Please provide your name, title and the purpose of you testimony.

My name is Harry Lightsey, Executive Director, Global Connected Customer Experience for General Motors LLC (General Motors). Thank you for the opportunity to highlight for the Committee General Motors' commitment to Vehicle to Vehicle (V2V) technology and other safety applications based upon Dedicated Short Range Communications (DRSC) technology. My testimony will also address what General Motors believes to be the greatest challenges surrounding V2V and its future full scale deployment.

The National Highway Safety Administration (NHTSA) has estimated that V2V could by itself impact over eighty percent (80%) of the over four million annual unimpaired light vehicle crashes, saving lives and reducing $871 billion in costs to our nation's economy each year. General Motors is committed to being a leader in the research, development and deployment of intelligent and connected vehicle technologies that will help improve mobility, reduce congestion, reduce emissions and most importantly enhance safety. General Motors has made tremendous progress in leveraging vehicle connectivity and safety with its OnStar brand as well as with radars, cameras and sensors to support an array of features that include adaptive cruise control, cross-traffic alerts and crash-imminent braking. While these technologies offer tremendous benefits for our customers, General Motors believes that V2V technology will be a game changer for vehicle safety and intelligent transportation. For this reason, on September 7, 2014, General Motors CEO Mary Barra, announced that General Motors would deploy V2V technology in the Model Year 2017 Cadillac CTS, which will be available for sale in the latter part of 2016. This announcement culminated over 15 years of work by General Motors and the auto industry working closely with the Department of Transportation and various other stakeholders. Since the announcement, General Motors continues to work diligently to realize

the transformative safety potential of V2V and DSRC technology. We continue to be heavily involved with other automakers and the Department of Transportation in the Crash Avoidance Metrics Partnership (CAMP) to research, develop and test the fundamental technologies that form the basis for V2V. General Motors is also actively exploring a partnership with the Michigan Department of Transportation, Ford Motor Company, and a University of Michigan consortium to deploy vehicle-to-infrastructure (V2I) communication technology-enabled corridors on more than 120 miles of roadways in Metropolitan Detroit. Thus, after years of work and substantial investment, General Motors is substantiating the promise of "talking" cars and all the corresponding safety and societal benefits.

Why has General Motors made this public commitment to V2V technology?

General Motors' highest priority is the safety of its customers. The safety benefits of V2V technology are undeniable. We know that these benefits cannot be realized until extensive deployment of V2V is well under way. That is why we made the decision to deploy V2V on the 2017 Cadillac CTS.

Why is General Motors the only automaker that has publicly announced a specific V2V deployment?

General Motors has long been a leader in the industry in connected vehicle technologies. General Motors began offering OnStar services to its customers beginning in 1996 and made OnStar standard on all of its vehicles over ten years ago. OnStar's emergency services and automatic crash notification in particular have helped saved many lives underscoring General Motors commitment to safety. Indeed, OnStar handles thousands of emergency calls and automatic crash notifications each month. Last year General Motors became the first automaker

to offer 4G LTE connectivity in its vehicles. This year, General Motors announced that it will offer both Apple CarPlay and Android Car in more vehicle models than any other automotive brand. With V2V technology, however, General Motors cannot do it alone. V2V's effectiveness depends on it to being deployed across all vehicle makes and models. General Motors, therefore, encourages other automakers to deploy V2V as soon as possible. We are aware and are encouraged that many other automakers have plans to deploy V2V technology in the near future.

What are the greatest challenges for V2V?

Several technical issues still need to be resolved in order for V2V to be fully and effectively deployed. National and international standards must be adopted to insure interoperability of V2V systems deployed by all auto makers and those deploying related V2I systems. A scaleable and operational security credential management system must be developed. We expect that these issues will be resolved through the anticipated NHTSA rulemaking expected to occur next year and through activities well under way in international standard setting bodies.

Another issue is the availability of the road safety spectrum licensed by the Federal Communications Commission (FCC) for the purpose of V2V communications. The FCC opened a docket in 2013 to investigate whether the road safety spectrum could be shared with unlicensed users (principally for Wi-Fi use) without impacting the V2V system. Thorough and robust testing is needed to identify the best and most secure approach to protecting V2V and V2I communications and avoiding interference. One approach to addressing these issues is included in the Wi-Fi Innovation Act that was introduced in both the House (H.R. 821) and the Senate (S. 424) earlier this year. These bills raise concerns of substantial delay and uncertainty with regards to the viability of the spectrum for DSRC that should be addressed before any legislation is considered further.

General Motors is focused upon implementing V2V technology as quickly as possible and it is important that the road safety spectrum communications operate free from interference. But we also understand that spectrum is a valuable resource and, as a result, we are open to sharing the road safety spectrum as long as such sharing does not interfere with the operation of V2V. We are very optimistic about a sharing proposal from Cisco that would operate on a "listen, detect and vacate" basis. We have engaged with Cisco and plan to begin testing their technology as soon as possible.

We are also encouraged by the forward momentum that is developing towards deployment of V2V. On May 13, Secretary of the Department of Transportation Anthony Foxx announced that the Department would accelerate its rulemaking process and also develop an expedited testing capability to test any proposed spectrum sharing solution for interference.

What actions can Congress take to encourage the deployment of this life-saving technology?

First, we encourage Congress to support NHTSA's anticipated rulemaking and to urge NHTSA and the Department of Transportation to continue to move quickly to provide the framework for the deployment of V2V and V2I technologies. Second, we urge Congress not to legislate in a way that delays or frustrates the testing of potential spectrum sharing solutions to determine if they would create interference with DSRC or not.

Does this conclude your testimony?

Yes. I would conclude by emphasizing two key points. First, General Motors is committed to V2V technology. Second, we believe that now is the time to begin the rollout of V2V. The sooner we begin to get V2V in vehicles, the sooner our customers will begin to realize the lifesaving safety benefits of its promise. Thank you again for providing General Motors with the opportunity to discuss this important issue.