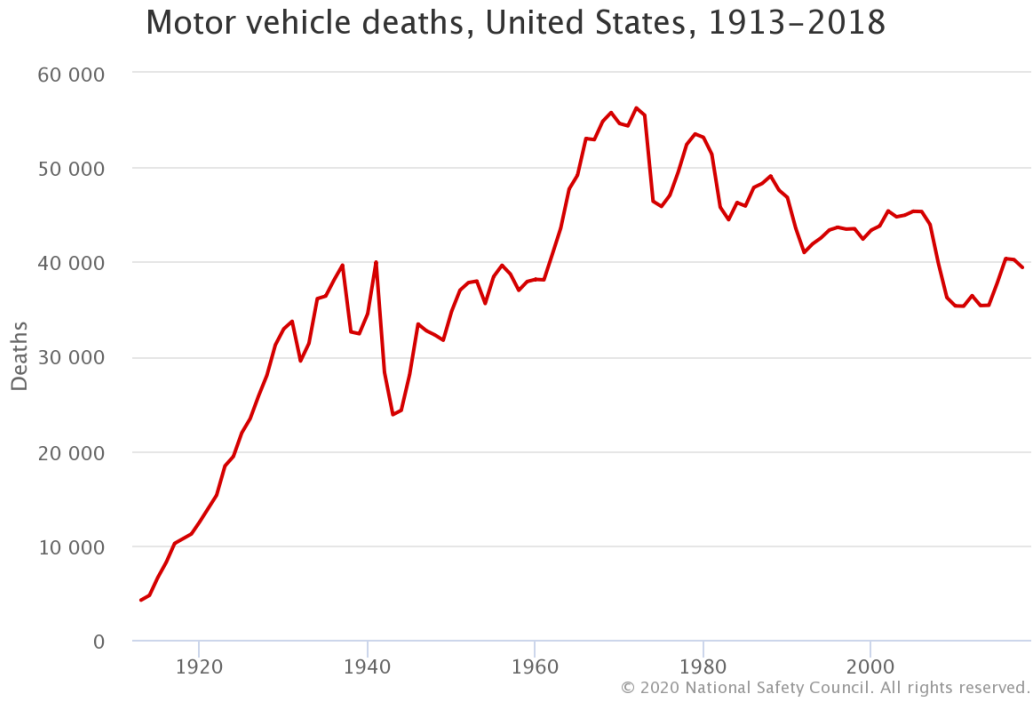
Statement of the National Safety Council
U.S. House of Representatives
Committee on Energy & Commerce
Subcommittee on Consumer Protection & Commerce
Hearing on,
"Autonomous Vehicles: Promises and Challenges of Evolving Automotive Technologies"
Tuesday, February 11, 2020

Thank you for allowing the National Safety Council (NSC) to submit this statement for the record. NSC is a nonprofit organization with the mission of eliminating preventable deaths from the workplace to any place through leadership, research, education and advocacy. Our 15,500 member companies represent employees at nearly 50,000 U.S. worksites.

The National Highway Traffic Safety Administration (NHTSA) states 36,560 people were killed in motor vehicle traffic crashes in 2018.[1] In the Chairwoman's home state of Illinois, 1,031 people died in traffic crashes, and 546 people died in the Ranking Member's home state of Washington. These entirely preventable crashes have a tremendous human toll and cost the American economy over $433 billion a year.[2]



[1] https://www.nhtsa.gov/traffic-deaths-2018
[2] https://injuryfacts.nsc.org/motor-vehicle/overview/introduction/

NSC would like to add information to the hearing record on the following topics:

1. Automated vehicle (AV) technologies have the potential to save thousands of lives each year but will require federal leadership to set minimum national safety standards and requirements.
2. Consumers are confused about the advanced driver assistance system (ADAS) safety features vehicles currently have. As such, consumer education about these safety features should be enhanced.
3. Connected vehicles are an important part of safe implementation of AVs. An existing Federal Communications Commission (FCC) proposal would undermine full implementation of connected vehicles.
4. There will be a mix of automated and non-automated vehicles on the roads for decades, which will bring yet unknown additional safety issues to the fore.

