NTIA At-A-Glance

Who we are: The National Telecommunications and Information Administration (NTIA), located within the Department of Commerce, is principally responsible by law for advising the President on telecommunications and information policy issues.

What we do: NTIA is chiefly dedicated to the goals of increasing the use of spectrum by all users, expanding broadband Internet access and adoption in America, and ensuring that the Internet remains an engine for the American economy's continued innovation and growth. NTIA also represents the Executive Branch in domestic and international telecommunications policy activities, advocates for secure 5G communications, and is a leading source of research and data on the status of broadband availability and adoption in America.

NTIA highlights:

- **Spectrum Management**: NTIA manages all federally held spectrum, and works with federal agencies to ensure missions are protected while identifying new opportunities to free up spectrum for commercial use.
- **Cybersecurity**: NTIA contributes to the security of the nation's Internet architecture, through its open and transparent multistakeholder processes.
- **Data Driven**: NTIA has engaged in a quarter century long partnership with the U.S. Census Bureau to track and understand how Americans use the Internet. Our Internet Use Survey data is publicly available and helps inform our policy mission.
- **Internet Governance**: NTIA represents the United States before key international bodies such as the International Telecommunication Union and the Internet Corporation for Assigned Names and Numbers. We help ensure that global standards better reflect American interests and values.
- **BroadbandUSA**: Serving as a convening authority, NTIA's BroadbandUSA program engages stakeholders in furthering the deployment and adoption of broadband technology in America. It also provides comprehensive data on state level broadband programs.
- **Public Safety**: The agency supports the Commerce Department's oversight of FirstNet, the nation's first interoperable nationwide public safety broadband network dedicated to assisting the critical missions of America's police, firefighters, emergency medical service professionals, and other first responders.
- **Institute for Telecommunication Sciences**: Located in Boulder, Colorado, ITS is NTIA's research and engineering arm, promoting new technology development and more efficient use of the radio frequency spectrum.

NTIA At-A-Glance

Alan Davidson
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The Office of Spectrum Management (OSM) manages the use of the radio frequency spectrum by the U.S. government, balancing the needs of federal operations with those of state and local governments and the private sector. OSM's goal is to make available and facilitate spectrum sharing as the need for additional commercial spectrum increases.

OSM receives advice and assistance from the Interdepartment Radio Advisory Committee (IRAC), the Policy and Plans Steering Group (PPSG), and the Commerce Spectrum Management Advisory Committee (CSMAC). OSM carries out its responsibilities by:

- ❖ Assigning frequencies to federal agencies.
- ❖ Reviewing federal agencies' new telecommunications systems and certifying that spectrum will be available.
- ❖ Establishing regulations governing federal spectrum use.
- ❖ Preparing for and participating in international radio treaty conferences.
- ❖ Coordinating plans for emergency readiness activities.
- ❖ Performing spectrum technical analyses.
- ❖ Developing automated computer capabilities needed to carry out its spectrum management activities.
- ❖ Developing innovative spectrum sharing approaches and mechanisms.
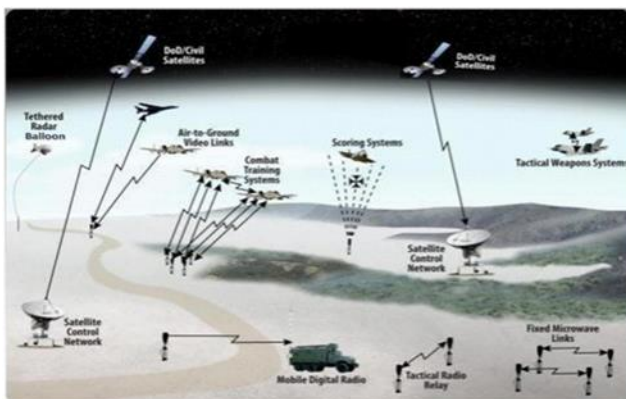
UNITED STATES FREQUENCY ALLOCATIONS

THE RADIO SPECTRUM
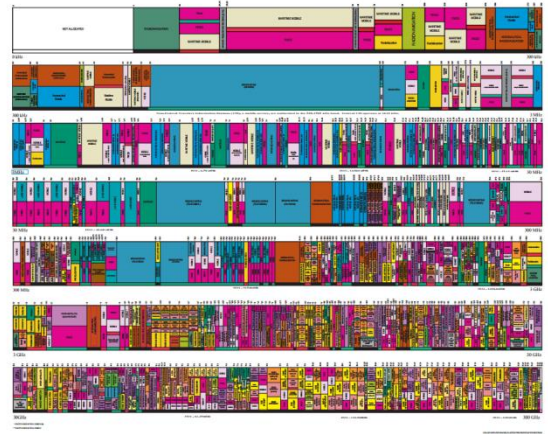
Making Spectrum Available

