

Research Project Title

Addressing Traffic Safety to Reduce Pedestrian Injuries and Fatalities in Tennessee

Purpose of the Project

Pedestrians are an important aspect of a multimodal transportation system. As TDOT expands its multimodal systems through complete streets policies, it is vital to provide a safe system for pedestrians. This issue is of importance for pedestrians and new disruptive transportation modes such as bikeshare, ride-hailing services, and others like electric scooters. Due to the vulnerability and lack of protection systems, pedestrians have one of the highest injury risks among road users. Despite the efforts to address vulnerable road users’ safety concerns, the number of fatally injured pedestrians is rising. This project will assess the factors that have increased the number of fatalities and severe injuries among pedestrians in Tennessee. This project will be more comprehensive than fatality-only analysis because it will rely on more detailed analysis of factors that also influence crash severity. This project will also document the risks of other vulnerable road users like bicyclists.

Scope and Significance

The number of pedestrian fatalities in the United States has steady growth and increased from 4,737 in 2009 to 6,760 in 2017. Tennessee closely follows this trend. The number of reported pedestrian crashes in Tennessee in 2018 was 1675 which is 37% higher from the corresponding number in 2010. Moreover, the number of pedestrian fatalities has increased significantly from 89 in 2017 to 137 in 2018. This is despite all the TDOT and THSO efforts for developing an updated version of Complete Streets policy in 2015 which promote safer roads and encourage road users to use of non—motorized transportation modes.

Expected Outcomes

This work will (1) deliver data-oriented and actionable decision-making frameworks to TDOT to reduce pedestrian injuries and fatalities and (2) provide innovative tools to target pedestrian safety risks. This approach is new and will allow better understanding and guidance. The Home-Based Approach applied to both pedestrians and drivers will rely on more systems-oriented thinking toward this safety challenge. Our approach is innovative and will focus on all severities of injury and will ultimately (3) lend important insights into measures that can reduce overall burden of crashes.

Time Period

Start September 2020. Duration 18 months.

Contact Information

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