Update on Iowa’s 2009 Roadway Departure Strategic Action Plan and Synthesis of Neighboring State Practices to Address Roadway Departure Crashes

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ABSTRACT

Roadway departure crashes contribute to a significant percentage of the total number of motor vehicle crashes each year. Government agencies have reported that 61% of the 41,059 vehicle crashes in the United State in 2007 were due to a vehicle departing the roadway. It has also been reported that 25% of these crashes have occurred on horizontal curves. Roadway departure crashes can encompass a variety of types of crashes, including single-vehicle run-off-road crashes, multi-vehicle cross-centerline head-on crashes, and crashes involving fixed objects in the clear zone. Countermeasures deployed to reduce the number of roadway departure crashes include shoulder and centerline rumble strips, high-crash curve treatments, cable median barriers, and shoulder treatments. These countermeasures are typically located near the road and serve to alert the driver departing the roadway through visual, auditory, or vibratory warnings. Many of these countermeasures have been implemented by agencies in the midwestern region of the United States to address roadway departure crash problem areas. However, there is sometimes a lack of explicit guidance on where, how, and what designs should be used.

This paper provides a synthesis of countermeasures adopted to mitigate roadway departure crashes with a focus on the practices in the Midwest United States. It also includes guidance on implementation of countermeasures and discusses their effectiveness. These serve as a basis to develop a strategic action plan for the deployment of countermeasures to reduce roadway departure crashes in Iowa.

Key words: lane departure crashes—roadway departure crashes—safety countermeasures—strategic action plan