

# Exploring traffic safety problems and challenges of older roads users in Louisiana: Causes and countermeasures

*Developing a data collection method and other solutions to make roads safer for older users*

Statistics from the U.S. Department of Transportation, National Highway Traffic Safety Administration (NHTSA, 2017) indicated that there were 6,784 people age 65 and older killed in traffic crashes in the United States in 2017, representing 18 percent of all traffic fatalities. Although the population of people 65 and older increased by 31 percent from 2008 to 2017, traffic crash fatalities in that age group increased by 22 percent over this period. This can be explained due to several mobility and traffic safety challenges encountered by older adults while using roads as pedestrians or drivers. For example, prior research indicates that older pedestrians exhibit declining walking skills (e.g., decreased speed, reduced stability, and less effective wayfinding strategies), and a greater tendency cross unsafely. Particularly, older adults tend to cross when safe crossing gaps are available in the near lane, but not the far lane. Another study indicates that the design of road infrastructure could have an impact on the risk of traffic collisions for older adults. The outcomes of this study revealed that available sight distances were below the stopping sight distance requirements for drivers with limited abilities (older drivers), particularly in poor driving conditions. Accordingly, it was recommended that changes in the design guidelines for future roadways reflect the aging driving population. However, little is known of the effect of different roadway types crossing, geometry, and traffic control devices on the safety of older roads' users. In addition, there is a no solid framework of older road users' preferences and needs when crossing different pedestrian crossings.

people 65 and older increased by 31 percent from 2008 to 2017, traffic crash fatalities in that age group increased by 22 percent over this period. There are many factors affecting traffic safety of older road users. For example, older pedestrians exhibit declining walking skills (e.g., decreased speed, reduced stability while walking, and less efficient wayfinding), and a greater tendency to engage in unsafe crossing behaviors. Particularly, older adults tend to begin crossing when safe crossing gaps are available in the near lane, but not the far lane. Older drivers are also at higher risk to be involved in traffic crashes due to several factors including failure to yield to oncoming vehicles reflecting difficulties in evaluating and estimating distance and speed of vehicles.

## Project Summary

The main objectives of this study are as follows: (1) Identify the circumstances and expediting factors contributing to crashes involving older drivers.

(2) Identify hotspots of crashes involving older drivers.

(3) Examine the effects of changes in the design guidelines of roadways on the safety of the aging population.

(4) Increase understanding of older pedestrians' preferences and needs to cross the different pedestrian crossings safely.

## Intended Implementation of Research

**Education and Workforce Development:** This project will reach a broad, diverse audience and educate young students and researchers on the benefits of the proposed project. The project team will submit an implementation report documenting the activities and materials produced during the implementation phase.

## Problem Statement

Older road users (65 years and up) are at higher risk to be in motor vehicle and pedestrian-related collisions. Indeed, older pedestrians and cyclists represent the largest group of vulnerable road users. In 2017, 6,784 people age 65 and older died in traffic crashes in the United States, 18 percent of all traffic fatalities. Although the population of

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**Lead Institution:**

Louisiana State University

**Funding Source(s):**

Tran-SET

Louisiana State University

**Total Project Cost:**

\$90,000



**Outreach:** The participation of undergraduate students in the research activities will be promoted. This is to guide them towards graduate studies at LSU. Therefore, two undergraduate students from LSU will be recruited to assist with certain aspects of the project (such as the self-reported survey and driving simulator experiment).

## Anticipated Impacts/Benefits of Implementation

The main deliverables of the proposed study will be: (1) a final report documenting all collected datasets, used methods, results, conclusions and recommendations, (2) spreadsheets of all datasets used in this project, (3) journal publications and presentations to be given at annual national conferences.

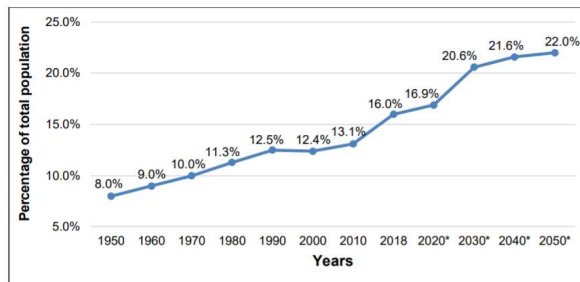


Figure 1: Share of old age population (65 years and older) in the total U.S. population from 1950 to 2050

## Web links

- Tran-SET's website <https://transet.lsu.edu/research-in-progress/>

## Tran-SET

Tran-SET is Region 6's University Transportation Center. It is a collaborative partnership between 11 institutions (see below) across 5 states (AR, LA, NM, OK, and TX). Tran-SET is led by Louisiana State University. It was established in late November 2016 "to address the accelerated deterioration of transportation infrastructure through the development, evaluation, and implementation of cutting-edge technologies, novel materials, and innovative construction management processes".

## Learn More

For more information about Tran-SET, please visit [our website](#), LinkedIn, Twitter, Facebook, and YouTube pages. Also, please feel free to contact Dr. Momen Mousa (Tran-SET Program Manager) directly at [transet@lsu.edu](mailto:transet@lsu.edu).

