

CE 890 Graduate Seminar

SPEAKER: Sreekanth Reddy Akepati (Advisor: Dr. Sunanda Dissanayake)
TOPIC: “Characteristics and Contributory Causes of Work Zone Crashes”
DATE: February 24, 2010
TIME: 4:00 p.m. (refreshments at 3:45 p.m.)
PLACE: 2144 Fiedler Hall

ABSTRACT

In the U.S. an average of approximately 1,000 people die in work zones each year i.e., nearly three a day. These may be due to interruption to regular traffic flows caused due to closed lanes, poor traffic management within work zones, general misunderstanding the problems associated within work zones, and improper usage of traffic control devices. In regarding to this issue, a study was done to identify the characteristics and contributory causes of work zone crashes of the states currently included in the Smart Work Zone Deployment Initiative (SWZDI) region. They are Iowa, Kansas, Missouri, Nebraska, and Wisconsin.

The characteristics and contributory causes related to work zone crashes for the five states such as environmental conditions, vehicles, crashes, driver, and roadway were analyzed for the period 2002-2006. The results showed that most of the work zone crashes were occurred under clear environmental conditions like during daylight conditions, no adverse weather conditions etc. Multiple vehicle crashes were more predominant in work zone crashes. The primary driver contributing factors of the work zone crashes were inattentive driving, following too close for the conditions, failed to yield right of way, driving too fast for the conditions, and exceeding the posted speed limit within work zones. A test of independency was performed to find the relation between crash severity and other work zone variables for the combined states. In order to predict the future injury severity an ordered probit model analysis was done using the Iowa work zone crash data base. In model analysis a SAS program was used to find the significant variables related to injury severities. At the end of the analysis, risk factors with respect to work zones were presented.