

UTC Project Information	
Project Title	MPC-627 – Exploration of Alternative Spatio-Temporal Methods of Traffic Safety Network Screening
University	South Dakota State University
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Funding Source(s) and Amounts Provided (by each agency or organization)	USDOT, Office of the Assistant Secretary for Research and Technology \$70,803 South Dakota State University \$74,103
Total Project Cost	\$144,906
Agency ID or Contract Number	69A3551747108
Start and End Dates	June 8, 2020 to July 31, 2022
Brief Description of Research Project	<p>The roadway system represents a major investment and valuable resource that enables mobility and accessibility to users. With rising costs, tight budgets, and limited resources, agencies seek techniques to identify critical mobility and safety concerns, manifested through federal encouragement to increase safety data collection, analysis, and implementation. Network screening methods exist, both historical and recent, with all the methods relying on connection of crashes to the roadway network. Historically, this has been accomplished through assignment of crashes to the network. More recently, methods have been developed that first analyze the spatiotemporal nature of crashes and then connect the resultant clusters to the network. Because the methods either rely on arbitrary network typologies or ignore the network, cohesive screening results may not be provided.</p> <p>We will explore GIS and spatiotemporal analysis techniques which rely on the crash locations and densities with a coincident network connection. We will examine spatial proximity constrained by the network to form crash distributions and analyze these for distributional clustering. Network characteristics will be included during distribution and cluster development. The goal is to develop a method that produces an efficient and effective means of crash cluster identification. Crash typology distributions and clusters will also be analyzed.</p>
Describe Implementation of Research Outcomes (or why not implemented)	Project remains has transitioned from development to data analysis; however, data analysis is ongoing with some outcomes realized, resulting in a Master's thesis, and others pending further analysis.
Place Any Photos Here	

Impacts/Benefits of Implementation (actual, not anticipated)	
Web Links <ul style="list-style-type: none">• Reports• Project Website	