NTIA, in coordination with the Federal Communications Commission (FCC), industry, and stakeholders, is dedicated to meeting the nation's growing demand for additional spectrum for wireless technologies. This includes establishing an enduring process to identify and prioritize bands for new opportunities and find additional opportunities to repurpose spectrum through the use of innovative spectrum sharing mechanisms.

NTIA, with other federal agencies, is currently supporting the repurposing of mid-band spectrum in the 3 GHz range. It also is developing automated spectrum-sharing systems such as the planned Incumbent Informing Capability (IIC), which will allow dynamic time-based and geographic sharing between federal agencies and non-federal service providers.

The Office of Policy Analysis and Development (OPAD) supports NTIA's role as the principal adviser to the President on telecommunications and information policy. OPAD's subject matter experts develop policies that advance security, innovation, and economic growth in the digital economy and engage in extensive interagency and stakeholder consultation.

Telecommunications Policy

Congress has charged NTIA with ensuring that the Executive Branch's views on telecommunications and information policy issues are effectively presented to the Federal Communications Commission and the Legislative Branch. Recent examples include work on telecommunications carriers' technology transition, and National Security/Emergency Preparedness planning with respect to carrier networks and services. OPAD also works on secure 5G and information and communications technology (ICT) supply chain issues, including sharing supply chain risk information with trusted communications companies.

Cybersecurity and National Security

OPAD represents NTIA and the Department of Commerce in interagency processes on a range of cybersecurity and national security issues, including cyber strategy and response. It leads cybersecurity-focused multistakeholder processes to foster resilience in a vulnerable ecosystem, including initiatives on Internet of Things patching, software component transparency, and botnet mitigation. OPAD has also leveraged the multistakeholder process to release its first round of deliverables on a process for a software "list of ingredients" known as Software Bill of Materials (SBOM) in November 2019 to increase supply chain transparency and security.
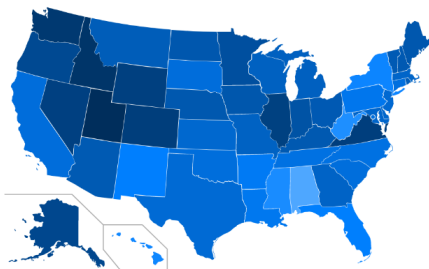
Broadband Data and Policy

OPAD works to inform policymakers about the state of Internet use in the United States and to develop data-driven policy solutions to the digital divide. For over two decades, OPAD has produced the Internet Use Survey and Digital Nation Database, informed by periodic surveys of over 50,000 households conducted in partnership with the U.S. Census Bureau. OPAD's analysis of demographic disparities supports efforts to address the broadband needs of traditionally unserved and underserved communities.

Internet and Information Policy

OPAD works to ensure a secure, open, and stable Internet through balanced privacy, free flow of data, emerging technology, intermediary liability and protections, and intellectual property policies. OPAD advises the White House on developing its privacy policy priorities and is an active interagency participant on a range of Internet and information policy issues. In carrying out NTIA's statutory mandate to advise the Register of Copyrights in the triennial rulemaking under Section 1201 of the Digital Millennium Copyright Act, OPAD endeavors to promote innovation and lawful access to copyrighted work.

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The Office of International Affairs (OIA) advises the President on international communications and information policy issues to keep the world safely connected. OIA shapes and promotes U.S. information and communications technology (ICT)-related policy through engagement with foreign governments and in international fora. The office focuses on a range of policy goals in the areas of Internet governance, 5G, universal connectivity, digital inclusion and digital policy issues relating to privacy, platforms, the free flow of data, and balanced intellectual property. OIA serves as the USG coordinator for discussions on the Domain Name System as well as various international 5G issues and works to expand connectivity worldwide.

Internet Governance and the Domain Name System
Internet Governance relates to the policy decisions that shape the Internet, the actors that make the decisions, and the institutions where they are made. OIA's work helps the Internet continue to function seamlessly for all users. OIA is a prominent champion of the multistakeholder approach to Internet governance and represents the U.S. government within the Governmental Advisory Committee at the Internet Corporation for Assigned Names and Numbers (ICANN). The office works on issues involving the Internet's domain name system (DNS), a critical aspect of Internet infrastructure, and manages policy for the .US and .EDU top level domains.

