

Toyota's Collaborative Safety Center Introduces New Research Projects Exploring the Safety Needs of an Evolving Mobility Ecosystem

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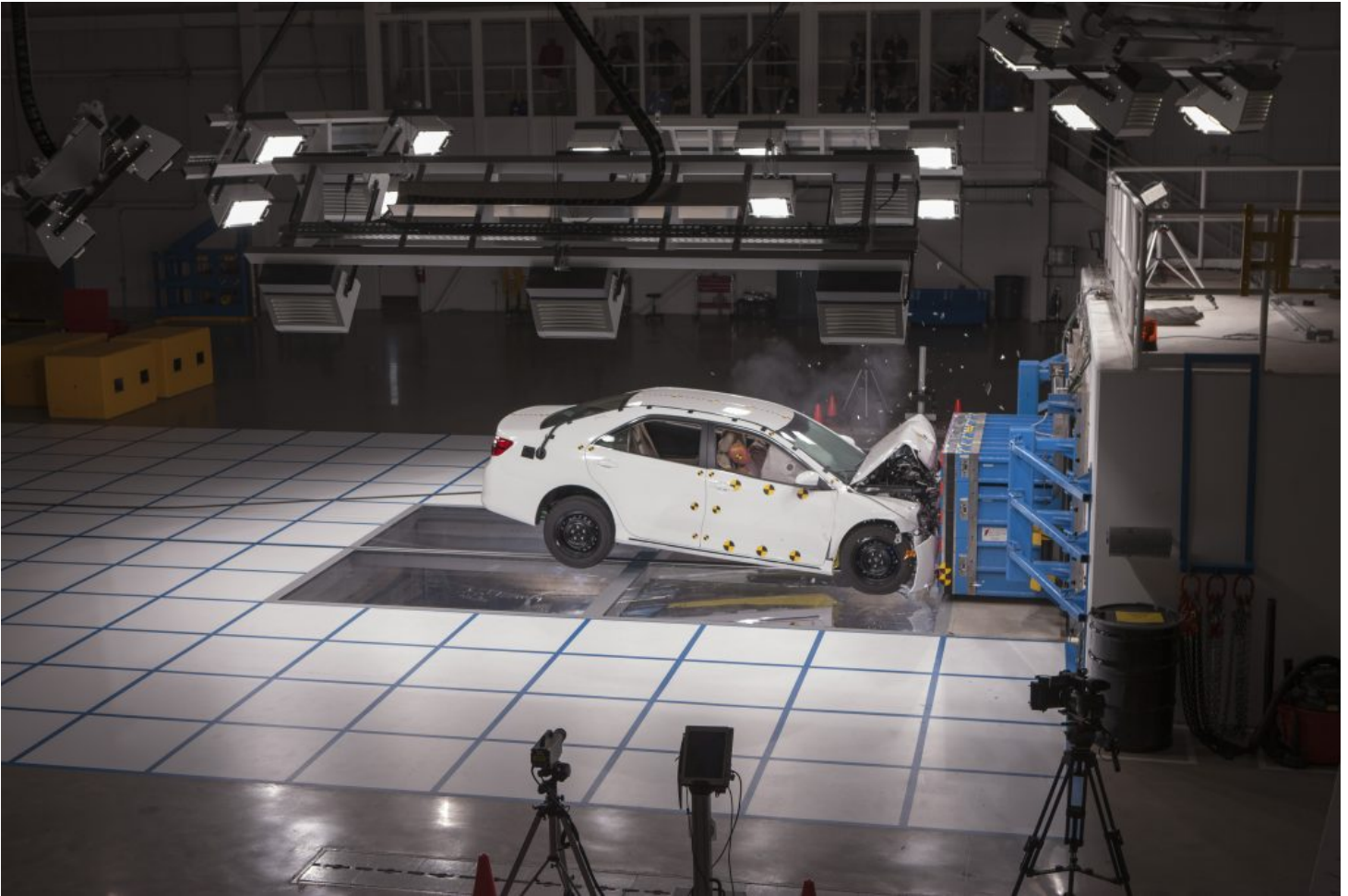


Collaborative Safety Research Center

TOYOTA

ANN ARBOR, Mich. (April 27, 2022) – Toyota's Collaborative Safety Research Center (CSRC) today introduced nine new projects being launched as part of the next phase of its pioneering automotive safety research, backed by the new five-year, \$30 million commitment announced last year. The new research projects, announced during a virtual CSRC media event showcasing safer mobility (video replay at bottom of this page), will examine the diversity of safety needs and analyze safe mobility options that accommodate a variety of applications, physical characteristics and levels of accessibility for people and society.

