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Testimony of Lars Moravy
Vice President of Vehicle Engineering, Tesla

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Chairman Cruz, Ranking Member Cantwell, and members of the Committee, thank you for the opportunity to appear before you today. My name is Lars Moravy, and I am the Vice President of Vehicle Engineering at Tesla. I fell in love with designing and building cars at the age of 16, when my brother and I spent a summer restoring a Volvo that had been sitting in my grandparents' barn for years. This love for building cars led me to a career in the car industry, and, in 2010, it led me to Tesla when I jumped at the opportunity to build the best cars in the world in an innovative way.

For the past 15 years, I have been doing just that. In my current role, I lead a team of over 6,000 engineers, technicians, and analysts who work tirelessly to make vehicles that people love. At Tesla, I oversee our vehicle design, automation, and manufacturing processes, and I develop new systems to ensure quality, reliability, and performance. I am incredibly proud of the work that we do each day.

I am excited to speak to you today about autonomous vehicles ("AVs"). Tesla believes that autonomous driving technology is the future, and we work every day to lead the transition to safer and more affordable transportation through autonomy. Our teams are focused on designing, testing, and refining these systems through continuous innovation and a strong focus on real-world performance. AVs present an opportunity to significantly improve safety across our roadways. Moreover, this juncture in history is an opportunity for the United States to reassert its dominance in not just automobile manufacturing but advanced manufacturing for the 21st century. U.S. automobile manufacturing was once a tremendous strength of this country, and Tesla believes it can be once again. In the face of unprecedented global challenges, we as a country need to lead the way in AV innovation to make that a reality.

About Tesla and Our Vehicles

Founded in 2003 and headquartered in Austin, Texas, Tesla designs and manufactures electric vehicles, battery energy storage systems, solar products, and technologies that make clean energy accessible and affordable. As a proud American manufacturer with over 100,000 employees, our teams design, build, sell, and service our products in-house. We work every day to make technologically advanced products that are affordable and available at scale right here in the United States.

At inception, Tesla's mission was to accelerate the world's transition to sustainable energy through the development of electric vehicles. Since then, we have redefined the automotive industry by proving that electric vehicles can deliver superior safety, exceptional performance, and cutting-edge technology, all at scale. We have driven down the cost over the past decade, making these vehicles available to more and more Americans who want them. Today, Tesla's mission statement has evolved to building a world of amazing abundance. Realizing the vision of amazing abundance requires that the U.S. lead the world in advanced manufacturing and implement forward-thinking policies.

Tesla's manufacturing footprint spans approximately 52 million square feet across the country, making the U.S. one of the largest and most advanced production hubs in the world. Our Giga Texas headquarters alone is over 11.5 million square feet and ranks among the largest manufacturing buildings in the country. We know that the future of vehicle manufacturing is largely dependent on the investments made now, which is why we are doing everything we can to ensure that the U.S. is the industry leader for AVs and vehicles generally. Research has shown that widespread adoption of AVs could generate over three million new jobs by 2035, reduce delivery and consumer costs, and boost annual earnings for the average U.S. worker.[1] Studies show that the workforce needed to produce and maintain AVs could reach 455,000, which would provide incredible job opportunity to Americans with varied backgrounds and experiences. We at Tesla are not currently just in a race to develop the best AV in the world—we are in a race to ensure continued American leadership in one of this nation's bedrock industries.

Our entry-level models are among the most competitively priced in the U.S. market for their range and technology. Our Model Y is the best-selling single vehicle model in the world. Four of the top five ranked U.S.-made vehicles in 2025 were Teslas, and Tesla has taken the top position as the best American-made vehicle since 2021.[2] We are proud and humbled that people want the cars we make. Our products are not only safe, fun to drive, and filled with cutting edge technology—they are responsibly sourced and manufactured right here in the U.S.

Now we are further accelerating our mission—and impact—through autonomy. Tesla is working to lead the way in autonomous vehicle development, creating vehicles that perform all driving functions, under all roadway and environmental conditions, without any need for human intervention.

