The Alabama VIP Driver Study: 
Studying Older Drivers Using Naturalistic Driving Techniques

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Background: The objective of the UAB VIP Study is to identify how visual impairment impacts the safety and performance of older drivers. Previous research on vision and older driver safety and performance has focused on the study of police accident reports, brief on-road driving evaluations, or driving simulator studies. These techniques have serious scientific limitations, many of which are overcome by naturalistic driving methods.

Specific Aims of VIP: Aim 1: To examine relationships between vision and naturalistic driving in older drivers. Analyses focus on relationship between vision and safety critical events, lane-keeping, turning at intersections, driving performance under secondary task demands, and when a “co-pilot” is present. Aim 2: To examine these relationships in light of potential effect modifiers, specifically, other driver characteristics, environmental factors, vehicle factors. Aim 3: To examine relationships between driving performance as measured by naturalistic driving methods and the assessment provided by a certified driving rehabilitation specialist (CDRS), the clinical gold standard.

Instrumentation to Measure Vehicle Kinematics and Driver Behavior: The VIP makes use of Data Acquisition Systems (DAS) as used in the SHRP2 study, as previously described. Five-channel video is recorded of the front view, driver’s face, over the driver’s shoulder, passenger, and rear view plus accelerometers, GPS, forward radar, and vehicle network.

Inclusion Criteria: • Age ≥ 70 years old • Provides proof of AL license • Drives at least 4 days/week by self report • Speaks English • Owns a motor vehicle

Exclusion Criteria: • Planned period preventing driving for more than 2 consecutive weeks • Vehicle incompatible with DAS installation

Progress to Date: Enrollment began late January 2015. As of August 1, 2016, there are 71 drivers who have completed the enrollment visit and DAS installation. We have completed 53 de-installations meaning the drivers completed the naturalistic driving observation period. 53 participants have completed the CDRS on-road evaluation. Participant age range is 70 – 95 years old (mean 80).

Other Domains Measured
- Depression
- Physical function
- General health and medical use
- Driving habits
- Motor vehicle collisions from records
- CDRS driving evaluation based on 45 minutes of driving

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![Figure 1: Protocol](image-url)