

Request for Research Funding for FY 2025-2026

Project Number (Research Center Use Only): SFTY-26-06			
Requesting Office	Safety Office	Priority	6 of 11
Proposed Title	Improving Motorcycle Safety for Aging Riders in Florida: Addressing the Rising Risks of Motorcyclists 65 years and older		
Justification	<p>Florida ranks second in the nation for motorcycle registrations, with approximately 645,012 registered motorcycles as of 2022. In the same year, the state led the nation in motorcycle fatalities, recording 668 deaths, which is almost 19 percent of annual traffic fatalities.</p> <p>Florida is home to a significant population of riders aged 65 and older). The state’s warm climate and scenic roads make motorcycling an attractive option for retirees and aging riders. Additionally, the introduction of three-wheeled motorcycles (trikes) has extended the motorcycling lifespan for the aging population.</p> <p>From 2004 to 2022, the proportion of motorcycle operators over 65 involved in fatal crashes in Florida more than doubled, rising from 3.4% to 12.0%. Similarly, their involvement in all motorcycle crashes has increased significantly. Unlike younger motorcyclists, older riders are generally less likely to engage in risky behaviors such as speeding or riding under the influence. However, age-related physical and cognitive changes—such as slower reaction times, reduced balance, and diminished tolerance for crash forces—may make them more vulnerable to severe injuries and fatalities.</p> <p>Florida’s aging population is contributing to a growing number of older motorcyclists, yet there is limited research on the unique safety challenges they face. This research directly supports safety, the core element of FDOT’s mission, by identifying critical risk factors contributing to crashes and fatalities among aging motorcyclists, who account for a growing proportion of motorcycle-related deaths. By focusing on aging motorcyclists—a critical subset of vulnerable road users—and understanding their unique safety challenges, this study will also support the action plans of both the Safe Mobility for Life Coalition and motorcycle safety coalitions.</p>		
Impact	<p>The anticipated impacts include:</p> <p>Improved Safety Interventions: The findings will enable the development of targeted safety programs and policies tailored to the unique challenges faced by aging motorcyclists. These interventions may include updated rider education programs, enhanced public outreach materials, and assessments guidelines to address age-related vulnerabilities.</p> <p>Informed Policy and Training Efforts: By examining the transition to three-wheeled motorcycles and their safety implications, the research will provide essential insights for guiding training programs and policy development. This will help ensure aging riders are adequately equipped to handle the different dynamics and safety considerations of trikes.</p> <p>Enhanced Risk Identification: Identifying risk factors contributing to crashes and injuries among older riders will improve the state’s ability to predict and prevent such crashes and injuries. This could lead to more effective resource allocation for infrastructure improvements, public awareness campaigns, and enforcement strategies.</p> <p>Without a better understanding of the factors contributing to crashes and injuries among aging riders, Florida lacks targeted interventions to address this emerging issue. Furthermore, the transition to trikes and its implications for safety outcomes among aging riders requires closer examination to guide policy and training efforts</p>		
Affected Offices/ Districts	State Safety Office, State Traffic Engineering and Operations Office		
Existing Work	<p>Crash Trends and Demographics</p> <p>Studies have consistently highlighted the increasing proportion of older motorcyclists involved in crashes, particularly fatal ones. Research shows that motorcyclists aged 65 and older are overrepresented in fatal crash statistics. This trend is linked to the growing popularity of motorcycling among older adults and broader demographic shifts toward an aging population.</p>		

	<p>Physical and Cognitive Vulnerabilities Older motorcyclists face unique challenges due to age-related physical and cognitive declines, such as:</p> <p>Slower reaction times and reduced coordination. Impaired balance, making it harder to control two-wheeled motorcycles. Reduced resilience to crash forces, leading to more severe injuries and longer recovery times. These vulnerabilities contribute to the higher severity of crashes among older riders compared to younger counterparts.</p> <p>Risk-Taking Behaviors Contrary to younger riders, older motorcyclists are generally less likely to engage in high-risk behaviors such as speeding, aggressive riding, or riding under the influence. However, their crash risk is elevated due to their physical limitations and reduced ability to recover from errors or unexpected situations on the road.</p> <p>Helmet Use and Protective Gear Studies suggest that older riders are more likely to wear helmets and other protective gear compared to younger motorcyclists. However, even with proper protection, their age-related physical vulnerabilities often result in severe outcomes in crashes.</p> <p>Other existing work: 1. Countermeasures That Work – Older Drivers (NHTSA, 2021)</p>		
Keywords Used In Existing Work Search (Cannot leave blank)	Motorcycle safety, Aging driver, Aging rider		
Related Contracts (Give contract numbers)			
Funding Request	\$180,000	Anticipated Duration	24 months
Project Manager	Rupert Giroux	Contracting Method	Direct contract with University of South Florida’s Center for Urban Transportation Research (CUTR) (CUTR Contact: Dr. Chanyoung Lee)
Equipment	NA		
Urgency	1	From 2004 to 2022, the proportion of motorcycle operators over 65 involved in fatal crashes in Florida more than doubled, rising from 3.4% to 12%. Similarly, their involvement in all motorcycle crashes has increased significantly.	
Implementability	1	<p>The findings will directly support initiatives and collaboration between the Florida Department of Transportation (FDOT), the Florida Motorcycle Safety Coalition, FDOT’s Safe Mobility for Life, and rider education providers. Potential implementation steps include:</p> <ul style="list-style-type: none"> Revising Florida’s motorcycle training curricula to incorporate modules on age-related challenges and trike operation. Launching statewide public education campaigns targeting aging riders and their families in collaboration with Safe Mobility for Life 	
<p>This research aims to:</p> <ol style="list-style-type: none"> Analyze crash and injury data specific to aging motorcyclists in Florida, focusing on trends, crash types, contributing factors from 2015 to 2024. Identify physical and cognitive challenges faced by aging motorcyclists and their impact on crash risk and injury severity. Evaluate the role of three-wheeled motorcycles (trikes) in crash patterns and safety outcomes among Florida’s aging riders. Assess the effectiveness of existing rider training programs in Florida for addressing the needs of aging motorcyclists. Develop targeted interventions to improve safety, including education, training, and engineering solutions tailored to Florida’s aging motorcyclist population. <p>Potential Outcomes</p>			

This research will produce actionable insights specific to Florida, including:

1. Recommendations for enhancing Florida’s motorcycle safety training programs, such as the seasoned rider courses, to better address the needs of aging riders.
2. Guidelines for promoting the safe use of trikes among aging riders.
3. Evidence-based recommendations for protective gear and adaptive technologies tailored to aging motorcyclists in Florida.
4. Public awareness campaigns tailored to Florida’s aging motorcyclist population, promoting safe practices and informed decision-making.

By focusing on Florida’s unique demographic and motorcycling environment, this research will help reduce crash and fatality rates among aging motorcyclists, ensuring a safer riding experience for older adults in the state.

Project Benefits (Select all that apply and explain)	Quantifiable Benefits (units, dollars, etc...if applicable)	Methodology or Data Sources Used to Determine Quantifiable Benefits. If not applicable, please give justification of project benefits
○ Materials Enhancement		
○ Financial Impact		
○ Time Savings		
○ Lives Saved/Injuries Prevented	Reduction in crashes involving motorcyclists 65+	
○ Other (Explain)		