**Project Basics**

The National Academy of Sciences’ (NAS) Strategic Highway Research Program 2 (SHRP 2) awarded the Virginia Tech Transportation Institute (VTTI) $3 million for the Design of the In-Vehicle Driving Behavior and Crash Risk Study, the first stage of a multi-phase project that will ultimately become the largest naturalistic driving study ever conducted.

The VTTI team was chosen for this project largely due to its experience with the 100-Car Naturalistic Driving Study, completed in 2006 and widely recognized for its advanced technology and comprehensive database. Other key members of the VTTI team include the University of Michigan Transportation Research Institute (UMTRI) and the Batelle Memorial Institute. There are also many volunteers from the transportation research field who will serve as advisors.

For this phase, researchers are developing a plan and technologies for the full-scale data collection and analysis effort and will conduct a small pilot study. Similar to the 100-Car Study, this study will collect naturalistic driving data from drivers in their own vehicles.

VTTI’s Data Acquisition System (DAS), first used for large-scale naturalistic research in the 100-Car Study, will be examined as part of this planning phase. Researchers will make several major improvements to the system including a hard drive that can store up to a year of driving data, remote system checks, the ability to be installed in any make and model of vehicle, and an installation process that takes less than two hours. The team also plans for a small fleet of vehicles that will have highly capable DASs, with features such as traffic-signal-state assessment, lateral proximity sensors, real-time eye tracking, and temperature sensors.

After completion of this planning phase, VTTI will propose to conduct the data collection and reduction effort, as well as a variety of analysis projects. Current SHRP 2 estimates have the full-scale project completion date in 2011, with opportunities for many transportation research organizations to get involved.

“Unobstrusive cameras will be a large part of the design for the In-Vehicle Driving Behavior and Crash Risk Study.”

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“We estimate that this project will ultimately produce over 2.5 million hours of driving data, based on the numbers we saw from the pilot, the 100-Car Study,” said Tom Dingus, director of VTTI. “With a broader base of data from a wider range of the driving population in terms of age, vehicle type, and geographic location, we’ll be able to explore many heretofore unexamined transportation safety questions.”