The manufacturing and development of fully autonomous vehicles represents a major opportunity to create high-skilled American jobs across multiple industries. By driving America-first innovation, Tesla is working to ensure that the technology of the future is developed and built in the U.S. and deployed globally. We believe that AVs can fundamentally reshape how we travel and that the U.S. can be the leader in this next frontier—an autonomous future that is accessible to everyone. For example, vehicles used in our autonomous driving service, Robotaxi, are designed to support various accessibility needs, including room for service animals, screen readers, app-based verbal location assistance, and information available in 29 languages.[3] We are relentlessly innovating and iterating to expand mobility, independence, and access to opportunity for everyone.

Safety

AVs won't just make transportation more accessible to everyone; they will dramatically improve the safety, efficiency, and sustainability of car travel. The United States is experiencing what the Department of Transportation has described as a "national crisis" in motor vehicle safety. Motor

[1] *See Securing America's Future Energy*, America's Workforce and the Self-Driving Future 9 (2018), https://avworkforce.secureenergy.org/wp-content/uploads/2018/06/SAFE AV Policy Brief.pdf; *see also Opportunity AV: How Many and What Types of Jobs Will Be Created by Autonomous Vehicles?*, Chamber of Progress (Mar. 2023), https://progresschamber.org/wp-content/uploads/2024/03/Opportunity-AV-How-Many-and-What-Type-of-Jobs-Will-Be-Created-by-Autonomous-Vehicles.pdf.

[2] *American Made Index*, Cars, https://www.cars.com/american-made-index/.

[3] *Get Started with Robotaxi*, Tesla, https://www.tesla.com/support/robotaxi/getting-started.

vehicle fatalities and injuries increased in frequency in 2020-2021 after 30 years of steady reduction, notwithstanding steady improvements in vehicle safety design. At Tesla we fundamentally reject the disturbing trend that almost 40,000 traffic related fatalities occur each year.[4] Increased cell phone usage in the past decade has created enormous potential for deaths and injuries on U.S. roads. In 2023 alone, 3,908 people were killed in motor vehicle crashes involving distracted drivers or drowsy drivers.[5] Sending or reading a text takes drivers' eyes off the road for 5 seconds—at 55 mph, that is comparable to driving the length of an entire football field with your eyes closed.[6] Our teams work tirelessly to address this epidemic by developing our automated driving systems and designing the safest vehicles from the ground up. AVs promise an innovative and proven technology that can eliminate collisions, injuries, and fatalities associated with high-risk human behavior.

Safety maximization is at the center of every product we build. We design each vehicle to exceed the standards of each safety category, redefining what safety on our roads should look like to achieve superior occupant protection. And we're taking safety even further by developing AV technology designed to drastically reduce accidents and save lives. Tesla is achieving this by building upon our industry-leading passive and active safety systems by building an end-to-end neural network that uses real-time data and over-the-air updates to continuously improve performance. Our vision is a future where AVs eliminate human error—the leading cause of traffic fatalities—while providing more affordable, efficient, and sustainable transportation for all.

Tesla's Robotaxi software stack, Full Self-Driving (Unsupervised) ("FSD Unsupervised") is trained using over 6.5 billion miles of real-world driving. FSD (Unsupervised) is an evolution of our industry leading Level 2 advanced driver-assistance system ("ADAS"), Full Self-Driving (Supervised) ("FSD Supervised"). Unlike Level 2 FSD (Supervised), Level 4 FSD (Unsupervised) performs the entire dynamic driving task and does not require an active and attentive human driver.

With FSD (Supervised) data as the foundation of our training technology for fully autonomous operations, we are able to achieve a greater level of roadway safety. FSD (Supervised)'s current performance has already demonstrated how much safer roadways can be with automated driving systems. For example, Tesla vehicles with FSD (Supervised) engaged drive on average 5.1 million miles before a major collision and 1.5 million miles before a minor collision. This is compared to U.S. averages of 699,000 miles and 229,000 miles, respectively.[7] This seven-fold improvement in real-world performance is achieved in the broadest range of driving environments and road conditions, which in turn gives FSD (Supervised) the most miles driven and the broadest exposure to road, traffic, and weather conditions accumulated by any ADAS available to consumers today. Fully autonomous vehicles will only further these compelling safety statistics on American roadways.

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[4] *NHTSA Estimates 39,345 Traffic Fatalities in 2024,* NHTSA (Apr. 8, 2025), https://www.nhtsa.gov/press-releases/nhtsa-estimates-39345-traffic-fatalities-2024.
[5] *Distracted Driving*, NHTSA, https://www.nhtsa.gov/risky-driving/distracted-driving; *see also Drowsy Driving*, NHTSA, https://www.nhtsa.gov/risky-driving/drowsy-driving.
[6] *Id.*
[7] *Vehicle Safety Report*, Tesla, https://www.tesla.com/fsd/safety.

