

## **Statement at NHTSA Public Meeting for Safe Deployment of Automated Vehicle Safety Techniques**

April 8, 2016

Good morning, and thank you for hosting today's workshop. My name is Amitai Bin-Nun; I am the Director of the Autonomous Vehicle Initiative at Securing America's Future Energy (SAFE). For over a decade, SAFE has worked to strengthen America's national and economic security by reducing our oil dependence in the transportation sector and our nation's resulting exposure to the destructive impacts of oil price volatility.

SAFE believes that autonomous transportation could bring about the most dramatic transformation in society in the last 100 years, delivering unprecedented benefits by unleashing trillions of previously non-productive hours, addressing the dramatic underutilization inherent to the current vehicle ownership model, significantly curbing the more than one million traffic fatalities annually worldwide, and providing mobility and freedom to the disabled, elderly, and the poor. Most importantly to SAFE, autonomous vehicle technology will secure dramatic reductions in oil demand through driving efficiency and fuel diversification.

We recognize and applaud the strong signals sent by Secretary Foxx in moving expeditiously and hope that DOT and NHTSA will use flexible, innovative thinking to develop autonomous vehicle regulation that maximizes societal benefit.

Despite a growing consensus that autonomous vehicle technology is on track to fulfilling its promise, we are concerned that poorly crafted regulations, ill-conceived legislation, or entrenched interests could derail this progress. For that reason we are actively engaged in efforts to design and build stakeholder support for policies promoting autonomous vehicle development and deployment.

To this end, last year, SAFE formed its Autonomous Vehicle Task Force, comprised of a group of leading business, technology, and policy experts in the autonomous vehicle space. The goal is to create a prominent platform for these experts to voice their collective opinions on what will best accelerate the autonomous revolution – and what pitfalls should be avoided. We look forward to engaging with you.

On May 19<sup>th</sup>, we will release a National Strategy for Energy Security which will have a major focus on the impacts of autonomous vehicles, and will go into greater depth on the comments we offer today. We look forward to engaging with you.

### **The Crux: Level 4 Autonomy Must Be Allowed**

Our modeling has shown that economic incentives and consumer value will encourage the rapid adoption of shared, autonomous vehicles once they are commercially available, leading to dramatically lower consumption of petroleum over the course of the next two decades, partially through improved vehicle efficiency but mainly through the accelerated adoption of alternative fuel vehicles. This powerful outcome is only possible if a regulatory pathway is created allowing the deployment of Level 4 autonomous vehicles and permitting them to operate under any circumstances in which they can perform as safely as today's non-autonomous cars. Level 3 autonomous vehicles would not be prohibited nor discouraged, but the marketplace would determine what technologies would be adopted, which requires that Level 4 autonomy not be stifled.

Level 4 autonomous vehicles offer a wealth of other societal benefits:

- For individuals with disabilities: 31 percent of people with disabilities report having insufficient transportation compared to 13 percent of the general population.
  - As a result, countless people with disabilities can't reliably vote, work, attend medical appointments or enjoy full independence.
  - The labor force participation for all Americans is 75 percent, but only 34 percent for those with disabilities. For those with ambulatory disabilities, the rate is even lower.
  
- For older Americans: The number of Americans aged 65 and over is expected to double by 2050. Yet as Americans age above 65, their personal travel decreases very rapidly.
  - Autonomous vehicles can extend dignity and independence for older Americans, re-integrate them into the economy, and drive down health care spending costs by making it easier for them to keep outpatient appointments and preventing costly hospital admissions.
  
- A recent study has shown that access to efficient, quick, and reliable transportation significantly improves the odds for individuals seeking to escape poverty.

To further this conversation, we would offer several recommendations:

**Recommendation 1:** Regulations for autonomous vehicles should be created iteratively. The federal government should coordinate with local and state governments to line up a diverse range of test beds where autonomous vehicle technology can be provided to the public on a trial basis and companies can experiment with innovative designs, technologies, and business models.

To take a recent example, ridesharing services provided by companies such as Uber and Lyft have grown dramatically in recent years. These services began in the absence of a regulatory framework, or in some cases, in spite of contrary regulation. But today, the same companies are engaging with municipalities to craft legislation and regulations to provide a solid framework for their services, including integration into services such as paratransit networks. Several years of experience have helped states and municipalities identify the need these services fill and have mitigated concerns that may have been initially present, putting them in a far better position to regulate effectively.