Cooperation on 5G and Beyond Technologies
Fifth generation (5G) and beyond telecommunications technologies will change the way that we live, work, learn, and communicate. International cooperation on 5G is critical given the interconnected nature of these networks. As a result, OIA works with governments and in multilateral fora to support the development of secure, reliable 5G infrastructure, including open and interoperable networks worldwide. The office fosters global consensus and coordination on policies to facilitate robust, competitive 5G markets and industry-led innovation. Additionally, OIA contributes to ICT standards development processes, international capacity-building efforts, and U.S. interagency policymaking to promote a diverse 5G ecosystem.

Worldwide Connectivity

Only 51% of the world's population is online, leaving nearly four billion people unable to connect to the Internet. OIA works with a variety of stakeholders from U.S. industry to civil society to expand access to connectivity. The office promotes efforts at the International Telecommunication Union that enhance U.S. values and commercial interests. OIA also works to meet the needs of developing countries where its experts help to develop laws and policies that promote access and digital inclusion in their underserved communities, which helps expand the market for U.S. products and services.

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The Office of Telecommunications and Information Applications (OTIA) works to expand broadband connectivity and digital inclusion across America and administers the BroadbandUSA program. OTIA has extensive experience as a convening authority to engage stakeholders in furthering the deployment and use of broadband technology in America; laying the groundwork for sustainable economic growth; improving education, public safety, and health care; and advancing other national priorities.

BroadbandUSA
Connecting America's Communities

The **BroadbandUSA** program promotes innovation and economic growth by supporting efforts to expand broadband connectivity and meaningful use for all Americans. Some key examples of BroadbandUSA's work include:

✦ *Technical Assistance*: BroadbandUSA staff provides online and direct, one-to-one and group technical assistance and training, leveraging its experience to support communities seeking public-private partnerships.

✦ *State Broadband Leaders Network (SBLN):* SBLN is a community of practitioners who work on state broadband initiatives. BroadbandUSA coordinates the group and convenes participants to share priorities and best practices, discuss emerging telecommunications policy issues, link state and local jurisdictions to federal agencies and funding sources, and address barriers to collaboration across states and agencies.

✦ *Smart Cities:* BroadbandUSA works with the National Institute of Standards and Technology on its Global City Teams Challenge by co-leading the Wireless, Smart Buildings, and Ag and Rural Superclusters.

National Broadband Availability Map (NBAM): NBAM is a platform used to visualize and analyze federal, state, and commercial broadband data sets. This includes data from the FCC, U.S. Census Bureau, Universal Service Administrative Company, U.S. Department of Agriculture, Ookla, Measurement Lab, and the state governments. OTIA launched the first version of the map in October 2019 for use by our federal and state partners.

Federal Grant Administration: With the passage of the Consolidated Appropriations Act of 2021, OTIA will continue to promote broadband access and digital inclusion by implementing the Tribal Broadband and Connectivity Grant program, the Broadband Infrastructure Deployment Grant program, and the Connecting Minority Communities Pilot Program.

Minority Broadband Initiative (MBI): The MBI was launched in November 2019. Its stated goal is to leverage the networks and location of Historically Black Colleges and Universities (HBCUs) to expand broadband coverage to underserved communities, particularly in the rural South. NTIA will use its convening authority to better ensure that HBCUs are included in broadband planning nationwide.

Office of Internet Connectivity & Growth: NTIA is tasked with creating an office related to broadband access, adoption, and deployment. This will also include establishing federal agency broadband deployment coordination requirements and ensuring that federal funds are distributed in an efficient, tech-neutral, and financially sensible manner.

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NTIA

The Office of Public Safety Communications (OPSC) helps NTIA meet its responsibilities under the Middle Class Tax Relief and Job Creation Act of 2012 (Act) and in other areas of critical communications. The Act established the creation of an interoperable nationwide public safety broadband network (NPSBN) through the First Responder Network Authority (FirstNet) for use by police, firefighters, emergency medical service professionals, and other public safety entities to complete their critical missions. OPSC supports the Commerce Department's oversight of FirstNet and the NPSBN by supporting the Secretary's appointment of non-permanent FirstNet Board members and through an annual implementation review cycle, leading to improved public safety outcomes and greater support for America's first responders. OPSC also works in coordination with the National Highway Traffic Safety Administration (NHTSA) to improve the implementation of 911, Enhanced 911, and Next Generation 911 services.

