NOTE ALL MEETINGS ARE HELD IN RATHBONE 1052 FOR THE REST OF THE SEMESTER!!!

CE 890 Graduate Seminar

DATE: September 15, 2010
TIME: 4:00 p.m. (refreshments at 3:45 p.m.)
PLACE: 1052 Rathbone Hall
SPEAKER: Nishitha Bezwada (Advisor: Dr. Sunanda Dissanayake)
TOPIC: "Characteristics and Contributory Causes Related to Fatal Large Truck Crashes"

ABSTRACT

One-ninth of all traffic fatalities in the United States have involved large trucks in the past five years, although large trucks contributed to only 3% of registered vehicles and 7% of vehicle miles travelled. This contrasting proportion indicates that truck crashes in general tend to be more severe than other crashes, though they constitute a smaller sector of vehicles on the road. To study this issue, fatal crash data from the Fatality Analysis Reporting System (FARS) was used to analyze characteristics and factors contributing to truck-involved crashes. Driver, vehicle, and crash-related contributory causes were identified, and as an extension, the likelihood of occurrence of these contributory causes in truck-involved crashes with respect to non-truck crashes was evaluated using the Bayesian Statistical approach. Likelihood ratios indicated that factors such as stopped or unattended vehicles and improper following have greater probability of occurrence in truck crashes than in non-truck crashes. Also, Multinomial Logistic Regression was used to model the type of fatal crash (truck vs. non-truck) to compare the relative significance of various factors in truck and non-truck crashes. Factors such as cellular phone usage, failure to yield right of way, inattentiveness, and failure to obey traffic rules also have a greater probability in fatal truck crashes. Among several other factors, adequate warning signs and poor shoulder conditions were also found to have greater predominance in contributing to truck crashes than non-truck crashes. By addressing these factors through the implementation of appropriate remedial measures, the truck safety experience could be improved, which would eventually help in improving overall safety of the transportation system.