Toyota Collaborative Safety Research Center Announces 10 New Projects and Six New Partnerships With Leading Academic and Research Institutions

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Ann Arbor, MI, September 13, 2011 – Toyota's Collaborative Safety Research Center (CSRC) today announced 10 new research initiatives and new research agreements with six leading North American universities and research institutions to enhance the development, testing and implementation of new automotive safety innovations across North America.

Revealed at the 2011 Toyota Safety Technology Seminar at the Toyota Technical Center (TTC) in Ann Arbor, Mich., the new projects will research subjects ranging from driver education and collision mitigation to accident reconstruction and enhanced crash data analysis. A significant expansion in the Center's work, these initiatives build upon the CSRC's initial focus of working to reduce the risk of driver distraction and better protect the most vulnerable traffic populations, including children, teens, seniors and pedestrians.

"In keeping with its collaborative, open research model, the CSRC intends to publish as much of the research from its partnerships as possible to make it available to federal agencies, the industry and academia," said Chuck Gulash, Senior Executive Engineer at the Toyota Technical Center and Director of the CSRC. "This model of sharing the CSRC's Toyota talent, technology, and data with a broad range of institutions, represents a fundamental change for Toyota, moving away from a traditional focus on proprietary research towards more openly sharing innovations that benefit the automotive industry and society as a whole."

Along with previously announced partnerships with University of Michigan Transportation Research Institute (UMTRI), Children's Hospital of Philadelphia (CHOP) and Virginia Tech Transportation Institute (VTTI), the projects announced today bring the total number of ongoing research programs to thirteen. The CSRC initiative will operate on an initial funding budget of $50 million over 5 years, and hopes to announce additional partners and programs over the next year.

The CSRC today also announced the launch of its new website, located at (www.toyota.com/csrc) as part of Toyota's Environmental, Safety and Quality (ESQ) Communications website (www.toyota.com/esq). Featuring a cross section of information and research developments from ongoing work of the Center and its partners, the new site will serve as an ever expanding, publically available hub for the CSRC's collaborative research on automotive safety throughout North America.

The new CSRC collaborative safety technology research partners include:

1. Massachusetts Institute of Technology (MIT) AgeLab, Cambridge, MA
2. The Transportation Active Safety Institute (TASI), Indiana University/Purdue University Indianapolis (IUPUI)
3. Virginia Polytechnic Institute and State University (VT), Blacksburg, VA
4. Wake Forest School of Medicine, Winston-Salem, NC

5. Washtenaw Area Transportation Study (WATS), Ann Arbor, MI
6. Wayne State University School of Medicine, Detroit, MI

About the new CSRC Research Programs

Massachusetts Institute of Technology AgeLab
· *Demands of In-Vehicle Interfaces*
A two-year study to explore how the use of in-vehicle voice command systems affect driver distraction. The findings will be provided to NHTSA to help inform future research and voluntary guidelines.

The Transportation Active Safety Institute at Indiana University/Purdue University Indianapolis
· *Pedestrian Pre-Collision Systems (PCS) Test Scenarios*
A five-year study to develop testing protocols for automotive PCS designed to prevent pedestrian-related car accidents. The study will draw on available crash data in NHTSA databases and original vehicle testing to develop more sophisticated and realistic test scenarios for PCS with the goal of improving pedestrian safety.

University of Michigan Transportation Research Institute
· *Posture, Body Shape, and Seatbelt Fit in Senior Drivers*
An 18-month project to study the relationship between age and seated occupant posture, body shape, and seatbelt fit. The project seeks to determine if senior drivers and passengers sit differently in the vehicle, to characterize exterior body shape changes that occur with age, and to understand how these factors influence seat belt fit. The statistical models resulting from the study can be used to better understand senior occupant kinetics and injury patterns in a crash event.

Virginia Tech Transportation Institute
· *Senior Driver Support – Brain Training*
A three-year project to test and compare the benefits of a brain fitness training program for senior drivers. Researchers believe that with brain appropriate training, older drivers can increase their useful field of view, which typically shrinks as we age.
· *Lane Departure Warning System Safety Benefit Estimation*
A three-year study to evaluate the safety benefits of Lane Departure Warning (LDW) Systems and develop collision scenarios that can be used to effectively compare the technology across different makes and models.

Wake Forest School of Medicine
· *Advanced Automated Crash Notification*
A one-year partnership to develop vehicle computer systems that not only notify first responders in the event of a collision, but also predict the likelihood and severity of occupant and driver injuries.

· *THUMS Simulation of Real-World Collision Events*
A five-year project to combine collision reconstruction data with Finite Element Modeling to better understand how to reduce injuries caused by vehicle collisions. The study will compare information about actual collisions with data from Toyota's THUMS technology, allowing researchers to pinpoint which changes to vehicle design could have prevented the actual injuries suffered by vehicle occupants.

Washtenaw Area Transportation Study
· *Washtenaw County Crash Data Archive*
A two-year study to explore new models for post-crash accident data collection. The study aims to help prevent future collisions through an improved understanding of information that could be used to make vehicles and U.S. roads and highways safer.

Wayne State University School of Medicine

· *Driver Distraction: Cognitive Model & Validation*

A three-year collaborative study to better understand the cognitive aspect of driver distraction. Combining research in the fields of driver behavior, cognitive psychology, and cognitive neuroscience, the project will advance the auto industry's understanding of a phenomenon that has been widely blamed for many accidents and injuries on U.S. roads and highways.

· *Finite Element Model Development for Vulnerable Populations*

A four-and-a-half-year study to develop human body finite element (FE) models for children and seniors so that engineers can account for differences in their body characteristics when designing vehicle safety systems. The study aims to close the gap between current safety testing and the actual injuries sustained by these two vulnerable populations, ultimately reducing injuries to all occupants regardless of age.