



U.S. Department of Transportation

Volpe Center

DOT Liaisons to the GPS Enterprise

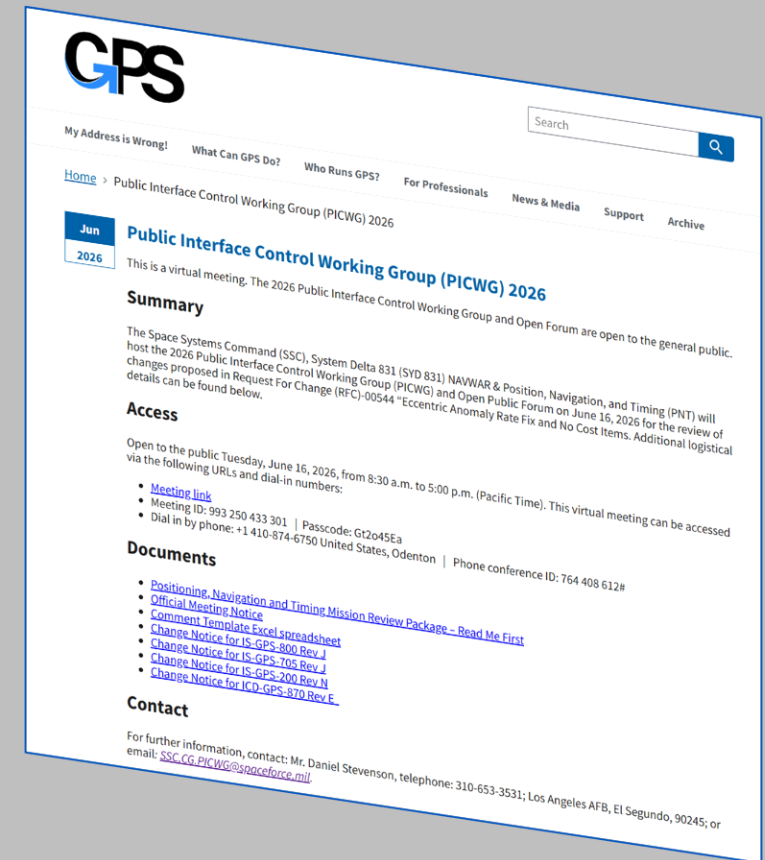
Andrew Hansen and Shawn Skalski

21 April 2026

GPS 2026 Public Interface Working Group

Virtual Meeting June 16, 2026 at 0830 PDT, link [2026 PICWG](#)

- Primary content focused on IS-GPS-200/705/800 uprevs to support Advanced RAIM
- Secondary content on clarity, uniformity, and clean-up of the interface documents
- Downloadable Change Notices (redlines) and comment forms
- Potential walk-on topics of interest for future development



U.S. National R&D Plan for PNT

- Three-point plan for interagency involvement in PNT R&D
- Calls out critical infrastructure dependency on PNT
- Points align with related policy
 - Characterize (EO 13905)
 - Improve and Expand (SPD 7)
 - Integrate & Deploy (NSM 22, DOT PNT Strategic Plan, OST-R CPNT Action Plan)

		DHS	DOC/NIST	DOC/NOAA	DOI/USGS	DOT	NASA
Characterize and Model	Characterize PNT system requirements	•		•	•	•	•
	Improve test capabilities and test protocols for assessing equipment and services			•	•	•	•
	Conduct modeling, simulation, and testing to assess vulnerabilities	•			•	•	•
	Develop tools to identify appropriate sources of PNT service based on functional requirements				•	•	•
Improve and Expand	Improve PNT holdover capabilities		•	•	•	•	•
	Develop and improve external sources of additional PNT services	•	•	•	•	•	•
	Establish calibration and traceability techniques		•	•	•		
	Improve and expand disruption detection tools and mitigation methods	•		•		•	•
	Prototype and demonstrate new PNT services	•	•			•	•
Integrate and Deploy	Determine concepts and techniques for securely integrating multiple sources of PNT service	•	•			•	•
	Common hardware platforms	•				•	•
	Develop resilient PNT system architectures	•	•		•	•	•
	Investigate operating internal sources as primary sources of PNT service	•	•	•		•	•
	Develop cybersecurity standards, best practices, and other guidance	•	•		•	•	•

