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ONE HUNDRED NINETEENTH CONGRESS
Congress of the United States
House of Representatives
COMMITTEE ON ENERGY AND COMMERCE
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June 2, 2026

MEMORANDUM

To: Subcommittee on Communications and Technology Members and Staff
From: Committee Majority Staff
Re: Subcommittee on Communications and Technology Hearing on June 4, 2026

I. INTRODUCTION

The Subcommittee on Communications and Technology will hold a hearing on Thursday, June 4, 2026, at 10:15 a.m. (ET) in 2123 Rayburn House Office Building. The hearing is entitled, “Where Are We?: Examining Positioning, Navigation, and Timing Capabilities in the United States.”

II. WITNESSES

- **Lisa Dyer**, Executive Director, GPS Innovation Alliance (GPSIA)
- **Sam Matheny**, Executive Vice President, Broadcast Positioning System, National Association of Broadcasters
- **Mariam Sorond**, Board Chair and Chief Executive Officer, NextNav
- **Harold Feld**, Senior Vice President, Public Knowledge
- **J. David Grossman**, Vice President, Policy & Regulatory Affairs, Consumer Technology Association

III. BACKGROUND

The U.S. Global Positioning System (GPS) is a space-based system owned by the U.S. Government and operated by the U.S. Space Force. GPS costs taxpayers approximately \$2 billion annually to maintain.¹ The GPS constellation reached full operational capacity in April 1995.² GPS operates in Medium Earth Orbit (MEO). The constellation requires a minimum of 24

¹ *Program Funding*, GPS.gov, <https://www.gps.gov/program-funding-0>.

² *Global Positioning System Fact Sheet*, United States Space Force (updated Oct. 2020), <https://www.spaceforce.mil/about-us/fact-sheets/article/2197765/global-positioning-system/>.

satellites.³ The oldest satellite in the GPS constellation currently in operation launched in 1997. The newest satellite was launched this year in April and brought the GPS constellation to 32 satellites.⁴

GPS was originally intended to provide positioning, navigation, and timing (PNT) services to the U.S. military. President Ronald Reagan made GPS available for civilian aviation use in 1983 after the Soviet Union shot down a Korean Airlines flight when it traversed through Soviet airspace due to a navigational error.⁵ President Bill Clinton and President George W. Bush subsequently opened up GPS for further civilian use.^{6 7}

Since then, GPS has provided continuous PNT services globally, underpinning civilian, commercial, and national security operations. Beyond navigation, its precise timing and positional data support critical infrastructure, including financial transaction authentication, air traffic control, communications networks, precision agriculture, and the energy grid.

IV. SELECTED ISSUES

A. Geopolitical Considerations

Space has become increasingly contested, and adversarial nations have been reportedly working to develop and grow counterspace capabilities that threaten the United States.⁸ Russia is publicly reported to be developing counterspace weapons, including potential nuclear anti-satellite capability.⁹ These capabilities can temporarily jam satellite signals or permanently damage satellite components and entire constellations.¹⁰ Notably, Russia has indicated it could and would target commercial satellites.¹¹ Meanwhile the People's Republic of China (PRC) has surpassed Russia as the primary U.S. space competitor, rapidly expanding its anti-space

³ *Space Segment*, GPS.gov, <https://www.gps.gov/space-segment>.

⁴ Air Force Maj. Brittany Curry and James Spellman, *Space Force Delivers Final GPS III Satellite to Orbit*, Department of War (Apr. 22, 2026), <https://www.war.gov/News/News-Stories/Article/Article/4467271/space-force-delivers-final-gps-iii-satellite-to-orbit/>.

⁵ Sarah Laskow, *The Plane Crash That Gave Americans GPS*, *The Atlantic* (Nov. 3, 2014), <https://www.theatlantic.com/technology/archive/2014/11/the-plane-crash-that-gave-americans-gps/382204/>.

⁶ *Improving the Civilian Global Positioning System (GPS)*, The President of the United States (May 1, 2000), https://clintonwhitehouse3.archives.gov/WH/EOP/OSTP/html/0053_4.html.

⁷ *U.S. Space-Based Positioning, Navigation, and Timing Policy*, Department of Transportation (Dec. 15, 2004), https://www.transportation.gov/sites/dot.gov/files/2023-11/dot_16920_DS1.pdf.

⁸ UNCLASSIFIED 2026 ANNUAL THREAT ASSESSMENT OF THE U.S. INTELLIGENCE COMMUNITY, OFFICE OF THE DIRECTOR OF NATIONAL INTELLIGENCE (March 2026), <https://www.dni.gov/files/ODNI/documents/assessments/ATA-2026-Unclassified-Report.pdf> [hereinafter 2026 Annual Threat Assessment].

⁹ Dan De Luce, *Pentagon official warns Russian anti-satellite nuclear weapon could be devastating*, NBC NEWS (May 1, 2024), <https://www.nbcnews.com/news/world/pentagon-official-warns-russian-anti-satellite-nuclear-weapon-devastat-rcna150314>.

¹⁰ *Id.*

¹¹ Thomas Novelly, *Space Force on Notice as Russia Warns Commercial Satellites May Be a 'Legitimate Target'*, MILITARY NEWS (Oct. 27, 2022), <https://www.military.com/daily-news/2022/10/27/space-force-notice-russia-warns-commercial-satellites-may-be-legitimate-target.html>.

capability.¹² Together, these adversarial counterspace systems pose a direct, growing risk to GPS.

