

# OST-R

Office of Positioning, Navigation and Timing (PNT) & Spectrum Management



## “Advancing PNT and Spectrum Policy and Research”

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FEDERAL  
RADIONAVIGATION  
PLAN



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## Positioning, Navigation and Timing (PNT) Program Overview

### Civil Global Positioning System (GPS)/PNT Leadership

- Coordinate the development of departmental positions on PNT and spectrum policy and protection from harmful radio frequency interference and operational degradation of capabilities.
- Responsible for the development of requirements for civil applications from all United States Government civil Departments and Agencies.
- Represent the civil Departments and Agencies in the development, acquisition, management, and operations of GPS.
- Provide civil PNT systems analysis and coordination, including requirements development and architectural development.
- Represent the civil Departments and Agencies in Radionavigation Systems Policy, Planning, and Analysis via publishing of the Federal Radionavigation Plan (FRP), the official source of positioning, navigation, and timing policy and planning for the Federal Government.

### GPS Adjacent Band Compatibility Study

The goal of the GPS Adjacent Band Compatibility Assessment Study and resultant Final Report was to evaluate the adjacent radio frequency band power levels that can be tolerated by GPS and Global Navigation Satellite System (GNSS) receivers and to advance the Department’s understanding of the extent to which such power levels impact devices used for transportation safety and other civil GPS/GNSS applications.

The DOT GPS Adjacent Band Study is the product of an extensive process to gather stakeholder views and input. OST-R and FAA benefited significantly from feedback received via governmental and public outreach on equipment use cases, interaction scenarios, propagation models, and transmitter characteristics.



For more information, please visit us at  
<https://www.transportation.gov/pnt>

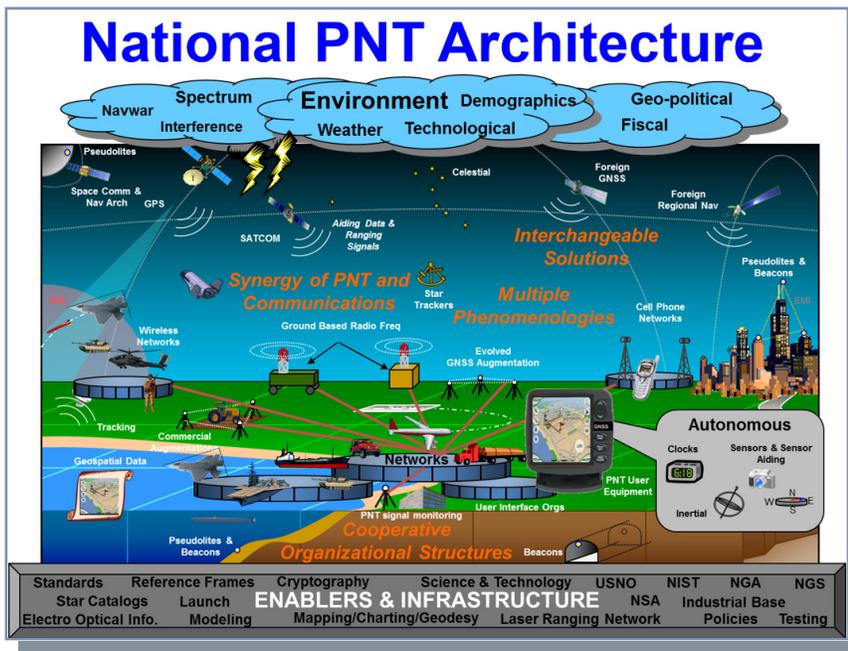
U.S. Department of Transportation  
Office of the Assistant Secretary  
for Research and Technology



## National PNT Architecture & PNT Resiliency

The National PNT Architecture identifies recommendations to be implemented to overcome PNT capability gaps, predominantly resulting from the limitations of GPS. There are increasing occurrences of unintentional and intentional interference to GPS, including the potential for spoofing of the signal. DOT works closely with the Departments of Homeland Security and Defense to increase awareness of vulnerabilities of GPS, evaluate the impact, and to research complementary sources of PNT to increase resiliency for safety-critical transportation applications. DOT also coordinates research on new technologies to address emerging PNT needs for applications, such as autonomous vehicles, across all modes of transportation.

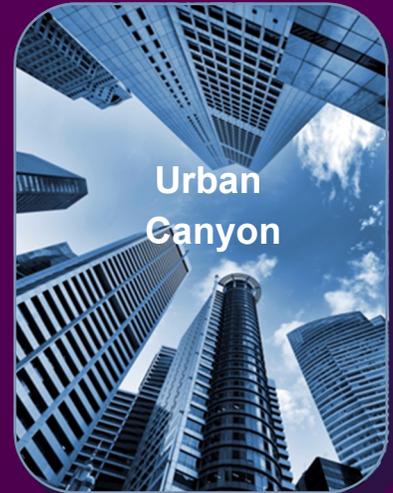
Increasing occurrences of unintentional and intentional interference to GPS, including the spoofing of the signal have been observed. DOT is planning to conduct a field demonstration of technologies with a Technology Readiness Level of 6 or higher and capable of providing backup PNT services to critical infrastructure in the event of a temporary disruption to GPS. This demonstration effort is expected to encompass technologies capable of providing complementary PNT functions to GPS by either expanding PNT capabilities or extending them to GPS-denied or degraded environments.



## Civil GPS Service Interface Committee (CGSIC)

The Civil Global Positioning System Service Interface Committee (CGSIC) is the recognized worldwide forum for effective interaction between all civil GPS users and the U.S. GPS authorities. It was established and chartered to identify civil GPS user needs (e.g. navigation, timing, and positioning) and exchange information concerning GPS with the civil user community in support of DOT's civil GPS leadership role. OST-R chairs the CGSIC and the U.S. Coast Guard Navigation Center (NAVCEN) serves as Deputy Chair and Secretariat of the CGSIC.

## PNT Capability Gaps



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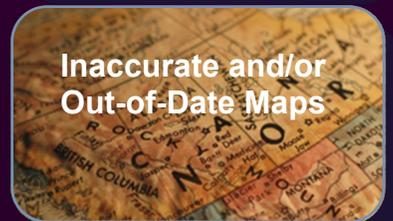
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