Center for Advanced Multimodal Mobility Solutions and Education

UTC Project Information – CAMMSE @ UNC Charlotte	
Project Title	Optimization of Long-Term Highway Work Zone Scheduling
University	The University of North Carolina at Charlotte
Principal Investigator	Wei Fan and Martin Kane
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Funding Sources and Amount Provided (by each agency or organization)	U.S. Department of Transportation: $60,000 The University of North Carolina at Charlotte: $30,006
Total Project Cost	$90,006
Agency ID or Contract Number	
Start and End Dates	10/01/2019 – 09/30/2021
Brief Description of Research Project	With the rapid development of the transportation system, an increasing number of work zone projects comes with the needs of new construction and regular maintenance related investments in transportation. However, the negative impacts of such work zone projects on the traffic in the transportation network may be inevitable and can cause many issues socially, economically and environmentally. As such, work zone projects that aim at relieving congestion while expanding capacity of the network is becoming more important. In 2017, Federal Highway Administration (FHWA) issued a notice of proposed rulemaking (NPRM) for performance-based planning and programming. It requires state departments of transportation and metropolitan planning organizations to measure

	and report the performance of infrastructures in the National Highway System within their jurisdictions. A series of enhanced performance measures have been developed and included in this new rule. However, it is still lacking in performance measures for assessing congestion under special events including the presence of work zones. Despite such absence of metrics which can be used for evaluation, attention should also be paid to minimize the impacts of relevant work zone activities. The main goal of this research project is to develop, use and recommend a macroscopic optimization model to evaluate the mobility impacts of long-term work zone events and optimizing the scheduling of starting dates of such work zone projects.
Describe Implementation of Research Outcomes (or why not implemented) *Place Any Photos Here*	
Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links • *Reports* • *Project website*	https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2020-UTC-Project-Information-02-Fan.pdf https://cammse.uncc.edu/sites/cammse.uncc.edu/files/media/CAMMSE-UNCC-2020-UTC-Project-Report-02-Fan-Final.pdf