J.D. POWER

Massachusetts Institute of Technology
Advanced Vehicle Technology Consortium

Press Release

Stakes are High and Consumer Confidence is Fragile for Automated Vehicles, J.D. Power Finds

Mobility Confidence Index Study in Collaboration with the MIT Advanced Vehicle Technology (AVT) Consortium

TROY, Mich.: 4 Oct. 2023 — Consumer confidence in fully automated, self-driving vehicles continues to decline for a second consecutive year, according to the J.D. Power 2023 U.S. Mobility Confidence Index (MCI) Study,[SM] released today. The index score for consumer automated vehicle (AV) readiness declines 2 points to 37 (on a 100-point scale), contributing to the 5-point decline from 2021. Consumers show low readiness on all metrics with the lowest level of comfort riding in a fully automated, self-driving vehicle and using fully automated, self-driving public transit. Public opinion and consumer comfort are affected by a lack of general knowledge about AV technology development compounded by media coverage that highlights robotaxi and testing failures.

Confidence soars, however, for consumers who have ridden in a robotaxi in Phoenix or San Francisco with an MCI index score of 67, which is almost double the index score (37) of those who haven't ridden in a robotaxi and is indicative of experience being critical to full-scale AV adoption. These positive firsthand experiences need to be shared with the public to educate, providing balance to the negative news cycle. Consumer comfort is higher in the West region of the country, a region familiar with AV testing and deployments.

"Consumer trust is fragile, but it is the foundation upon which long-term AV acceptance is built," said **Lisa Boor, senior manager of auto benchmarking and mobility development at J.D. Power.** "This first-time feedback from robotaxi riders shows significant growth in consumer comfort levels across any AV application. Industry stakeholders must seize the opportunity to build confidence and promote the technology across all transportation modalities through these first-hand experiences but, for success, it cannot be overshadowed by endless deployment issues."

The percentage of consumers who believe fully automated, self-driving vehicles are available today has increased across all transportation modalities. It is encouraging that consumers are able to accurately cite examples of available AV delivery services (e.g., Amazon, Domino's), robotaxis (e.g., Waymo, Cruise, Uber) and commercial transport applications. However, consumers inaccurately cite examples of personal vehicles available to purchase or lease today, as 22% indicate that "Tesla" or "Autopilot" are fully automated.

"Experience with automation appears to greatly improve confidence in the technology. As trust is built over time but eroded quickly, stakeholders may need to find new ways to proactively educate potential users on the advantages and current limitations of vehicle automation systems," said **Bryan Reimer, Ph.D., research scientist in the AgeLab at the MIT Center for Transportation and Logistics and a founder of MIT's Advanced Vehicle Technology (AVT) Consortium**. "Automated driving technology is still very much in an evolving and testing stage with improvements occurring quickly. Consumers' understanding of where we are on the path to long-term automated mobility needs to be calibrated as today's systems are not designed to enable more risky driving."

Following are some key findings of the 2023 study:

- **Consumers not able to differentiate between lower levels of automation**: Technical definitions used by the industry to make the distinction between lower levels of automation in terms of the

transfer of control are ineffective. In the consumer's mind, being ready to take control requires the same responsibility as driving the vehicle without any level of assistance. Failed attempts to define lower levels of automation in consumer-friendly language are evident as the findings show that naming conventions are interchangeable between the two levels even when definitions are provided. Furthermore, there is no distinction in the activities that consumers are willing to do in a vehicle (e.g., talking, texting, online searching) as the level of automation increases from SAE Level 2™ to SAE Level 3™.[1]

- **Hacking prevention and data privacy:** More than three-fourths (78%) of consumers want to understand what is being done to prevent AVs from being hacked. Consumers are not comfortable sharing personal information which results from uncertainty as to what information is being shared; how the information is being used; whether it is being stored; and, if so, stored securely. Of the four types of information tested in the study, consumers are more willing to share their blood alcohol level than their location. Incentives do little to change the mind of those who are not comfortable.

- **Many owners admit to doing risky things:** Owners appreciate that vehicle automation removes the risk of high use case, risky behaviors (e.g., talking, texting, online searching) and provides the opportunity for activities that were previously prohibitive for the driver to do in the vehicle such as sleeping. The study includes insights into the activities and in-vehicle features consumers desire when they no longer need to drive or watch the road.

The J.D. Power 2023 Mobility Confidence Index Study is based on responses from 3,000 vehicle owners in the U.S. age 18 and older who completed a 15-minute online survey. The study results are balanced to basic census demographics to be nationally representative. The study was fielded in July 2023 and is based on six unique attributes of consumer comfort with fully automated, self-driving vehicles. The comprehensive metric measures consumer readiness for AV technology in several categories: personal vehicles; commercial vehicles; public transit; riding if unable to drive due to age or injury; sharing the road with other AVs; and consumer purchase intent.

See the online press release at http://www.jdpower.com/pr-id/2023130.

About J.D. Power
J.D. Power is a global leader in consumer insights, advisory services and data and analytics. A pioneer in the use of big data, artificial intelligence (AI) and algorithmic modeling capabilities to understand consumer behavior, J.D. Power has been delivering incisive industry intelligence on customer interactions with brands and products for more than 50 years. The world's leading businesses across major industries rely on J.D. Power to guide their customer-facing strategies.

J.D. Power has offices in North America, Europe, and Asia Pacific. To learn more about the company's business offerings, visit JDPower.com/business.

About the MIT Advanced Vehicle Technology Consortium
The **Advanced Vehicle Technology (AVT) Consortium** is an academic-industry partnership founded in 2015 within the Massachusetts Institute of Technology (MIT) Center for Transportation and Logistics. It is supported by over 25 different automakers, insurance companies, suppliers, and research organizations through a pre-competitive collaboration designed to develop a data-driven understanding of drivers' behavior with, and utilization of, vehicle automation, driver safety systems, and other technologies. AVT research aims to support a future of safe, convenient, and sustainable mobility through more effective

[1] https://www.sae.org/standards/content/j3016_202104/

human-centered vehicle technology development and consumer understanding of appropriate technology usage.

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