Written Testimony of
J. David Grossman, Vice President, Policy & Regulatory Affairs
Consumer Technology Association
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Subcommittee on Communications and Technology
Hearing On: "Where Are We?: Examining Positioning, Navigation, and Timing Capabilities in the United States"
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Chairman Hudson, Ranking Member Matsui, and Members of the Subcommittee, thank you for the opportunity to testify. Today's hearing recognizes that the U.S. economy and national security need the Global Positioning System (GPS) and complementary positioning, navigation and timing (PNT) technologies.

My name is David Grossman, and I serve as Vice President of Policy & Regulatory Affairs for the Consumer Technology Association (CTA), the largest tech trade association in North America. CTA represents more than 1200 companies from iconic global brands to early-stage startups – powering innovation across the U.S. economy and supporting more than 17 million American jobs. Eighty percent of CTA companies are small businesses and startups. We also produce CES, the world's most powerful tech event, and lead national efforts on policy, market research, and standards.

Prior to CTA, I served as the Executive Director of the GPS Innovation Alliance, and until last year, I was a member of the National Space-Based PNT Advisory Board, which provides independent advice to the U.S. government on GPS-related policy.

GPS: From Military Innovation to Consumer Essential

GPS remains among the most vital technologies our nation has developed. It underpins trillions of dollars in economic activity, supports critical infrastructure, powers modern commerce, and remains a strategic advantage for the United States in an increasingly competitive world. Protecting and strengthening GPS resilience is not simply a technology issue. It is an economic and national security imperative.

After President Ronald Reagan accelerated the timeline for civilian access in 1983, GPS began evolving from solely a military technology into an essential tool for consumers and businesses. CTA and CES have proudly been part of that history. Long before smartphones, CES 1998 saw the launch of the Garmin StreetPilot, one of the first affordable consumer car-navigation units. Six years later at CES 2004, Magellan

unveiled the RoadMate series, featuring built-in nationwide maps and turn-by-turn voice guidance. More recently, CES 2026 featured BURRO's autonomous robot, and NaviCane, an AI-powered smart mobility aid.

As CTA Executive Chair Gary Shapiro describes in his latest book, *Pivot or Die*, GPS has become so fundamental that most consumers barely notice it. Yet it powers services ranging from ridesharing and fitness tracking to logistics and pet tracking.[1]

Recommendation #1: The Federal Government Should Prioritize GPS Resilience

The U.S. government has invested time and resources to enhance GPS resiliency through ongoing efforts at the Federal Communications Commission (FCC), Department of Transportation (DOT), Department of War (DoW), and National Telecommunications and Information Administration (NTIA). President Trump's February 2020 Executive Order 13905 directed federal agencies to develop and adopt complementary and backup PNT capabilities, and the Biden Administration continued efforts to advance PNT resilience through research, procurement guidance, and critical infrastructure security initiatives. Together, these efforts reflect bipartisan recognition that GPS resilience is critical to our economy and infrastructure.

DOT has studied this issue for years and concluded that no single alternative will meet all PNT needs. Consistent with that finding, NTIA identified a diverse set of potential space-based, terrestrial, and independent PNT solutions, while the FCC continues to evaluate competing approaches through multiple ongoing proceedings, including *Promoting the Development of Positioning, Navigation, and Timing Technologies and Solutions* (WT Docket No. 25-110) and the *NextNav Petition for Rulemaking* (WT Docket No. 24-240).

CTA urges federal agencies to continue evaluating alternative PNT technologies while modernizing GPS to improve accuracy, resilience, and security.

Recommendation #2: Market-Driven Solutions, Not Government Mandates

CTA supports exploring multiple complementary PNT backup technologies. But as the DOT has concluded, a one-size-fits-all solution for GPS backup neither exists nor makes sense. The United States should pursue a layered, market-driven approach that leverages multiple technologies to enhance resilience while preserving innovation, competition, and private-sector investment in next-generation PNT solutions.

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[1] *Pivot or Die: How Leaders Thrive When Everything Changes*, pg. 73-74 (2024).

Some applications may benefit from terrestrial systems such as the Broadcast Positioning System (BPS). Others may rely on satellite-based services such as Iridium PNT. Still others may combine multiple technologies. No matter the technology, government mandates should not be used to pick winners and losers in the marketplace.

America succeeds when markets compete, and innovators solve problems. Government should set objectives, not dictate technologies. History shows that government technology mandates often lock in yesterday's solutions while markets create tomorrow's breakthroughs. America's innovation advantage comes from competition among technologies, not government selection of preferred technologies. Our strength lies in fostering competitive markets where the best solutions emerge through innovation and consumer choice rather than regulatory decree.

Recommendation #3: Protect the Lower 900 MHz Band Innovation Success Story

America's leadership in wireless and connected technologies depends on preserving an innovation-friendly spectrum environment.

CTA's mission is focused on encouraging innovation and new technologies. This often means asking whether a spectrum band is being used to its highest efficiency. Innovation must balance the needs and value of existing users against the opportunity that a new service provides. With that backdrop, CTA opposes NextNav's proposal that, if implemented, would hurt the everyday consumer and business use of hundreds of millions of licensed and unlicensed devices.

In 2024, NextNav asked the FCC to reconfigure the Lower 900 MHz band to support a terrestrial PNT service as a backup to GPS. Hundreds of stakeholders representing dozens of industries have raised concerns that NextNav's proposal would fundamentally alter the long-established operating environment of the Lower 900 MHz band by reconfiguring spectrum access, increasing permitted power levels, and loosening certain testing safeguards before new operations are introduced. These are not minor technical adjustments. This would reshape how the band functions and introduce harmful interference to the many low-power unlicensed devices that already rely on this spectrum today.

