

U.S. Department of Transportation: Taxonomy Project for Excellence

A Taxonomy Table will be developed that cross-references driver performance errors to age-related functional deficits, providing new insights into risk factors for older drivers. This will be augmented with evaluations of behavioral countermeasures to reduce crash risk for this group.

Lead Agency:

U.S. Department of Transportation
National Highway Traffic Safety Administration (NHTSA)

Agency Mission:

Save lives, prevent injuries and reduce economic costs due to road traffic crashes through education, research, safety standards and enforcement activity.

Principal Investigator:

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Partner Agency:

University of North Carolina Highway Safety Research Center

General Description:

The project's objectives are to identify risky behaviors, driving habits, and exposure patterns that have been shown to increase the likelihood of crash involvement among seniors, and to classify these crash contributing factors according to a set of underlying functional deficits specific to or more prevalent among older people. Deficits may result from normal aging, age-related medical conditions, or medication use. A further goal is to identify and critically examine behavioral countermeasures with the potential to mitigate functional loss and/or diminish the occurrence of risky behavior(s) – and thus ameliorate crash problems among older drivers.

The centerpiece of this project will be the development of a Taxonomy Table that captures critical relationships between topics and subtopics highlighted in the project literature review and crash database analysis (FARS and GES). This table is expected to contain entries describing:

- Risky driving behaviors/driving errors associated with older driver crash involvement;

- Operational factors and conditions under which driving errors are most likely to occur;
- General and specific functional deficits that have been identified as underlying causes of driving errors and crash risk;
- Behavioral countermeasures that have been developed to address specific functional deficits and/or associated risky behaviors;
- Countermeasure evaluations, where they exist.

Age-related functional losses in specific vision, cognition, and physical abilities that have a demonstrated relationship to increased crash risk for older drivers will be listed. These will be followed by the driving behaviors identified in the database analysis and literature review that are associated with increased crash risk in this population.

Excellence: What makes this project exceptional?

The continuing growth of the older driver population dictates a need to revisit and expand upon the base of knowledge documenting older drivers' functional declines in the abilities needed to drive safely. Contemporary investigations into factors contributing to older driver crashes, together with an update of research describing how age-related functional changes translate into specific driving errors, will provide valuable input to evaluations of the effectiveness of existing behavioral countermeasures and to the development of improved strategies to enhance older driver safety and mobility in the future.

Significance: How is this research relevant to older persons, populations and/or an aging society

This project is exceptional because its main product, the Taxonomy Table, will be a resource that provides at-a-glance, state-of-the-knowledge practical and research-based information to assist researchers, health care practitioners, and others concerned about older drivers to identify particular risk factors, and what can be done to reduce the risk.

Effectiveness: What is the impact and/or application of this research to older persons?

Equipping individuals with strategies and tactics to help them safely negotiate problem situations should enhance older driver safety and mobility.