

Research Summary

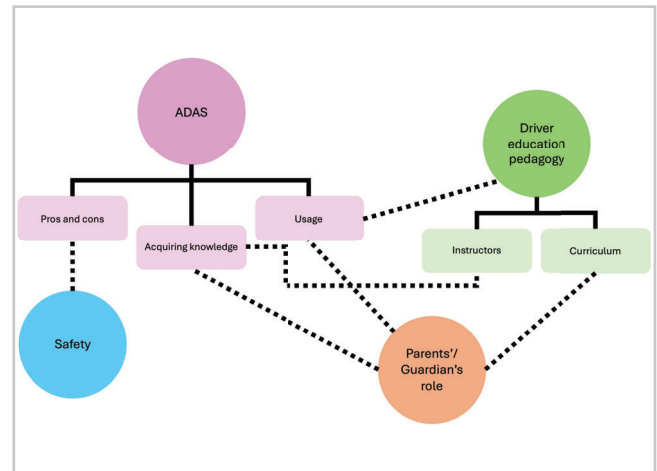
Evaluating the Effectiveness of Drivers' Education Modules on Safety

Research Need

The literature presents conflicting perspectives on the impact of driver training. Although some evidence points out that instructional courses fail to yield a direct reduction in vehicular crashes or moving violations, their primary benefit appears to lie in shaping driver behavior. Furthermore, given the critical importance of proper advanced driving assistance systems (ADAS) utilization, whether traditional driver instruction can bridge the gap in ADAS training is yet to be determined.

Goals/Objectives

- examine how differences in drivers' education program delivery affects novice drivers' behavior, crashes, and citations within 12 months of licensure
- examine how differences in novice drivers' pre-license behaviors affect crashes and citations within 12 months of licensure
- examine how driver education and training programs can help improve novice drivers' use and understanding of ADAS.



Methodology

In Task 1, we examined stakeholder insight using interviews and surveys to develop an informed understanding on current driver education and training programs in Massachusetts. In Task 2, the information obtained from the stakeholder surveys and interviews in Task 1 were leveraged to inform the design of the content and delivery of a driver education training module for Adaptive Cruise Control (ACC). In Task 3, we assessed the effectiveness of driver education format and the effectiveness of the ACC training module via a between-subjects research experiment. In Task 4, the crash and citation records for the same teen drivers from Task 3 were extracted subjectively and from the Massachusetts Vehicle Census one year after Task 3 to assess the long-term effects of driver education instruction that included ACC information.

Key Findings

Based on stakeholder input highlighting driver pedagogy, parental roles, ADAS, and safety, a 30-minute instructor-led training module was developed to educate teen drivers on vehicle technology, ACC mechanics, and driver responsibility. Results from Task 3 and Task 4 showed no statistically significant differences between groups in terms of driving performance, ACC knowledge, eye-tracking behavior, or safety incidents.

Use of Findings

The project yielded data detailing the effectiveness of driver education programs on improving teen driver behavior and driver safety. It also provided insight regarding education components, delivery methods, etc. that lead to optimal effectiveness in positively influencing safe ADAS use. These outcomes will assist policymakers in developing regulations, policies and practices throughout its driver education program curriculum and licensing processes.

Project Information

This project was completed as part of the Massachusetts Department of Transportation (MassDOT) Research Program with funding from Federal Highway Administration (FHWA) State Planning and Research (SPR) funds.

Principal Investigators:

Shannon Roberts & Anuj Pradhan

Performing Organization:

University of Massachusetts Amherst

Project Champion:

Sara Lavoie and Martha Koch

Project Start Date:

April 2023

Project Completion Date:

September 2026

MassDOT Research Project Number:

Key Words:

Driver training, advanced vehicle technology

Research and Technology Transfer Section
MassDOT Office of Transportation Planning
Planning.Research@dot.state.ma.us

