

Project Title: Statistical Analysis of Vehicle Crashes in Mississippi Based on Crash Data from 2010 to 2014
Project Abstract (Brief Description): The current traffic safety situation in Mississippi has been of great concerns. The MDOT crash dataset shows that more than 640 thousand traffic crashes on Mississippi highways were recorded over the period from May 2010 to February 2014 only. Each year, traffic crashes caused around 600 fatalities in Mississippi in the past three years in 2011 through 2013. But the fatality rate per capita, assessed at about 20 fatalities per 100,000 people, which is almost twice as high as the US average level, is actually among the highest in the country. The fatality rate per vehicle miles travelled, over 1.5 fatalities per million vehicle miles travelled (VMT), is also much higher than that of the nationwide average. The National Highway Traffic Safety Administration (NHTSA) of the USDOT has identified the following major causing reasons for traffic crashes: 1) DWI (driving while intoxicated); 2) Speedy; and 3) distracted driving. As a typical rural state, Mississippi shares common characteristics with other US states in highway layout, design, and construction, but is quite different from other states in terms of social economic attributes and driving behaviors. Over the past decades, numerous research studies have been conducted in the U.S. through vehicle crash analyses under various traffic and roadway condition, location, population, and social-economic characteristics. However very few similar studies were conducted for the vehicle crashes in Mississippi.
Describe Implementation of Research Outcomes: The analyses showed that the frequencies of vehicle crashes in a metropolitan area are relatively high and the severities of crashes in the rural and coastal areas are relatively high. The crash distribution in MDOT maintenance districts shows that high crash severity is not correlated with high population density in a metropolitan area.
Impacts/Benefits of Implementation: As to countermeasures for high severities of crashes, one of the reasons that led to the high severity was that a greater proportion of the crashes were run off road crashes. Fatigue driving is a major cause of run off road crashes. Installation of rumble strips is an effective and economic solution to improve this situation especially in rural areas without light illumination at night time. Also, no restraint usage increased the crash severity. An enhanced buckle-up education program and increased exposure and awareness of crash severity to young drivers can effectively improve the traffic safety to the targeted areas. More data collection about traffic safety performance of heavy vehicles in or near the Mississippi Coastal area may be needed to find more evidence of connections to the relatively high frequency and severity of vehicle crashes in the area.
Web Links: https://martrec.uark.edu/
Budget (Funding) Amounts & Source(s) (US DOT +Match(s) =Total Costs): 57.5k USDOT + 28.75k matching = 86.25k total
Project Start and End Dates: 11/01/2015 – 10/31/2017. A no cost extension granted to 07/31/17. Project complete.
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