Evaluation of Variable Speed Limits on the St. Louis Metropolitan Area

Investigators:
Ghulam H. Bham (ghbham@mst.edu, 573-341-6286), Suzanna Long, Hojong Baik, Thomas Ryan, Khushboo Lall, Mahdi Arezoumandi

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Project Description:
The proposed project will determine the effectiveness of the Variable Speed Limit (VSL) system installed on I-270/I-255 corridor in St. Louis County, Missouri. The purported benefit of the VSL system is an improvement in traffic flow and vehicle safety. The objectives of the evaluation are as follows: i) Evaluate the impact of VSL on traffic flow and safety, ii) Evaluate the driver compliance of posted speed limit, and iii) Assess the perception of roadway users including law enforcement personnel. To determine the effectiveness of the VSL system, this project will evaluate the system based on the following performance measures as a minimum: i) User average speeds by posted speed limit and direction ii) Speed limits during peak periods by direction iii) Average traffic volumes during peak periods by direction iv) Travel times by direction v) Speed limit compliance by posted speed limit and direction vii) Evaluation of delay and queue clearance time associated with crashes. The performance measures will be evaluated based on data collected and used in the VSL system decision-making process, which is carried out currently over different points along I-270/I-255. The statistical analysis of the aforementioned data will show if there is a significant difference in traffic flow, safety and driver compliance between the deployed VSL system and a pre-deployment/non-VSL corridor.

Publications: