MOUNTAIN-PLAINS CONSORTIUM

RESEARCH BRIEF | MPC 16-311 (project 380 | September 2016

Investigation of Interaction between Traffic Safety, Law Enforcement and Environment

the **ISSUE**

For highways located in counties and cities across the country, specific conditions of weather, terrain, traffic characteristics, highway conditions, population and economic development are all different. Driving environments, traffic accidents and injury risks have strong interactions which have not been fully explored. To effectively mitigate traffic accidents and injury severity on these highways, both national risk prediction and law enforcement efforts are important.

the **RESEARCH**

This study conducts an investigation on interactions between those traffic accidents, various driving environments and also mitigation efforts such as law enforcement. A comprehensive historical data analysis of traffic accidents in Colorado was conducted. Some insights about the interactions between traffic safety, road conditions and other critical variables are made. By developing advanced traffic accident frequency and injury severity prediction models, the different traffic accident trends for two major interstate highways were developed. Researchers also used the models to develop big picture overview of accident trends on highways in the entire state.

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A University Transportation Center sponsored by the U.S. Department of Transportation serving the Mountain-Plains Region. Consortium members:

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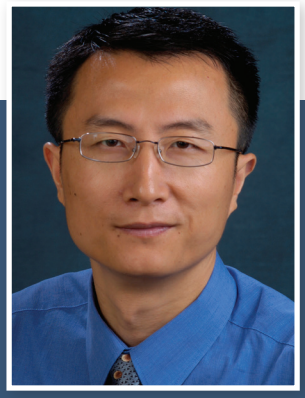

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Project Title

Framework of Performance-Based Earthquake Design of Curved and Skewed Bridges

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the **FINDINGS**

1. A series of advanced traffic accident frequency and injury severity prediction models are developed
2. The different trends of two major interstate highways in Colorado are studied and compared
3. Some findings about the big picture of traffic safety on the highways in the whole state are discussed

the **IMPACT**

1. More advanced models are provided for traffic safety prediction
2. Some insights about the safety performance of highways in Colorado are made
3. Some observations are helpful to improving the safety prediction, management and law enforcement of highways around the country

For more information on this project, download the entire report at http://www.ugpti.org/resources/reports/details.php?id=856

For more information or additional copies, visit the Web site at www.mountain-plains.org, call (701) 231-7938 or write to Mountain-Plains Consortium, Upper Great Plains Transportation Institute, North Dakota State University, Dept. 2880, PO Box 6050, Fargo, ND 58108-6050.