Contrary to some characterizations, the Lower 900 MHz band is far from "underutilized." It's home to a vast array of unlicensed devices and licensed services that power our modern economy, with new Lower 900 MHz innovations unveiled every year at CES. At

CES 2026, FireAvert released the Auto Stove Shutoff, addressing one of the most common culprits of home fires, and CleverK9 announced the world's first smart dog crate. CES 2024 showcased Wi-Fi HaLow bringing "crazy Wi-Fi range" to security cameras. This Lower 900 MHz innovation success story did not happen overnight. It is the result of years of business investment and thoughtful decisions by the FCC.

Timeline of the Lower 900 MHz Band

- **1970s:** The FCC authorized segments of the Lower 900 MHz band for automatic vehicle monitoring systems.
- **1989-1990:** The FCC modified its Part 15 rules to permit unlicensed devices to operate throughout the band.
- **Mid-1990s:** Several million devices deployed with use cases still supported today.
- **1995:** The FCC created the Location and Monitoring Service in the Lower 900 MHz Band.
- **1995-Present:** Hundreds of millions of unlicensed devices deployed for use in the Lower 900 MHz Band.

Sectors Benefitting from Innovation in the Lower 900 MHz Band

- **Life Safety/Security:** The Lower 900 MHz band supports a broad ecosystem of security and life-safety technologies, including wireless alarm systems, motion detectors, smoke and carbon monoxide alarms, panic buttons, access-control systems, security cameras, and smart-home security devices. First responders also rely on the band for critical applications, including man-down systems, self-contained breathing apparatus (SCBA) monitoring, and wildfire sensing. The band's favorable propagation characteristics allow reliable communication through walls and across large properties, making it well suited for protecting homes, schools, businesses, and critical infrastructure.

- **Retail:** Retailers and logistics providers rely on RFID systems operating in the 902–928 MHz band to track inventory, improve supply-chain visibility, reduce product loss, and increase warehouse efficiency. These technologies help businesses monitor goods from manufacturing facilities to distribution centers and store shelves, supporting faster deliveries and more resilient supply chains. The technology is widely used across retail, pharmaceuticals, aviation, manufacturing, and food distribution. According to the RAIN Alliance, in 2024 alone, 52.8 billion RFID-tagged products entered the U.S. supply chain.

- **Defense:** The DoW has required passive RFID tagging on military shipments since 2005. These tags operate in the 902–928 MHz band under the EPC UHF Class 1 Gen 2 standard – the same spectrum NextNav seeks to reconfigure. Disrupting this band would not only affect commercial RFID users; it would jeopardize the asset visibility, supply chain integrity, and logistics readiness that underpin U.S. military operations.

- **Energy:** Utilities and consumers use devices operating in the Lower 900 MHz band to support energy management and grid reliability. Smart thermostats, building automation systems, utility monitoring equipment, and wireless sensors help consumers manage energy use while enabling electric, gas, and water utilities to remotely monitor and manage critical infrastructure. These systems improve efficiency, support conservation efforts, and enhance the reliability of essential services.

- **Transportation:** Transportation systems across the country depend on the Lower 900 MHz band for electronic toll collection, traffic management, rail operations, and infrastructure monitoring. Electronic tolling systems such as E-ZPass enable seamless travel for millions of drivers each day, reduce congestion, facilitate interstate commerce, and provide funding for roads, bridges, and tunnels. Railroad operators also use Lower 900 MHz technologies for equipment identification and tracking across national freight networks.

- **Health:** Healthcare and life-safety applications rely on the Lower 900 MHz band for medical alert pendants, emergency call buttons, remote monitoring devices, and temperature-monitoring systems used to protect medications and vaccines. These technologies help seniors age safely at home, enable rapid emergency response, and support healthcare providers in maintaining proper storage conditions for critical medicines. Reliable operation of these devices is particularly important because they often serve vulnerable populations and mission-critical healthcare functions.

- **Agriculture:** Farmers use Lower 900 MHz wireless sensors and monitoring systems to track soil moisture, irrigation systems, weather conditions, livestock health, and crop performance. Because signals in this band travel long distances and perform well in rural environments, they are particularly valuable for precision agriculture applications. These technologies help producers improve yields, conserve water, reduce input costs, and strengthen food security.

These examples represent billions of dollars in deployed technologies. Disrupting this ecosystem would impose massive costs on consumers and businesses while stifling the

very innovation we need for national competitiveness. NextNav's proposal could render existing devices in the Lower 900 MHz band inoperable. This potential harm is not worth the tradeoff. With so many options for alternative PNT technologies, it would be a mistake to prioritize one solution that comes with this level of risk.

The question before policymakers is straightforward: Should the federal government place at risk an enormous existing ecosystem of devices and services that Americans already depend on every day to advance a single proposed PNT solution that would not provide anywhere near the coverage of GPS? CTA believes the answer is no. GPS resiliency can and should be pursued, but not at the expense of technologies already serving consumers, businesses, hospitals, retailers, utilities, farmers, and public safety organizations.

The Path Forward

America can strengthen GPS resilience without sacrificing the innovation ecosystem that already powers our economy. Congress should support continued GPS modernization, encourage a diverse and competitive marketplace for complementary PNT technologies, and reject proposals that threaten harmful interference to existing users of the Lower 900 MHz band. The United States became the global leader in GPS because we combined world-class innovation with smart policy. We should follow that same model today: strengthen resilience, encourage competition, protect existing technologies, and preserve America's technological leadership for decades to come.

Thank you, and I look forward to your questions.