OPSC oversees the following programs:

Review of FirstNet's Fees
NTIA is charged with annually reviewing and approving the fees that FirstNet assesses under specific statutory authorities. Consistent with requirements in the Act, NTIA established by rule that it will approve FirstNet's proposed fees each year if they equal, but do not exceed, the amount FirstNet needs to execute its statutory obligations in a given year. Under this review, NTIA examines all revenues and expenses FirstNet projects for the subsequent fiscal year.

Next Generation 911 (NG911)
NTIA works with NHTSA as part of the 911 Implementation and Coordination Office (ICO). In August 2019, the agencies awarded more than $109 million in grants to 34 states and two tribal nations as part of the 911 Grant Program, which will help 911 call centers upgrade to NG911 capabilities. The funding will support improvements such as providing digital and IP network capabilities to 911 (cont.)

Credit: FirstNet

emergency call centers and will assist implementation of advanced mapping systems that will make it easier to identify a 911 caller's location. The 911 Grant Program also provides funding for training costs directly related to NG911 implementation.

State and Local Implementation Grant Program 2.0 (SLIGP 2.0)
This program provides resources to assist regional, state, local, and tribal government entities as they plan for the implementation of the NPSBN being deployed by FirstNet. In March 2018, using recovered funds from a 2013 program, NTIA awarded $33.3 million in SLIGP 2.0 grants to 46 U.S. states and territories to continue planning for FirstNet as deployment of the NPSBN occurs. SLIGP 2.0 awards will expire on a rolling basis from March 31, 2020 to March 31, 2021.

ITS: The Nation's Spectrum and Communications Lab

Realizing the full potential of telecommunications to drive a new era of innovation, development, and productivity.

The Institute for Telecommunication Sciences (ITS) in Boulder, Colorado, is the research and engineering arm of NTIA. ITS' mission is to ADVANCE innovation in communications technologies, INFORM spectrum and communications policy for the benefit of all stakeholders, and INVESTIGATE our nation's most pressing telecommunications challenges through research.

ITS provides the technical foundation for NTIA's policy development and spectrum management activities, actively supporting NTIA and other federal agencies in advancing the state of the art in spectrum sharing, as well as paving the way for 5G and future-G communications, by:

❖ Performing measurements and analyses of radio frequency (RF) characteristics.
❖ Evaluating the electromagnetic compatibility of RF-dependent systems, including to identify, analyze, and mitigate interference into mission-critical federal systems.
❖ Leading development of internationally standardized, validated, and openly published RF propagation models used by government agencies and private industry to predict the behavior of radio waves and plan telecommunication systems.
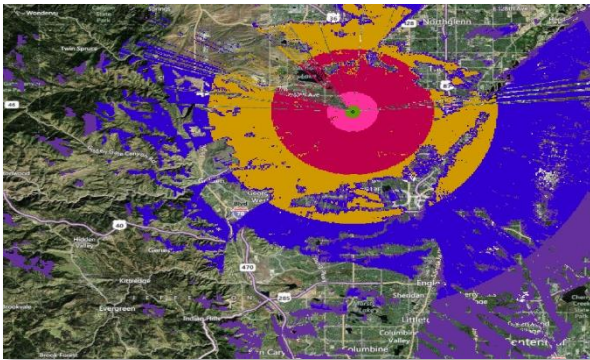
ITS serves as a resource for other federal agencies, state and local governments, private corporations and associations, and international organizations. Building on a 100-year history, ITS continues to execute against a research portfolio designed to address current and future telecommunications challenges.

❖ In support of the Federal Communications Commission (FCC), ITS developed hardware, software, and test procedures for certifying spectrum access systems and RF environmental sensing capabilities.
❖ NTIA, the FCC, and the Department of Defense (DoD) use ITS measurements and analyses to coordinate sharing between commercial carriers and DoD national security systems like air defense radars.
❖ With NTIA's Office of Spectrum Management (OSM), ITS performs research to determine measures of spectral efficiency that can be used to incentivize developers of spectrum-dependent systems.
❖ ITS manages the Advanced Communications Test Site at the Table Mountain Radio Quiet Zone, one of only two U.S. locations legally protected from strong radio signals so that new spectrum-dependent systems can be tested without interference.

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