Good Morning.

Thank you for the opportunity to present to the Working Group today. My name is Jane Lappin and I am Director of Government Affairs and Public Policy at the Toyota Research Institute in Cambridge. The Toyota Research Institute was formed by Toyota in 2016 with a $1 billion investment to advance artificial intelligence and related technologies, with an intense initial focus on the development of automated driving technology.

Toyota is currently pursuing two paths to automation – a system called Guardian and a system called Chauffeur. Under Guardian, the driving automation technology acts as an always-watching crash mitigation system. Guardian operates in the background and is constantly monitoring the environment, stepping in only when it perceives a collision is imminent. Under Chauffeur, the automated driving system takes over the driving task from the human driver completely. Interestingly, much of the hardware and software being developed for Guardian and Chauffeur is the same. The difference is that Guardian only engages when needed, while Chauffeur is engaged continuously.

Toyota believes that there is an important role for both systems. For example, the Guardian approach enables us to introduce higher levels of driver assistance into our production vehicles in the near-term, helping to save more lives sooner, as we continue our progress towards Chauffeur.

We appreciate that the goal of this Working Group is to find a path forward to encourage and enable the safe testing and deployment of driving automation technology in the Commonwealth. As a company innovating right here in Massachusetts, we support this goal and look forward to working with you to accomplish it. To that end, we offer you five considerations.
First, driving automation technology is not a one-size-fits-all proposition. Developers in this highly competitive sector have different visions of the future, predicated on different levels of driving automation, diverse vehicle configurations and human-machine interfaces, and distinct business models. The truth is that it is far too early in the development of this innovation for policymakers to pick winners or losers, assume that one business model makes the most sense, or determine that one approach is safer than another. Any policy framework should be broad and flexible enough to accommodate these differences and ultimately empower the residents of the Commonwealth to make the decision about what works best for them.

Second, testing is a necessary means to an end. Our goal is to develop a vehicle that can be deployed safely and responsibly on all roads, city and highway, in all weather, day and night. We aim to develop vehicles that save lives and provide mobility to those cannot drive themselves. But as developers, we cannot reach that goal unless we can test our technology on public roads, in real-world conditions. We need access to a range of different types of roads, under a variety of driving conditions, including those environmental conditions we encounter in Massachusetts. Restricted test zones create awkward logistical challenges for vehicle testing that hinder safe system development; these restrictions on when, where, or how testing can occur should be avoided. Testing is what will allow us to determine when our technology achieves a safe level of performance and is ready for deployment.

Third, while the Commonwealth is right to expect that these systems will be tested in a safe and responsible manner, it should refrain from regulating the safety of the vehicles themselves. The Federal government has responsibility for ensuring the safety of vehicles on public roads and has a number of regulatory and enforcement tools at its disposal to carry out this responsibility. There is currently a significant amount of activity under way at the Federal level to develop and implement a robust federal framework to address the safety of automated driving systems without impeding interstate commerce or travel.
Fourth, as the technology matures beyond the early stages of testing and into more advanced stages of development, we will need consistent, objective, transparent regulatory frameworks. Restrictions and prohibitions that evolve over time will make it extremely difficult for developers to cement their product plans and deployment strategies.

Finally, Toyota looks forward to testing automated driving systems in Massachusetts to help further establish the Commonwealth as a national leader in the development of this important safety and mobility technology. We are confident that the right regulatory structure will support effective and valuable AV research here in Massachusetts.

Thank you, again, for the opportunity to present today. Toyota looks forward to continuing to work with this Working Group and others within the Commonwealth to advance safe and responsible driving automation technology.