Federal Leadership Needed to Advance the Lifesaving Potential of Advanced Technology

NSC believes advanced vehicle technology, up to and including fully automated vehicles, can provide many benefits to society. Most importantly, advanced vehicle technology has the potential to greatly reduce the number of fatal crashes on our roadways. However, federal leadership on motor vehicle safety is required to realize these benefits and ensure one level of safety across the United States. Consumers need confidence in the safety of their vehicles regardless of where they reside, and manufacturers need certainty in order to invest in design and production. States do not possess the expertise or resources to replicate design, testing and reporting programs. Further, a patchwork of requirements will result in confusion for consumers and an increase in cost for manufacturers and operators. Finally, the absence of safe, workable standards will drive development, testing and deployment overseas, resulting in the flight of innovation and the jobs that accompany it to locations outside of the U.S.

Last month the U.S. Department of Transportation (DOT) released the *Ensuring American Leadership in Automated Vehicle Technologies* (AV 4.0) report.[3] The document provides an overview of federal work related to automation, but is short on any requirements that could raise the bar on safety – guidance alone is not enough. NSC is concerned that AV 4.0 only commits the U.S. Government to "prioritize participation in and advocate abroad for voluntary consensus standards." NSC is also concerned that a lack of strong federal standards that prioritize safety in the deployment of AV 4.0 will lead to a fragmented, state-by-state patchwork of regulations. The U.S. Government, including DOT and Congress, should not rely on industry to voluntarily offer strong safety standards. Federal leadership on AV safety is necessary to ensure consumers have confidence that their vehicles are equipped with the highest level of safety.

Transparency

As Congress evaluates potential legislation on AVs, transparency regarding this technology is key. Previous bills have included requirements for reporting to DOT by AV developers on safety metrics. NSC supports such required reporting. There is no existing requirement at this time, and all information from DOT indicates there is no intention to require such reporting. Congress must step in to add this level of transparency and require topics including, but not limited to, crashworthiness, human-machine interface data, post-crash behavior, capabilities and

[3] https://www.transportation.gov/sites/dot.gov/files/2020-02/EnsuringAmericanLeadershipAVTech4.pdf

limitations of the vehicle, operational design domain, and consumer education efforts to be reported.

Data is key to transparency and safety. One way NSC has advocated for obtaining this data is through electronic logging devices (ELDs) and electronic data recorders (EDRs) which provide a window into the human-machine interface with advanced vehicles. The knowledge gained from these devices allows manufacturers to be nimbler and make adjustments in near real time to improve safety based on what is actually occurring in operation, rather than making changes based on assumptions and estimations that must be accommodated in a later model year. To this end, Congress should facilitate data sharing as widely as possible and require that manufacturers provide accessible, standardized data to law enforcement, state highway safety officers, investigators, insurers, and/or other relevant stakeholders. Collecting and sharing de-identified data about near misses and other relevant problems could also help to aggregate useful information for the motor vehicle industry. It will allow the industry to take proactive steps based on leading indicators, rather than waiting for a crash or a series of crashes to occur. Finally, the data will be useful to researchers and the safety community in analyzing the safety benefits – and potential drawbacks – of these technologies as they continue to mature.

Acquiring an understanding of what happens when systems perform as intended, fail as expected, or fail in unexpected ways yields valuable information for manufacturers – some of whom have common suppliers. Further, in-service data, near miss and post-crash information sharing can help civil engineers and planners design better and safer roadways. It will also help safety and health professionals design better interventions to discourage risky driving or affect the behaviors of other roadway users.

De-identified data sharing has existed in the aviation industry for many years and proven highly successful. The Aviation Safety Information Analysis and Sharing (ASIAS) system allows for sharing of de-identified data across the industry, making it possible for manufacturers, operators, researchers, regulators and other stakeholders to identify trends and act on them. Similarly, analysis of de-identified data in the vehicle industry will provide windows into leading indicators, increasing the potential to save lives.

