

Identifying Number MPC-344

Project Title:

What Can We Learn About Making Driving Safer for Teen Drivers from Crashes in Three Rural States?

University:

North Dakota State University

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Description of Research Problem:

Teen drivers have a relatively high risk for injury and death from traffic crashes (CDC 2010). Given their limited driving experience, it is not unexpected for teens to have above average crash rates (Williams 2003). Fatalities data shows, however, that young drivers in North Dakota, South Dakota, and Wyoming have disproportionately large share of teen drivers involved in the states most serious crashes. Among the 48 contiguous states these three are in the highest quartile for share of fatal crashes attributed to teen drivers. Nationwide 4.4% of fatal passenger vehicle crashes involved drivers age 14 to 17 between 2006 and 2008. The teen shares in these crashes are 12.2%, 9.5%, and 6.9% in North Dakota, South Dakota, and Wyoming, respectively, during those three years.

Teen licensing can include a range of education/experience requirements, license restrictions, and age stipulations (. The approach in these states is mixed with regard to licensing processes. Wyoming adopted a three-stage licensing process for teens in 2005 which included new restrictions. South Dakota and North Dakota have fewer restrictions, but have also adopted policies aimed at improving teen driver safety. A study of teen driver crashes

in the three states may provide some insight for future decisions to lower crash rates and reduce serious injury crashes. The study will consider roadway, driver, vehicle, and environmental crash parameters.

Research Objectives:

The goal of this project is identify crash parameters associated with serious injuries for teen drivers. Hypotheses to be tested include (1) older teen drivers are less likely to be involved in serious injury crashes, (2) nighttime driving is relatively dangerous for teen drivers, and (3) passengers increase probability for serious injury crash.

Research Approach/Methods:

Descriptive analysis and logistic regression modeling will used to study teen driver crash involvement citation. Police reported crash records for North Dakota, South Dakota, and Wyoming from 2002 to 2009 will be included in the study.

MPC Critical Issues Addressed by the Research:

2. Human Factors.

Contributions/Potential Applications of Research:

This research will contribute to an ongoing effort to utilize existing data in new ways to improve traffic safety. Results will add to the understanding of teen crash risk related to driver, roadway, vehicle, and environmental parameters. Findings from this research will be used by these and other rural state DOTs in decisions regarding teen driver licensing and restrictions.

Potential Technology Transfer Benefits:

Research report with descriptive analysis and model identifying factors that may be used to reduce teen driver risk for serious injury and death.

Time Duration:

July 1, 2010 – June 30, 2011

Total Project Cost:

\$95,163

MPC Funds Requested:

\$47,500

Source of Matching Funds:

NDDOT: \$9,000

SDDOT: \$9,000

WYDOT: \$9,000

TRB Keywords: Safety, Teens, Safe Driving

References

Williams Allen, 2003, Teenage Drivers: Patterns of Risk, Journal of Safety Research, 34:5–15.