Zone Speed Notification System |
| University | University of Minnesota |
| Principal Investigator | John Hourdos |
| PI Contact Information | hourd001@umn.edu 612-626-5492 |
| Funding Source(s) and Amounts Provided (by each agency or organization) | Minnesota Department of Transportation: \$229,576 |
| Total Project Cost | \$229,576 |
| Agency ID or Contract Number | UTC Grant Number: DTRT13-G-UTC35 MnDOT contract 99008 work order 224 CTS# 2016030 |
| Start and End Dates | 11/12/2015 – 6/30/2019 |
| Brief Description of Research Project | <p><i>Final report abstract.</i></p> <p>The Smart Work Zone Speed Notification (SWZSN) system aims to alleviate congestion, queuing, and rear end crashes in work zones by informing drivers of the speed of the downstream segment using a type of portable Intelligent Lane Control System (ILCS), Portable Changeable Message Signs (PCMS). The hypothesis was that drivers, knowing the speed up to 1 mile downstream, will slow down early or at least be alert and perform smoother decelerations. Video of the SWZSN was analyzed over two years of operation by the Minnesota Traffic Observatory. Overall, the system resulted in beneficial reductions of selected decelerations by the drivers. In situations where the messages communicated to the drivers were consistent and accurate, reductions of more than 30% in the selected deceleration rates were observed. Unfortunately, there were several cases where counterproductive or misleading messages were communicated to the drivers, prompting relative increases to the selected deceleration rates. The most important observation, stemming from both positive and negative influences, was that the speed notification system was noticed by drivers and resulted in a statistically significant influence on driving behavior, unlike other driver alert systems.</p> |
| Describe Implementation of Research Outcomes (or why not implemented) | Nothing to report. |

Last updated (9/30/2019)



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| 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 | http://www.cts.umn.edu/Research/ProjectDetail.html?id=2016030 http://www.roadwaysafety.umn.edu/publications/researchreports/reportdetail.html?id=2794 |

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