Last month, the Secretary of the Department of Transportation announced the next phase of the Partnership for Analytics Research in Traffic Safety (PARTS) program, which is modeled on ASIAS.[4] NSC applauds this step forward by DOT to leverage data to save lives on the roadways, and we encourage all auto manufacturers, including new market entrants, to participate in this program. This is an example in which voluntary commitments can lead to safety improvements, and NSC encourages Congress to monitor PARTS implementation as it progresses.

Enhancing Consumer Understanding of Advanced Driver Assistance Systems

The potential safety benefits of automated vehicles could be incredible. However, to be clear, it will be decades before there is meaningful AV fleet penetration on U.S. roadways. In the meantime, there are significant safety technologies currently available in vehicles today. Known as ADAS, these technologies can prevent or mitigate crashes. NSC is working to expand consumer education around these new technologies, which is critical in realizing their full potential. For example, NSC and the University of Iowa created the first and largest ADAS

[4] https://www.transportation.gov/briefing-room/us-transportation-secretary-elaine-l-chao-announces-new-initiatives-improve-safety

national education campaign, MyCarDoesWhat.org. The purpose of MyCarDoesWhat.org is to educate the public about these assistive safety features in order to maximize their potential lifesaving benefits. Visitors to MyCarDoesWhat.org learn about dozens of existing safety features on their vehicles, including lane departure warning, blind spot monitoring, backup cameras, and automatic emergency braking.

Additionally, the National Safety Council was a founding member of PAVE (Partners for Automated Vehicle Education), which launched in January 2019. PAVE is a broad-based coalition that includes automotive and technology companies, safety and mobility advocates and community partners. PAVE members believe that in order to fully realize the benefits of self-driving technology, policymakers and the public need comprehensive information about the present and future state of such technology. PAVE enhances public understanding through a variety of strategies including an educational website at PaveCampaign.org, which includes "hands-on" demonstrations, allowing the public to see and experience driverless technology and workshops to help understand the technology. In the future, PAVE will produce educational toolkits for car dealers to help them communicate more effectively with customers about their vehicles' capabilities and limitations. PAVE is primarily focused on levels 4 and 5 vehicles but understands the urgency in educating consumers about all levels of automation.

NSC also put forward recommendations to standardize the nomenclature for advanced technologies. In 2019, NSC, in collaboration with AAA, Consumer Reports, and J.D. Power, released "Clearing the Confusion: Recommended Common Naming for Advanced Driver Assistance Technologies."[5] The four organizations agreed on standardized naming that is simple, specific, and based on system functionality in an effort to reduce consumer confusion. Safety features may change over time as software and hardware updates in turn modify the operational parameters for vehicle systems. Providing education throughout the life of vehicles can help consumers better understand how these features can advance safety. Today, 93 percent of new vehicles offer at least one ADAS feature, and the terminology often seems to prioritize marketing over clarity.[6] DOT recently endorsed these recommendations, and we urge other safety organizations, automakers, journalists and lawmakers to join us in adopting these terms.[7]

NSC recommends that, at the very least, systems that are not fully automated (level five), should not be described as such. ADAS, with emphasis on driver assist, are the only commercially available vehicles today and each and every one of those vehicles requires the driver to remain fully engaged in the driving task. That fact is often lost in marketing, media reports and consumer expectations. Labeling a motor vehicle as "automated" or "autonomous" today, or even using terms such as "autopilot" or "self-driving," only confuses consumers and can contribute to loss of situational awareness around the driving task. Marketing is not education. It will take a commitment to standard nomenclature and clear performance outcomes to ensure that consumers better understand how to engage with and what to expect from these technologies.

