



U.S. Department
of Transportation

**Federal Highway
Administration**



SUMMARY REPORT

Final Report Number
FHWA-SC-08-04
October 2008

Research Project Sponsored
by South Carolina Department
of Transportation in Cooperation
with the United States Department
of Transportation Federal
Highway Administration

An Assessment of South Carolina Road Users to Measure Public Knowledge and Understanding of Traffic Control Measures

Overview

Survey instruments were designed by the Clemson University Automotive Safety Research Institute (CU-ASRI) and implemented with individual road users in South Carolina. The specific objectives of this study were to: (1) develop a road users' survey instrument to assess understanding, perceptions, attitudes, and behavioral intentions regarding traffic control measures; (2) gather information about road users' understanding, perceptions, attitudes, and behavioral intentions regarding traffic control measures; and (3) use the gathered information to provide recommendations to improve the understanding, perceptions, attitudes, and behavioral intentions regarding the road users in terms of these traffic control measures.

Focus Groups and Surveys

English-speaking focus groups held across South Carolina targeted all road users with a total of 112 participants. The knowledge, attitudes, effectiveness and potential improvements for the following topics were used as focus areas: general control measures; traffic markings; traffic signs; traffic signals; road markings; danger, hazard, and other unexpected situations; and improving traffic safety in South Carolina. A quiz on traffic control measures was administered at the beginning of each focus group, and a handout of 59 traffic signs, signals, and markings was provided during the discussions. From focus group results, a 54-item telephone survey was designed and administered to adult road users (over 18) throughout the state. Additionally, a 17-item paper survey was also designed to measure understanding, perceptions, attitudes, and behavioral intentions regarding key traffic control measures for use with both adults and high school students. Furthermore, a 46-item web-based survey was developed for use with high school students in the state.

A pilot Hispanic data collection component was conducted as part of an initial study to provide a baseline for a larger study. First, Hispanic focus groups targeted Spanish-speaking road users with a total of 22 participants. A Spanish-language version of the quiz on traffic control measures was administered at the beginning of each focus group, and a handout of 59 traffic signs, signals, and markings was provided during the discussions. Second, 72 Hispanic participants were interviewed using a 71-item, Spanish-language version of the statewide survey.

Data Collection and Analysis

The nearly 6,600 responses to all of the surveys in this study were analyzed and several results are noted. First, although there is a general belief that traffic control measures are meant for safety, there is a counter feeling that the individual is a better judge of hazards and safety than highway engineers. Moreover, teens are considerably more likely than adults to think they are better judges of safe driving behavior than those who prepare roadway signs and road pavement markings. Second, participants expressed the need for more education, training, and awareness campaigns in order to improve understanding and compliance regarding traffic control measures. Third, all of the surveys query respondents about their knowledge of signs, and in the web and paper surveys these queries are supplemented with images of sign shapes and colors as visual clues. Results from all of these surveys indicate widespread limits to sign recognition, even for signs as important as railroad crossing and warning signs.

Fourth, the relationship between respondents' receipt of speeding tickets or warnings and tickets for other moving violations in the past five years and the knowledge of traffic control measures is at best weak. The same can be said for respondents' perceptions of the clarity of these measures. On the other hand, there are relatively strong relationships between a history of violations and behavioral responses to such measures (e.g., always slowing down in a school speed zone). Moreover, those with a recent history of violations are significantly less likely to perceive the dangers associated with failing to comply with traffic control measures. Fifth, those with a history of a speeding ticket or warning, as well as those incurring any other moving violation in the past 5 years, are all significantly more likely to say that they do not always wear a seatbelt.

Sixth, with the notable exceptions of work zone and railroad crossing signs, among adults there does not appear to be a relationship between having taken a driver's education class and sign recognition. Seventh, males were significantly more likely to correctly identify a variety of traffic signs than females. Eighth, there are important differences in knowledge, attitudes and behavior regarding traffic control measures. Compared to drivers between the ages of 25 and 64, younger and older drivers tend to be less able to correctly identify signs. Younger drivers are significantly less likely to always wear a seatbelt and, perhaps most importantly, are significantly less likely to consider the disregard of traffic signs and pavement markings to be extremely dangerous.

Results and Recommendations

The results of the analysis show the need to improve the understanding, perceptions, attitudes, and behavioral intentions of South Carolina road users in terms of traffic control measures. Specifically, projects and programs should be considered which address road users in general, adolescents, older drivers, and the Hispanic community. Moreover, the report recommends a comprehensive research project assessing Hispanic road users. Recommendations for improving compliance with traffic control measures and engineering strategies based on the report findings are also included.

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