GPS Modernized Signal Operational Capability

Interagency Partnership for Developing and Operating the GPS Enterprise

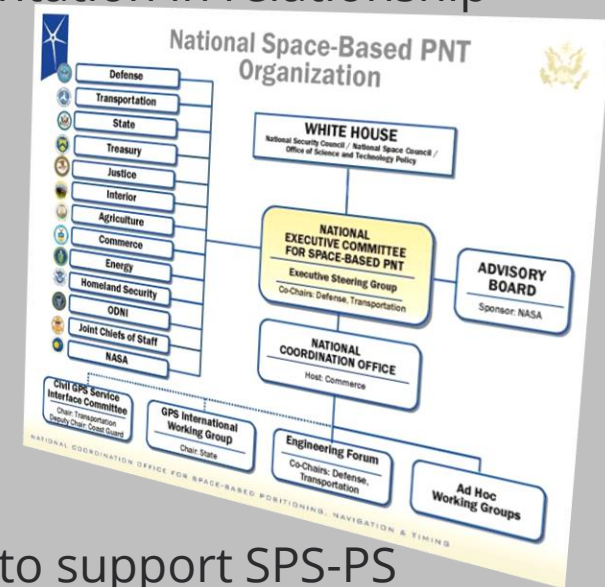
- Reaffirmed of DOT-DoD Memorandum of Agreement on Civil Use of GPS (Nov 2023)
- Fulfill SPD-7 responsibilities for development, operation, and testing of GPS service
- Ensure earliest operational availability for modernized civil signals and services including monitoring, authentication, multi-frequency services, and multi-GNSS interoperability
- Facilitate international coordination of standards, awareness, and augmentation in relationship to foreign GNSS and PNT services

U.S. Executive Branch Partnerships on Advancing Space-based PNT Services

- World-wide monitoring and performance assessment of GNSS signals
- Developing new GNSS standards for PNT services, e.g. ARAIM, SSVs, etc.

U.S. Government Public Commitments on GPS Service

- Standard Positioning Service Performance Standard (SPS-PS, 5th ed.)
- Interface Specifications on L1 C/A, L1C, L2C, and L5 (IS-GPS-200/705/800) to support SPS-PS



GPS Modernized Signal Authentication Service

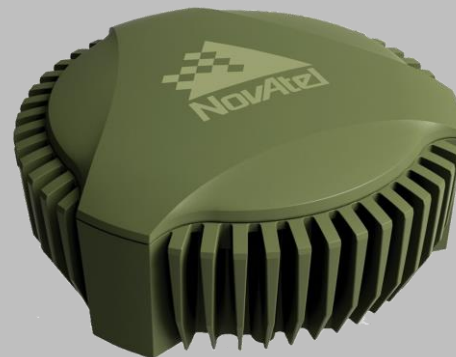
- Driving Policy and Governance: NSM-22, SPD-7 and EO 13905
 - Directs DOT to develop signal authentication requirements and implementation strategy
 - Addresses requirements, acquisition, testing, and operations
- Coordination Across All Three DOD Touchpoints on GPS
 - Civil GPS Liaison to Space Force Space Systems Command (Los Angeles AFB)
 - DOT PNT Liaison to Space Force Combat Forces Command (Peterson SFB)
 - DOT GPS Liaison to Space Force Space Acquisition Executive (Pentagon)
- Coordination with Interagency and International Partners
 - National: DHS/USCG, NIST, AFRL, FAA
 - International: ICG, ICAO, IMO, RTCA/RTCM, and Bi-laterals (DOS)
- Two-pronged Approach Through GPS Civil Signal Operational Capability IPT USSF
 - In-band authentication service on L1C/L2C/L5 data and ranging (dependence on Space & Control Segments)
 - Out-of-band authentication service on open LNAV & CNAV data (dependence on Control Segment & USCG)



Driving Antenna Technology Adoption

Removal of CRPA technology from the USML has opened a fast-lane to GNSS resilience for civil use

- Adaptive techniques are well established and documented in current IEEE and other standards
- Similar technologies are already in common use for many civil applications (5G cellular cells, 5G WiFi, automotive radars)
- Pre- and Post-correlator solutions for jamming and spoofing mitigation are available
- Commercial-off-the-shelf (COTS) products accelerate “Plug and Play” for a subset of vulnerable users
- Interagency effort to drive solutions by combining SDR receivers and open CRPA platforms
- Focus areas are PNT situational awareness and interference detection applications
- Longer-term partnerships for toughened user equipment



Questions?

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Our Purpose

Advancing transportation innovation for the public good.

OUR CORE VALUES



Public Service



Innovative Solutions



Collaboration and Partnering



Professional Excellence



Employee Well-Being