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Medians, Shoulders and Lanes, Oh My! Statistical Application in Roadway Engineering Shows Promise to Improve Safety

CHICAGO (August 3, 2016) – While driver impairment/distraction, speed and lack of seatbelt/helmet usage accounted for the majority of the more than 32,000 motor vehicle deaths in 2014 according to the Department of Transportation's Fatality Analysis Reporting System (FARS), transportation officials are turning to statistics professor Matthew Heaton of Brigham Young University (BYU) to help identify another possible cause for concern: the actual roads, themselves.

In his presentation titled "Spatial Modeling of Highway Crash Risk" at the 2016 Joint Statistical Meetings (JSM 2016) in Chicago August 3, Heaton will demonstrate statistical approaches that can help determine which road characteristics lead to higher accident rates and which road segments have higher than expected crash rates. "We're trying to identify systemic improvements, such as adding a median, increasing the shoulder width or adding another lane that would help decrease crashes," said Heaton.

Heaton's work could have far-reaching applications in the realm of civil engineering and on roads and highways in small towns and urban areas across the country. "Even with little data, using these methods allows us to better identify roads that need to be improved," said Heaton.

Still in the "testing" phase, Heaton's research is a new approach for the Federal Highway Administration (FHWA), the agency responsible for the construction, maintenance and preservation of the nation's highways, bridges and tunnels. He remains hopeful that government officials will both appreciate the value of the methodology and subsequently act upon new-found knowledge gleaned from statistical models to improve roadways and save lives.

JSM 2016 is the largest gathering of statisticians and data scientists in the world. Media can attend for free, but must register in advance by contacting Jill Talley, ASA public relations manager, at (703) 302-1865 or jill@amstat.org.

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About JSM 2016
Occurring annually since 1974, JSM is a joint effort of the American Statistical Association, International Biometric Society (ENAR and WNAR), Institute of Mathematical Statistics,

Statistical Society of Canada, International Chinese Statistical Association, International Indian Statistical Association, Korean International Statistical Society, International Society for Bayesian Analysis, Royal Statistical Society, and International Statistical Institute. JSM activities include oral presentations, panel sessions, poster presentations, professional development courses, an exhibit hall, a career service, society and section business meetings, committee meetings, social activities and networking opportunities.

About the American Statistical Association
The ASA is the world's largest community of statisticians and the oldest continuously operating professional science society in the United States. Its members serve in industry, government and academia in more than 90 countries, advancing research and promoting sound statistical practice to inform public policy and improve human welfare. For additional information, please visit the ASA website at www.amstat.org.

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