“The foundation of CSRC is built on collaborations to tap outstanding safety researchers and institutions throughout the country, and we're excited to continue these strategic partnerships into the future,” said Danil Prokhorov, director of Toyota's CSRC and Future Research Department (FRD). “As we explore inclusive safety technologies for meeting unique and ever-evolving needs in our pursuit of mobility for all, we'll also continue to publish our CSRC research discoveries for others to help foster societal benefit.”



A 2012 Camry is crashed at 35MPH to demonstrate TTC's safety testing during the CSRC seminar.

The new projects will engage the expertise of the University of Massachusetts – Amherst, Children's Hospital of Philadelphia, University of Michigan Transportation Research Institute, Massachusetts Institute of Technology, University of Iowa, Virginia Tech and Indiana University – Purdue University Indianapolis. Data from each project will be published and openly presented to maximize the output from these collaborations and studies for benefiting the advancement of automotive safety industrywide.

The nine projects are:

Project Title	Topic	Institution
Tailored Training Based on Driver's Self-perceptions and Knowledge	How can we promote proper use of safety technology when faced with preexisting misconceptions? Researchers will use a combination of longitudinal observation and driving simulator research to investigate various approaches of educating misinformed users about safety technologies.	University of Massachusetts-Amherst
Risk-Anticipation Training to Enhance Novice Driving	Can an interactive tool help novice drivers to better identify hazards in common driving scenes? Researchers will study software designed to improve scanning, target identification, and correct glances and its effect on driving performance, future crashes, and traffic violations.	University of Massachusetts-Amherst
Caregivers' Attitudes Towards Pediatric Vehicular Heatstroke Risks and Solutions	What motivates caregivers to take preventive steps against child heatstroke in vehicles? Researchers will use scientific surveys and focused group interviews to analyze societal attitudes surrounding perceived risk factors and acceptance of mitigation strategies.	Children's Hospital of Philadelphia
Library of Real-world and Simulated Corner Cases for AVs-Vulnerable Road User (VRU) Crashes and Interactions	How can we coordinate shared experiences among automated driving developers and stakeholders regarding VRU safety? Researchers will study multiple naturalistic driving databases to identify complex, unique VRU interaction scenarios for use in safety assessment.	University of Michigan-Dearborn; University of Michigan Transportation Research Institute (UMTRI)
Evolving Characteristics of Non-Driving Activities	What non-driving related activities do drivers engage in while using L2 driving assistance features with different types of driver monitoring? Researchers will study driver behavior in vehicles equipped with L2 driving assistance features that have driver monitoring systems.	Massachusetts Institute of Technology

Projects are selected based on their application to CSRC's new research tracks for the next five-year period – Human-Centric, Safety Assurance and Assessment – which weave together the diverse interdisciplinary backgrounds of CSRC's team. Each project is designed to be completed in a short amount of time to emphasize agility for more rapid results.

CSRC is considering additional projects and will announce more at a later date. CSRC will also seek out new partnerships who can offer new perspectives and offer different research methods for addressing safety issues facing at-risk and vulnerable populations.



CRSC also published a thought leadership paper today summarizing CSRC NEXT, its previous research phase from 2017-2021. This phase included a \$35 million investment in research that emphasized the challenges and opportunities of autonomous and connected vehicle technologies over the next decade. The paper can be reviewed and downloaded [HERE](#). Additionally, a short video was produced that encapsulates the importance of CSRC and its achievements with a preview of future plans.

Toyota created the Collaborative Safety Research Center (CSRC) in 2011 to advance traffic safety for the industry and society through open partnerships with universities, hospitals and other institutions. CSRC has received \$85 million over its first 10 years for foundational safety research, including the factors that lead to distracted driving and the development of tools and testing procedures related to the efficacy of advanced driver assistance systems (ADAS).

Since its inception, CSRC has completed 85 research projects with more than 30 different institutions, published over 260 research papers and engaged more than 300 researchers, who have publicly shared the output globally. The projects have made meaningful contributions to help advance research and technology for the safe integration of future mobility solutions for all.