PREPARED TESTIMONY OF

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SENATE COMMITTEE ON COMMERCE, SCIENCE AND TRANSPORTATION

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Chairman Rockefeller, Ranking Member Hutchison, members of the Committee, thank you for inviting me to address you today. My name is Takeshi Uchiyamada. I am an Executive Vice President of the Toyota Motor Corporation, and I am the Chief Engineer for the global company.

Since I was a child, I have been interested in technology and science. Stories about great inventors such as Edison, Bell and Ford fascinated me, and I dreamed of developing a car that everyone around the world would love. From the time I joined Toyota, I have been engaged in developing vehicles and engineering technology with my wonderful and experienced colleagues.

I was fortunate to be the chief engineer of the first generation Prius. I helped plan and develop the first mass-produced hybrid in the world, and this hybrid led other automakers to realize the importance of environmentally friendly technology. What impressed me most is the fact that consumers had greater environmental awareness than we did as automakers. Our customers helped make hybrid cars popular and used widely around the world today.

Today, I would like to focus my comments on Toyota's approach to safety, our views on engine throttle control systems – or ETCS – and how we are applying advanced technology to further address the issue of unintended acceleration.

As Toyota's President Akio Toyoda testified to Congress last week, Toyota's priority has traditionally been the following: First; Safety, Second; Quality, Third; Volume. Our goal in developing safety-related technology is not only to comply with regulations and standards, and to strive for good safety ratings, but also to improve consumer safety in the real world. While concerns have been raised about our electronic throttle control system, this system – used by all major automakers – actually represents a great safety advancement, enabling superior traction control and electronic stability control, among other things.

Because the ETCS controls the engine throttle system, Toyota places the greatest importance on ensuring that the reliability of this system is absolute by undertaking rigorous design and testing processes. Three things ensure this absolute reliability. The first is the fail-safe mechanisms we build into the design. Second is its tolerance to extreme environmental conditions. And third is its resistance to software problems.

The fail-safe systems in Toyota's ETCS are robust. Our design includes two separate central processors – a main central processing unit, or "CPU", and a sub CPU. The two CPUs are both inside the engine control module and they both get the same throttle-related inputs in parallel from the engine sensor network.

The main, or "control" CPU calculates and executes the operating commands for all engine systems. The sub CPU monitors throttle control inputs, throttle control outputs, and main CPU processes. A "watch dog signal" passes between the two CPUs many times per second to confirm that the processors are working correctly. If the two CPUs are not in agreement, or either the main or sub CPU does not receive the "watch dog signal", the engine management system will alert the driver and go into a fail-safe mode operation.

The ETCS is also designed and tested to make sure it withstands all of the foreseeable environments in terms of temperature, moisture, vibration, and electromagnetic interference (EMI). We have testing data that confirms its reliability from all the markets in which we operate worldwide. On EMI, there is no regulation in the U.S., but we test the ETCS to withstand double the European regulation for EMI. In none of these cases has the ETCS failed.

In addition, we test the software in this system extensively both in the design phase and after it is developed to ensure that there is no possibility of "sudden unintended acceleration."

I want to be absolutely clear: As a result of our extensive testing, we do not believe sudden unintended acceleration because of a defect in our ETCS has ever happened. However, will continue to search for any event in which such a failure could occur.

In order to further validate the safety of our ETCS, we have asked Exponent, a world-class engineering and scientific consulting firm, to conduct its own independent, comprehensive evaluation.

We are also addressing the issue of unintended acceleration through new technologies,

including event data recorders and brake override systems.

In conclusion, our Prius has changed the global auto industry with its environmental performance. Now, we will strive to continue to be the leader in the area of safety. I will help drive our team's efforts to meet this challenge, ensure our drivers' safety and regain their trust and confidence.

Thank you.