Finally, the New Car Assessment Program (NCAP) has operated for nearly 40 years with a goal of testing vehicle safety systems and educating consumers about them. It has practically created a mechanism to allow consumers to evaluate vehicles on safety systems. NSC supports

[5] https://www.nsc.org/Portals/0/Documents/NewsDocuments/2019/ADAS%20Common%20Naming%20One-pager.pdf?ver=2019-11-20-094231-643
[6] https://www.aaa.com/AAA/common/AAR/files/ADAS-Technology-Names-Research-Report.pdf
[7] https://www.transportation.gov/briefing-room/us-transportation-secretary-elaine-l-chao-announces-new-initiatives-improve-safety

NCAP and its expanded role into ADAS safety, believing it is an important program to improve the safety of the motor vehicle fleet.

5.9 GHz

Connected vehicles are an important part of safely implementing AVs, but a proposal under consideration by the FCC undermines the ability for these technologies to work together. The FCC is currently proposing to reallocate the 5.9GHz "safety band" away from its intended use for transportation safety to unlicensed use, such as Wi-Fi. The National Safety Council strongly considers adopting this proposal to be a grave mistake. The federal government, numerous automakers and suppliers have proven this band is viable for vehicle communications, and some are beginning to deploy to this dedicated spectrum.

Improvements in technology and safety in transportation have historically gone hand-in-hand. Setting aside this spectrum for transportation safety was done with the goal of reducing or mitigating fatal transportation incidents, some of which were at least partially attributable to predictable and preventable human behavior. The FCC proposal nullifies this foresight and removes the full benefit that technology provides.

Motor vehicle crashes are an epidemic in the U.S., and operating a motor vehicle remains one of the deadliest things we do on a daily basis in spite of much improved, safer vehicle designs and record-setting seat belt use rates across the nation. The FCC should be part of the solution to saving lives. NSC urges the Subcommittee to seek answers from the FCC commissioners about the safety impacts of this proposal and ensure that roadway safety remains our top priority.

Legislation

As this committee evaluates potential legislation, there are several provisions that the National Safety Council would like to highlight for inclusion:

- Including whether a vehicle in a crash is equipped with some automation. NSC called this out in our report "Undercounted is Underinvested: How Incomplete Crash Reports Impact Efforts to Save Lives" earlier this year.[8] This data can be vital to improve safety systems.

- Improving data on human machine interface to ensure drivers remain engaged in the driving task before full automation. In too many other modes of transportation, users have become confused about what technology is "saying" to them, distracted and/or disengaged and results have been fatal. Standardizing these alerts (visual, aural, haptic) could decrease this confusion.

- Creating a consumer education workgroup to help determine how to communicate best practices in safety, system awareness, proper use and other factors to all road users around interfacing with higher levels of automation in vehicles.

- Reporting of certain types of crashes like fatal and serious injury crashes to a database can help ensure correct information is disseminated about these events. We have

[8] https://www.nsc.org/Portals/0/Documents/DistractedDrivingDocuments/Crash%20Report/Undercounted-is-Underinvested.pdf

already seen the media attention on an automated vehicle crash. By creating a database within DOT, one place would exist for consumers to find information and for manufacturers to ensure everyone is receiving the same information.

- When AV companies use public roads to test vehicles, those tests should be reported to state highway safety officials in the state in which the testing occurs. Providing this information to the states is important should law enforcement or other officials need to respond to an event involving testing.

- Tying ADAS and Automation Components to vehicle identification numbers (VIN) so that more complete crash reporting and analysis can be completed.

- Requiring rulemaking to mandate safety technology with proven results be made standard equipment on all vehicles. Safety should not be reserved just for those who can afford it.

Conclusion

Today, we have millions of drivers behind the wheel and spend millions of dollars on education and enforcement campaigns. Yet, we still recognize billions in economic loses as a result of motor vehicle crashes. The integration of automated vehicle technologies will likely be messy as we deal with a complex and ever-changing human-machine interface. That is why federal leadership is needed. There is no need to repeat mistakes of the past.

NSC appreciates this Committee's leadership on vehicle technology and safe roadway transportation. If safety for the traveling public is the ultimate goal, advanced technology provides a promising opportunity to achieve that outcome and will go a long way to take us down the road to zero.