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| **UTC Project Information** | |
| Project Title | MPC-627 – Exploration of Alternative Spatio-Temporal Methods of Traffic Safety Network Screening |
| University | South Dakota State University |
| Principal Investigator | Michael D. Pawlovich, Ph.D., P.E. |
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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 | 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.  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. |
| Describe Implementation of Research Outcomes (or why not implemented)  Place Any Photos Here | 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. |
| Impacts/Benefits of Implementation  (actual, not anticipated) |  |
| Web Links   * Reports * Project Website |  |