



TECHSUMMARY *April 2012*

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Statewide Traffic Safety Study Phase II: Identification of Major Traffic Safety Problem Areas in Louisiana

INTRODUCTION

Louisiana's crash rate is consistently among the highest in the nation, and it imposes significant economic and social costs on the state. Property damage, lost productivity, medical expenses, and inflated motor vehicle insurance rates imposed an estimated \$5.3 billion burden on the state in 2002. This prompted a study by the Louisiana Department of Transportation and Development (LADOTD) to identify the major traffic safety problem areas in the state. This research documents the results of the second and final phase of that investigation. Phase 1 results are documented in LTRC Final Report 399.

OBJECTIVE

The objective of this study was to identify and quantify factors contributing to highway crashes in Louisiana. A secondary objective was to use this information to recommend measures to counter the poor crash record in Louisiana.

The research in this study was restricted to traffic safety in Louisiana, and its main emphasis was on identifying factors that distinguish Louisiana from other states in regard to traffic safety. Because human factors are generally accepted as being the major cause of crashes, the study included as many human factors in the analysis as possible. However, roadway and vehicle factors were also considered although they were not emphasized. The analysis included a tentative consideration of countermeasures.

METHODOLOGY

The basic approach adopted in this study was to use data of past crashes to identify the characteristics of crashes where Louisiana has unusually high values when compared to other states. When possible, Louisiana was compared to peer states (Alabama, Arkansas, Colorado, Kentucky, Mississippi, Oklahoma, and Tennessee), and when not, comparisons were drawn with national averages. Data used in this study included the Fatality Analysis Reporting System (FARS), the General Estimates System (GES), the Highway Safety Research Group crash database, the LADOTD crash database, and the LADOTD segment data, which contain the physical features of the road segments on which crashes occurred. The most recent six years of data available at the start of this study (1999-2004) were used, although some aspects of the study used local data up to 2006.

Researchers identified problem areas in this by observing crash rates in subgroups of the data and determined whether the proportion of crashes were different between Louisiana and peer states, or the nation. The subgroups distinguished the population on their characteristics (e.g., age, gender, and race); behavior patterns (e.g., seatbelt use, speeding, and alcohol use); road features (e.g., straight or curved road sections and the existence of shoulders), and vehicles (e.g., vans, trucks, and SUVs). The premise adopted was that a high relative crash rate in a subgroup suggested a problem area. For example, a

LTRC Report 434

Read online summary or final report:
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high proportion of alcohol-related crashes in Louisiana relative to other states, suggests drinking and driving may be one of the sources of the poor safety record in the state. Detailed analysis of suggested problem areas was conducted to further distinguish contributing sources.

CONCLUSIONS

Among Louisiana's seven peer states, Louisiana had the second highest fatal crash rate during the period of analysis (1999-2004). In comparison to the national average, Louisiana's fatal, injury, and property damage only (PDO) crash rates were, respectively, 1.5, 1.7, and 1.1 times higher. Thus, as suspected, Louisiana's road safety record is inferior to that of the rest of the nation, and even within peer states, it is amongst the worst.

Much of the poor road safety record in Louisiana lies in factors related to human behavior. Human behavior most affecting road safety in Louisiana was the physical and mental condition of drivers (alcohol or drug use, distraction/inattention, fatigue, etc.) and the behavior they manifest (late night drinking and driving, speeding, low or improper seatbelt use, invalid driver's license, repeat offenses, etc.). This behavior was not uniform across the population; young drivers (age ≤ 24) are roughly three times as likely to be killed or injured in road crashes in Louisiana as drivers aged 55-74. Males have twice the fatality and injury rate of females.

Alcohol-related crashes are higher in Louisiana than in peer states or the nation. From FARS data, the proportion of alcohol-related fatalities among all road fatalities were 22 percent higher in Louisiana than in peer states and 17 percent higher than in the nation as a whole. Most alcohol-related crashes in Louisiana occur in the early hours of the morning (1-3 a.m.) on weekends, involve young drivers (ages 18-24), and are two to three times more likely to involve a male driver rather than a female driver.

Inadequate driver performance is a widespread problem that includes inattention, distraction, fatigue, illness, sleep, and loss of consciousness of the driver. Louisiana is over-represented by 38 percent for all crashes in this category and 169 percent for fatal crashes.

One of the areas of human behavior in which Louisiana (and the nation) have improved is in the use of

seatbelts, although Louisiana does lag behind the rest of the nation (75 percent in Louisiana versus 81 percent in the nation) and has a higher incidence of drivers using a shoulder belt only. Alcohol-involved drivers that were in injury and PDO crashes were found to be three times more likely to not use a seatbelt than all drivers combined, and 76 percent of alcohol-involved drivers and 62 percent of all drivers involved in fatal crashes did not wear safety belts.

Speeding and disregarding traffic controls are violations that appear twice as often in crash data in Louisiana as in the rest of the nation. Speeding violations occur on all facility types, but, as would be expected, the severity of crashes associated with speeding are highest on rural roads where speed is the highest. The most common form of traffic control violation is running a red light (48 percent), followed by disregarding stop signs (36 percent). Drivers most likely to be involved in these violations are older drivers (65+), and they are more likely to be killed in crashes of this nature than younger people.

Regarding the impact that road infrastructure has on road safety in Louisiana, crashes on the shoulder and off the roadway are more than 2.5 times more prevalent than in the rest of the nation. Fatal off-roadway crashes are 3.4 times more prevalent in Louisiana than in the rest of the nation and are 7 times more prevalent than on-shoulder fatal crashes.

RECOMMENDATIONS

- Introduce a point system on drivers' licenses.
- Work with insurance companies to use the point history of drivers to set car insurance premiums.
- Extend the Graduated Licensing Scheme to an increased supervised driving period.
- Conduct sobriety checks that target young male drivers.
- Ensure that firemen, state police, and employees of state vehicle inspection facilities are trained in the correct installation and use of child restraint systems.
- Publicize the correct use of child restraint systems by age and weight, their benefits, and the dangers of improper use.
- Educate the public, and particularly the youth, on the benefit of wearing seatbelts.