An Analysis of Highway-Rail Grade Crossing Incidents in Kansas and Nebraska

Auston W. Jacobsen\textsuperscript{1}, Steven D. Schrock, Ph. D, P.E.\textsuperscript{2}

Abstract

Highway-Rail grade crossings are of concern for highway safety due to the severity of crashes that occur at these locations. The Highway Capacity Manual (HCM) describes and details the precautionary safety counter measures that are required to be placed at each location. Despite advances in safety measures, safety improvements in vehicles, and information available to drivers to warn about the dangers of rail grade crossings, there are still many fatalities and serious injuries that occur at highway-rail grade crossings. This paper focuses on data from Kansas and Nebraska to better understand driver trends and factors that cause these crashes. Data gathered from the Kansas Department of Transportation and the Nebraska Department of Roads between the years 2005 and 2015 was analyzed. It was found that the majority of highway-rail grade crossing incidents occur during peak driving periods (defined for the purpose of this report as 7-9am and 3-7pm.) These incidents are highest for drivers under the age of 30, and trend downwards until the age of 65 when the number of incidents increases again. The number of severe incidents for Nebraska follows closely with the number of overall incidents, but for Kansas the number of serious and fatal incidents occur in the evening and late at night.

\textsuperscript{1} Graduate Research Assistant; University of Kansas; 1586 E 550 Road, Lawrence, Kansas, 66049; phone (785) 766-8597; email: austonj@ku.edu

\textsuperscript{2} Associate Professor; University of Kansas; 2159B Learned Hall, 1530 W. 15\textsuperscript{th} Street, Lawrence, Kansas, 66045; phone (785) 864-3418; fax (785) 864-5631; email: schrock@ku.edu

The contents of this abstract reflect the views of the author(s), who are responsible for the facts and accuracy of the information presented herein. © 2017 by Iowa State University.
Keywords: Highway-Rail—Grade Crossing—Accidents—Fatalities—Crashes