While GPS remains the global backbone for PNT services, other nations have developed alternative global and regional navigation satellite systems (GNSS). For instance, the European Union's Galileo is a civilian-controlled GNSS that is comprised of 24 satellites. Galileo became operational in December 2016 and achieved full operational capability in October 2024,¹³ though the EU still utilizes GPS. The PRC and Russia have also invested heavily to develop their own PNT capabilities. The PRC's BeiDou system reached full operational capacity globally in 2020, and Russia's GLONASS constellation of 24 satellites achieved full operational capability in 1995. Regionally, Japan has operated its four-satellite constellation since 2018, Quasi-Zenith Satellites System, which is a PNT solution that can be integrated with GPS services to provide more precise PNT data in Asia and Oceania.¹⁴

B. Modernization of GPS

Because the United States currently lacks a backup or alternative to GPS, enhancing its resilience against jamming and spoofing and developing complementary PNT systems are critical to economic and national security. The U.S. Government, led by the Department of War and supported by Congress and other federal agencies, has been working for decades to modernize the GPS satellite constellations and ground control systems; however, these upgrades are behind schedule.¹⁵

C. Federal Action

In 2018, Congress passed, and President Trump signed into law, legislation directing the Secretary of Transportation to establish and maintain and terrestrial-based Timing backup for GPS.¹⁶ Recognizing the importance of PNT and the need for backups to GPS, President Trump issued Executive Order 13905 during his first term on "Strengthening National Resilience through Responsible Use of Positioning, Navigation, and Timing Services."¹⁷ This executive order directed a comprehensive review of the use of PNT services across the federal government and among critical infrastructure owners and operators to help identify vulnerabilities and improve resilience to those risks.¹⁸

In July 2024, the Department of Transportation awarded contracts amounting to \$7.2 million to nine complementary PNT technology vendors to facilitate field testing and evaluation

¹² Annual Threat Assessment, *supra* 6.

¹³ *Galileo, Satellite Navigation Made in Europe*, European Commission Directorate-General for Defence Industry and Space (Sept. 26, 2025), https://defence-industry-space.ec.europa.eu/eu-space/galileo-satellite-navigation_en.

¹⁴ *Overview of the Quasi-Zenith Satellite System (QZSS)*, Government Of Japan, https://qzss.go.jp/en/overview/services/sv01_what.html.

¹⁵ U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-24-106841, GPS MODERNIZATION: DELAYS CONTINUE IN DELIVERING MORE SECURE CAPABILITY FOR THE WARFIGHTER (Sept. 2024), <https://www.gao.gov/assets/gao-24-106841.pdf>.

¹⁶ Frank Lobiondo Coast Guard Authorization Act, 2018, Pub. L. No. 115-282, Title V, Sec. 514 (2018).

¹⁷ Exec. Order No. 13,905, 85 Fed. Reg. 9,359 (Feb. 12, 2020).

¹⁸ *Id.*

of commercially developed PNT technologies.¹⁹ Additionally, in March 2025, Chairman Carr issued a Notice of Inquiry to explore the development of complimentary systems as backups to GPS.²⁰

D. NextNav Petition

In April 2024, NextNav filed a Petition for Rulemaking at the FCC to reconfigure the lower 902-928 MHz band and repurpose their spectrum holdings to allow for a nation-wide, terrestrial-based PNT service backup to GPS and for mobile broadband services.²¹ Following the Wireless Telecommunications Bureau and the Office of Engineering and Technology at the FCC jointly requesting comment,²² the Commission received several hundred comments. Numerous licensed and unlicensed users of the 902-928 MHz band—including the security, retail, public safety, and the tolling industries—have raised objections to the petition.

V. KEY QUESTIONS

- What are the implications for our economic and national security should GPS fail?
- What challenges have we seen with GPS modernization?
- What complementary systems to GPS have been proposed or are actively in use? Are they true replacements for GPS should GPS suffer a catastrophic failure?
- What are the challenges to integrating PNT alternatives into civilian and federal use-cases?
- How can Congress support the development and adoption of PNT alternatives?

VI. STAFF CONTACTS

If you have any questions regarding this hearing, please contact Michael Essington or Elaina Murphy of the Committee Majority Staff at (202) 225-3641.

¹⁹ Dept. of Transp., *Department of Transportation Awards \$7 million for Complementary Positioning, Navigation and Timing Technologies* (July 3, 2024), <https://www.transportation.gov/briefing-room/departments-transportation-awards-7-million-complementary-positioning-navigation-and>.

²⁰ Fed. Communications Comm'n, *In the Matter of Promoting the Development of Positioning, Navigation, and Timing Technologies and Solutions*, Notice of Inquiry, Federal Communications Commission (adopted Mar. 27, 2025), <https://docs.fcc.gov/public/attachments/FCC-25-20A1.pdf>

²¹ *In the Matter of Enabling Next-Generation Terrestrial Positioning, Navigation, and Timing and 5G: A Plan for the Lower 900 MHz Band (902-928 MHz)*, Petition for Rulemaking of NextNav Inc., Federal Communications Commission (filed Apr. 16, 2024), <https://www.fcc.gov/ecfs/document/10416238018537/1>.

²² *Wireless Telecommunications Bureau and Office of Engineering and Technology Seek Comment on NextNav Petition For Rulemaking*, Federal Communications Commission (released Aug. 6, 2024), <https://docs.fcc.gov/public/attachments/DA-24-776A1.pdf>.