1.2.1　　　**Development of a Statewide Crash Map:**
　　　　　　　Enabling Network Based Safety Analysis Through LRS Crash Mapping

Presenter

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In order to address emerging federal reporting requirements, along with the need to more efficiently manage limited safety improvement resources, DOTs are continuing to expand capabilities for data driven approaches to supporting operations and planning decisions. A key component of this approach is the use of enterprise-wide Linear Referencing Systems (LRS) to integrate multiple data sources such as crashes, traffic volumes, and roadway inventory information. Within this context, the Wisconsin DOT has recently completed a project to geocode multiple years of state and non-state crashes to a single statewide network. The crash map was subsequently leveraged to develop an automated approach to identifying a statewide list of high risk rural roads (HRRR) for potential HSIP projects.

This presentation describes objectives and methodologies to generate the Wisconsin statewide HRRR list. The ranking process leveraged the Wisconsin Information System for Local Roads (WISLR) LRS along with the mapped crash and traffic volume data to compute corridor crash rates. Different ranking criteria were applied to produce a final "filtered K-A crash rate"ranking method. GIS maps and crash data details were provided for the top ten corridors as a basis to investigate potential HSIP projects. Although MAP-21 is expected to introduce changes to DOT's HSIP approach, developing automated system-wide safety identification and ranking procedures is certain to become an increasingly important component of this process. The Wisconsin HRRR ranking process is a successful implementation of an automated approach while identifying key challenges to address in the future.

Bio(s):
Dr. Steven Parker is the IT Program Manager for the Traffic Operations and Safety Laboratory at the University of Wisconsin-Madison. His research interests include ITS, control room operations, transportation data management, and GIS in transportation.

Justin Shell is the Program Manager for WisDOT's Backbone Highway System. He served as WisDOT's Safety Program Manager during the initial phase of the HRRR project and has continued to be involved as the project progresses. He has a master's degree in urban and regional planning from the University of Wisconsin-Madison.