



Project Number

BDV25-977-43

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Understanding Interactions between Drivers and Pedestrian Features at Signalized Intersections, Phase 3

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Current Situation

As population, urbanization, and tourism increase in Florida, so do encounters between vehicles and pedestrians. Pedestrian safety has become a priority for many transportation agencies, especially the Florida Department of Transportation (FDOT) as it sponsors research and implementation of road designs and other measures to make roadways safer for all modes of travel. In this series of projects, researchers examined interactions of drivers and pedestrian safety features to identify those features that were most effective in helping drivers avoid encounters with pedestrians.

Research Objectives

University of South Florida researchers implemented and evaluated countermeasures intended to improve pedestrian safety in pilot projects in several areas of Florida.

Project Activities

Four pedestrian features were implemented as pilots in locations in all seven FDOT districts. The features were evaluated in before-and-after studies. The features were (1) “Stop Here on Red,” (2) “No Turn on Red,” (3) “Turning Vehicles Yield to Pedestrians,” and (4) “Right on Red Arrow after Stop” or “Right on Red after Stop.” These features were implemented both as traditional, static signs and as electrified blank-out signs, which can be turned off when they are not in force.

The features were installed in one of four treatment types: (1) Engineering only – standard signage is installed; (2) Engineering and education – standard signage plus educational roadside placards (“yard sale signs”) set up at the same time; (3) Education after engineering – placards are set up a few days after standard signage is installed; and (4) Education only – placards are installed to highlight existing signage. Not all treatments were tested in all districts.

Data were collected by video cameras set up at each study site to determine driver compliance with the safety treatment. Data fell into four categories: site conditions, driver behavior and contributing factors, pedestrian location, and driver characteristics. Site conditions included lighting, weather, and type and position of pedestrian features. Driver behaviors included lane choice, stop position, and others. Contributing factors included signal status when driver arrives at stop bar, conflicting traffic, and others. Driver characteristics included gender and age.

Analysis of the observation data addressed three main questions: driver compliance with safety features before and after countermeasure installation; driver compliance by gender; driver compliance by age group. Driver compliance increased with all countermeasures, with “Stop Here on Red” signs showing the highest improvement. The countermeasures also improved compliance across gender and age groups.

This project follows FDOT projects BDV25-977-16 and BDV25-977-26 as Phase 3 of a Naturalistic Driving Study (NDS) award, funded through the Second Strategic Highway Research Program (SHRP2), which aims to accelerate the impact of research on practice.

Project Benefits

Proven pedestrian safety features can reduce vehicle-pedestrian encounters and pedestrian injuries.

For more information, please see dot.state.fl.us/research-center



Educational “yard signs” reinforce the safety message of a standard sign.