Recent developments in the insurance industry offer an independent validation of the safety benefits associated with autonomous driving. In January, Lemonade, an insurance company, announced that it is reducing per-mile insurance rates for Tesla vehicles by approximately 50% when FSD is engaged, citing data that shows a significantly lower accident risk during autonomous operation. Lemonade's decision was not based on projections or theory; it was based on data demonstrating that FSD (Supervised) driven miles are much safer than human-driven miles.[8]

We are closer to a future of AVs than ever before. As discussed below, clear, modernized standards are essential to advancing safety, innovation, and consumer choice in the automotive industry. How we develop and use autonomy—and the new capabilities it makes available to us—should be informed by its ability to enhance the human condition. Delivering abundance for all through autonomous technology is our goal. The number one factor when a consumer purchases a new car is safety. At Tesla, we not only bring the safest cars to market today but look toward the future to build the safest cars of tomorrow. That's the reason my wife and I put our children in the back of a Tesla every day to drive them to school—because I know that the safety of our vehicles is second to none.

The Importance of Modernizing Regulations

For the U.S. to maintain its position as a leader in the automotive industry, and to cement our leadership in AV technology, we must modernize regulations that inhibit industry's ability to innovate. If the U.S. does not lead in AV development, other nations—particularly China—will shape the technology, standards, and global market. And perhaps more importantly, China will be the dominant manufacturer of transportation for the 21st Century. The U.S. led the 20th century in sophisticated manufacturing by pioneering automobile and aircraft manufacturing because the U.S. led with advanced highway and air travel certifications. At Tesla, we are moving at the speed of technological innovation to combat the national crisis on our roadways, but we need Congress's leadership to ensure a regulatory regime that supports progress, not impedes it. We urge Congress to ensure American leadership in manufacturing for the 21st century by enacting federal legislation to unlock AV technology and address outdated regulations.

When the U.S. established the Federal Aviation Administration ("FAA") in 1958 to improve and maintain safety standards, it gave innovators the framework needed to help Americans lead the world in aircraft development and commercial flight and make the U.S. the global gold standard for aviation. We now have the same opportunity with surface transportation. By empowering the U.S. Department of Transportation to create clear, national standards for autonomy, we can ensure that American companies—not foreign competitors—define the future of transportation.

Federal safety regulations for vehicles have not kept pace with the rapid evolution of vehicle technology. Many of the current standards were implemented decades ago and do not adequately address modern advancements such as electric drivetrains, automated driving systems, and over-the-air software updates. Modernizing vehicle regulations is essential to

[8] *See* Abhirup Roy, *Lemonade to cut insurance rates for Tesla drivers in endorsement of EV maker's software technology,* Reuters (Jan. 21, 2026), https://www.reuters.com/business/autos-transportation/lemonade-halve-tesla-insurance-rates-miles-driven-with-software-assistant-2026-01-21/.

ensure they reflect real-world performance, enhance safety, and foster growth of the U.S. automotive industry.

For America to maintain its position in global technology development, we must enact a federal framework for the deployment of AVs. This Committee has the opportunity to position the National Highway Traffic Safety Administration as the gold standard to lead the effort to unleash autonomy globally. To do so, Congress must advance federal legislation so that regulators are equipped to address the realities of this new frontier and innovators have clear rules of the road.

Closing

Over the last 15 years, leading a team of world-class engineers to design and deliver groundbreaking electric vehicles that redefine safety, performance, and innovation has been both a privilege and a responsibility I've embraced with pride. Every innovation we've brought to life reflects our shared commitment to shaping the future of transportation.

Just as the U.S. has historically led transformative technologies that reshaped global transportation and enabled America to extend its leadership beyond transportation, it must now lead in the development of autonomous vehicles. Tesla is committed to collaborating with Congress to create smarter, effective regulations that drive progress, increase safety, make transportation accessible to all, and ensure the United States leads in autonomous vehicle innovation.

Thank you for the opportunity to provide this testimony today. I look forward to your questions about Tesla's role in advancing the American AV industry.