The important takeaway is that market experience informs a better framework and context for regulation. This is true of the engineering side as well—technologies develop iteratively, gradually improving through testing.

The same lesson applies to regulation of autonomous vehicles. For example, the state of California has drafted regulations for the deployment of autonomous vehicles but was not able to formulate a clear specification that autonomous vehicles need to meet before being considered safe.

NHTSA should allow for initial autonomous vehicle pilot deployments to accelerate the learning necessary not just for regulation, but for consumer demand. Public exposure to autonomous vehicles will likely generate strong demand for their rapid deployment and give legislators and regulators a mandate to create more forward-looking regulations if even needed.

**Recommendation 2:** NHTSA should prevent a patchwork of state regulations from damaging the economic viability of autonomous vehicle deployment. Where states retain aspects of regulation, the federal government should offer model regulations and use highway funding as a lever.

Regulating autonomous vehicles is a difficult proposition, because the technology does not exist yet in the form of a commercialized product, the pace of adoption is uncertain, the entire nature and form of the vehicle may be different, and the model for which autonomous vehicle services will be offered to consumers is still unknown.

Autonomous vehicles, like conventional vehicles, fall under the authority of the federal government to regulate the “instrumentalities of interstate commerce.” The federal government is best positioned to marshal the necessary resources for creating model regulations and coordinating deployments across multiple states and cities. Federal action is required to modify or waive the Federal Motor Vehicle Safety Standards, which currently do not allow an AV on the road.

A pressing issue is whether federal standards for permitting an AV should pre-empt state-level positions that establish different standards—or prohibit AVs entirely. Today’s model is a hybrid: States are allowed to set their own rules regarding driver licensing requirements and examinations, while federal standards pre-empt state vehicle safety rules.

Although autonomous vehicles represent a conflation of vehicle and driver, regulating certification is far more like creating a safety code for vehicles than it is like certifying a driver. Federal vehicle safety codes pre-empt state standards because of the compelling interest in not requiring different cars in each state. Since the design and ownership model of AVs is different than conventional vehicles, differing standards for AVs in different states – or requiring a licensed driver in some states but not others – may well necessitate different vehicle models for different jurisdictions. Avoiding this outcome is the exact reason why federal pre-emption for safety standards was backed by the Supreme Court, and why the federal government should lead in the area of regulating autonomous vehicle design, safety standards, and the permissibility of allowing autonomous vehicles to operate without a licensed driver.

On other matters, such as tort actions, for-hire regulations, and on-road regulations, the traditional division that allows states and localities control over these issues could remain in place. The federal government should engage appropriate resources to create voluntary model frameworks for state and local adoption to encourage uniformity, but may choose not to pre-empt. If differing state regulations in this area prove to be a roadblock to adoption of autonomous vehicles, the federal government should use incentives such as the withholding of federal highway funds to encourage the adoption of uniform standards. This approach was used to great effect in the past to encourage states to raise the drinking age, lower speed limits, and require motorcycle helmets.

Some of the necessary authorities are already in place and DOT and others may require additional Congressional authorization. DOT should work with external actors to identify what new authorities may be required for effective autonomous vehicle regulation.

**Recommendation 3: DOT should centralize autonomous vehicle activity in an office reporting directly to the Secretary of Transportation, capable of drawing resources from all modal agencies. The office should be given the necessary budget to cover AV-related activities.**

The vast majority of the Department of Transportation’s budget is organized around transportation modalities (e.g. highways, vehicle safety, transit, aviation, railroads). The regulatory and technology issues surrounding AVs do not fit neatly into these categories. AV technology will be an important new technology for urban transit, may be owned by individuals as cars, or be applied to the heavy-duty or motor coach fleet. Additionally, the scope of AV technology leans heavily on computer science

disciplines and does not fit neatly into the current domains of expertise housed either at DOT or its associated Volpe Center.

Ensuring the long-term progress towards the regulation of autonomous vehicles will require some restructuring inside DOT. The Department of Energy has taken steps to orient itself towards interdisciplinary and challenge-based innovation models. These moves are based on convincing research into effective innovation management and should be emulated by DOT.

Additionally, we have received feedback that industry is looking for timely, consistent advisory opinions on issues related to autonomous vehicle testing, and we expect that these inquiries will increase in frequency and scope as autonomous vehicle technology accelerates. A centralized office will also help DOT respond quickly to inquiries from industry, which is an essential capability during a period of rapid technological development.

Thank you very much for the opportunity to deliver comments. We look forward to continuing to engage with you.