



RESEARCH PROJECT CAPSULE [24-2SA]

January 2024

TECHNOLOGY TRANSFER PROGRAM

Older Road Users Safety in Louisiana: Understanding the Crash Contributing Factors

JUST THE FACTS:

Start Date:

January 1, 2024

Duration:

24 months

End Date:

December 31, 2025

Funding:

TT-Fed/TT-Reg-5

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POINTS OF INTEREST:

Problem Addressed / Objective of Research / Methodology Used / Implementation Potential

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PROBLEM

Along with the growth of the older population (aged 65 years and older) in the United States, the number of licensed older drivers also increased 38% in the last decade (2011 to 2020), which led to a rise in older road user (ORU) fatal crashes. Older drivers experience driving difficulties and are at greater risk of crashes due to physical, visual, and cognitive changes associated with aging, medications, and health

conditions. According to NHTSA's Traffic Safety Facts, in 2021, older drivers were involved in 13% fatal traffic crashes even though they made up 21% of all licensed drivers. As compared to 2020, the ORU fatalities in motor vehicle crashes increased 14% in 2021. Furthermore, the older vulnerable road users are at a higher risk to be killed because of their age-related fragility. For example, in 2021, older pedestrians represented 18.6% of total pedestrian fatalities, and older pedalcyclists represented 19.9% of total pedalcyclist fatalities in the United States. Louisiana has similar alarming statistics for ORU. The state's ORU fatality rate (fatalities per 100,000 population) was ranked 10th in the nation in 2020 according to the Fatality Analysis and Reporting System (FARS). In the same year, Louisiana had 16.37 fatalities per 100,000 population, which was 39% higher than the national average. In 2021, the fatality rate by 100,000 population for those 65 and older was still higher than the national average (16.67 compared to 13.41).

Due to the increasing trends in fatality and serious injury rates per capita of drivers and pedestrians over the age of 65, in 2019, Louisiana met the criteria to qualify for the Federal Highway Administration (FHWA) Older Driver and Pedestrian Special Rule 23 U.S.C. 148(g) (2). Furthermore, in 2022, Louisiana met the non-motorized fatality thresholds for the new FHWA Special Rule for Vulnerable Road Users (VRU) [VRU Special Rule 23 U.S.C. 148(g)(3)]. Therefore, strategies and tactics to address older drivers and VRU involved in fatal and serious injury crashes are now incorporated in all four-emphasis areas of the updated 2022 Louisiana Strategic Highway Safety Plan (SHSP). This proposed project serves as an important step towards fulfilling the commitment.

OBJECTIVES

The objectives of this study are to investigate the factors contributing to older road user crashes in Louisiana and to recommend effective countermeasures to support the SHSP strategies in reducing traffic fatalities and severe injuries.

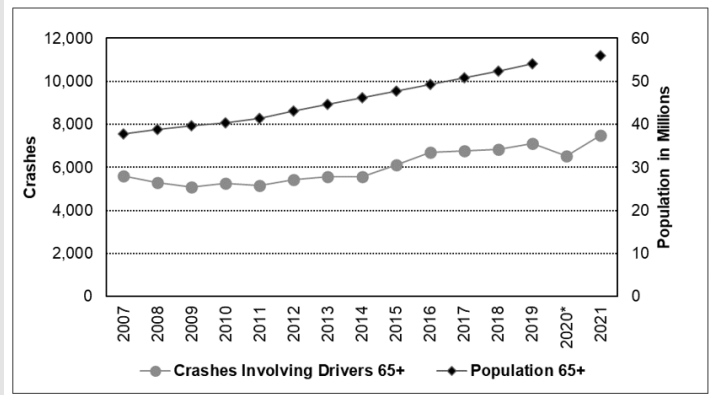


Figure 1. Fatal Crashes Involving Drivers 65 and older and Population Estimates [Image Source: Kirley, B. B., Robison, K. L., Goodwin, A. H., Harmon, K. J. O'Brien, N. P., West, A., Harrell, S. S., Thomas, L., & Brookshire, K. (2023, November). Countermeasures that work: A highway safety countermeasure guide for State Highway Safety Offices, 11th edition, 2023 (Report No. DOT HS 813 490). National Highway Traffic Safety Administration.]

METHODOLOGY

To accomplish the objective of this project, several tasks will be completed. The research team will begin with a literature review to document information relevant to ORU crash problems and potential solutions. Next, the research team will perform a comprehensive crash analysis to investigate the crash characteristics unique to ORU (drivers, pedestrians, and pedalcyclists) in Louisiana. In this task, the team will gather and process data from different sources, analyze crash data by selected variables and different spatial levels, determine crash risk factors for ORU, and identify data gaps for a future systemic safety study.

The team will then develop risk models for ORU to assess the crash risks. The basic purpose of the risk model is to link the ORU safety with critical variables such as the demographic characteristics, roadway design, traffic control device, and government policies concerning ORU.

Based on the results and findings from previous tasks, a list of targeted ORU countermeasures will be also developed. Lastly, a final report will be prepared to document all findings of this research.

IMPLEMENTATION POTENTIAL

The results of this project will provide DOTD, the Louisiana SHSP team, and other highway safety stakeholders with a deeper and more comprehensive understanding of contributing factors influencing older road user crashes. Furthermore, the risk factors, proposed countermeasures, and recommendations of this study will provide information to guide implementation of effective countermeasures to improve ORU traffic safety and to justify ORU safety improvement investments. The study findings could also be used as part of Destination Zero Deaths' efforts to reach the goal of zero fatalities and serious injuries on Louisiana's roadways.