

# **An Evaluation of Wrong-Way Crashes on Kansas Interstates**

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Since the development of the United States Interstate highway system in the 1950s, crashes related to drivers traveling in the direction opposite of the legal flow of traffic, or wrong-way, have posed a significant problem for transportation officials. To this day, wrong-way crashes are rare and random events, which typically results in a fatality or serious injury to all persons involved. Research into wrong-way vehicle crashes on various types of roadways and at-grade divided roadway intersection types have been conducted since the 1960s. A resurgence of wrong-way crash research and countermeasure implementation and evaluation has taken place over the last decade due to the high-profile nature of these crashes. Nationally in 2014, fatal and injury crashes comprised approximately 27.5 percent of all crashes. However, in Kansas, fatal and injury crashes comprised 22.6 percent of all crashes and 56 percent of all wrong-way crashes.

This research study focused on wrong-way crashes occurring on interstates in Kansas concentrated on investigating ramp and interchange configurations near crash sites. Crash data were extracted from the Kansas Department of Transportation crash data for years (2005-2015). Initial investigation identified 372 wrong-way crashes for further investigation. Descriptive statistics were performed to evaluate variables that contributed to each crash. Additionally, interchange type (e.g. partial cloverleaf, SPUI, collapsed diamond, etc.) including geometry, signs and lighting that are present will be recorded. A statistical model will be developed that will evaluate what variables are significantly contributing to crash severity.

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