

U.S. DEPARTMENT OF COMMERCE

National Telecommunications and Information Administration

FY 2015 Budget as Presented to Congress



March 2014

**DEPARTMENT OF COMMERCE
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION
Budget Estimates, Fiscal Year 2015
Budget as Presented to Congress**

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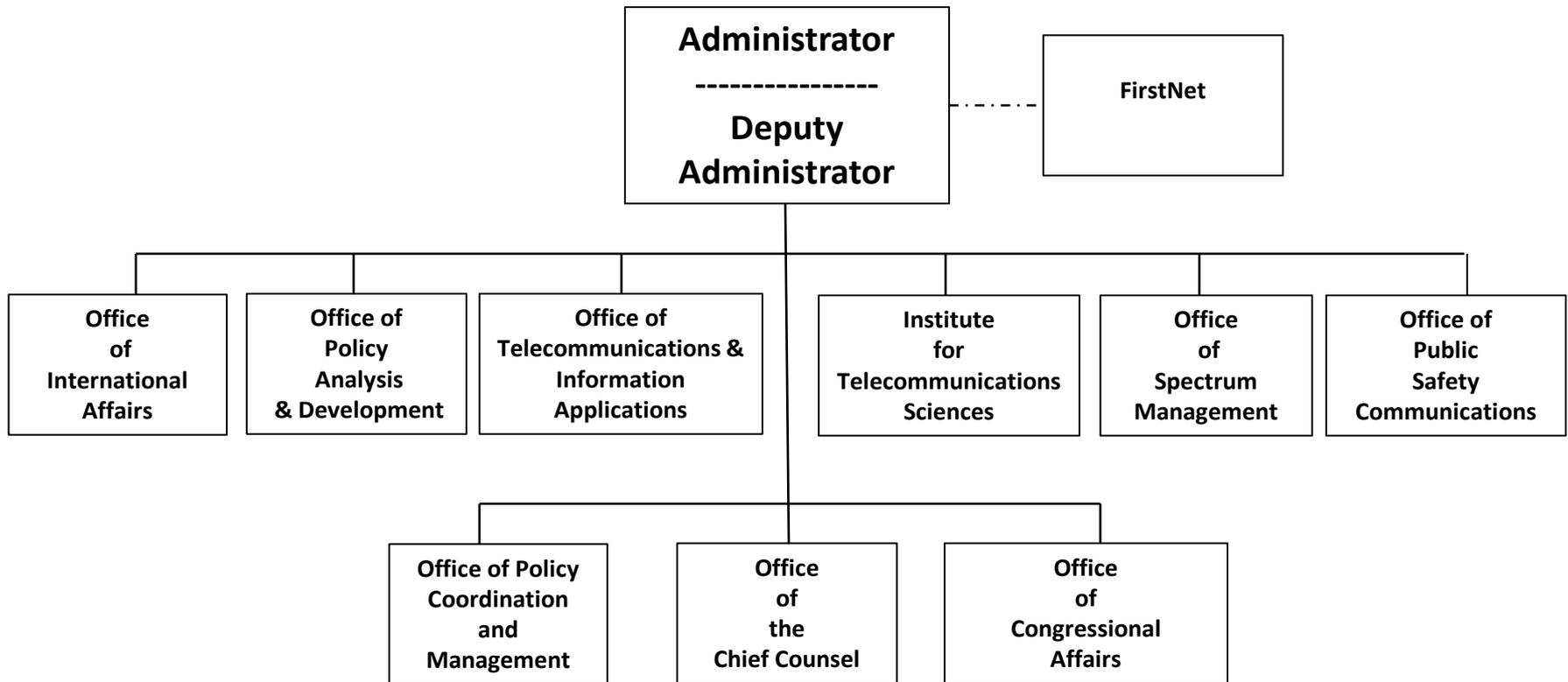
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U.S. DEPARTMENT OF COMMERCE

National Telecommunications & Information Administration



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**Department of Commerce
National Telecommunications and Information Administration
Fiscal Year 2015 Congressional Budget Submission**

Executive Summary

The National Telecommunications and Information Administration (NTIA) is responsible by law for advising the President on telecommunications and information policy issues. NTIA's programs and policymaking focus largely on expanding broadband Internet access and adoption in America, expanding the use of spectrum by all users, and ensuring that the Internet remains an engine for continued innovation and economic growth. These goals are critical to America's competitiveness in the 21st century global economy and to addressing many of the nation's most pressing needs, such as improving education, health care, and public safety.

Salaries and Expenses

The NTIA FY 2015 budget request for Salaries and Expenses totals \$51.0 million, a net increase of \$5.0 million over the FY 2014 Enacted Budget. This net increase includes adjustments to NTIA's budget to reflect an increased focus on policy oversight needed to protect and promote innovation and economic growth on the Internet and advancements in our Broadband program. The two critical areas of focus include Domestic and International Policy and the Broadband Program.

Domestic and International Policies. This budget request identifies critical resources necessary to ensure NTIA's policy program is positioned to meet the growing complexity currently impacting the open Internet environment. The world is becoming more interconnected with the rapid growth of the Internet and the globalization of information technology services and equipment. The U.S. Government, U.S. industry, and U.S. citizens need to connect and operate anytime and anywhere in the world, requiring the promotion and preservation of a harmonized, global Internet policy and governance landscape. As the Internet matures and expands internationally, threats to its openness have increased.

Concerns regarding cybersecurity and what is perceived as a global imbalance in the distribution of Internet wealth have forced some countries to seek more influence over the Internet and its governance. This desire for control and interest in regulating citizens' activities and data online also threatens the free flow of information over the Internet, as well as global ecommerce. Domestically, policymakers weigh the challenges of balancing privacy, innovation, law enforcement, and national security equities, while also encouraging Internet growth and expansion. It is a complex policy and governance environment that requires sophisticated analysis and coordination across the Federal government with appropriate means for obtaining stakeholder advice and input.

As the Internet and its influence on U.S. society, commerce and the globe continue to grow, the U.S. Government through the Department of Commerce and NTIA must be able to confront this landscape with an advanced policy development and analysis apparatus to ensure forward-looking Internet policy. Without a significant change to the current status quo, the Department and NTIA will be unable to exert enough influence internationally to preserve the Internet's openness and its cultural and economic potentials. Domestically, economic security equities

will suffer from a lack of appropriate articulation within the interagency policy development process.

NTIA will take a number of steps to strengthen the scope and effectiveness of its policy programs, including the operation of an Internet Policy Center (IPC) to ensure timely analysis and development of policy recommendations and information policy issues. The IPC will assist the Administration in coordinating policy development related to Internet openness, Internet intermediaries, interoperability, privacy, security, resiliency, the Domain Name System (DNS), Internet routing, participation in Internet standards setting activities, etc. The IPC will develop a “one stop” resource for Internet governance and best practices for policymaking.

Broadband Program. NTIA will continue the momentum of the \$7 billion broadband investment in the Recovery Act by building coalitions and providing the needed technical expertise to promote expansion of broadband into local communities and municipalities. Our strategy utilizes a public/private partnership concept and builds on the strong working relationships developed with broadband providers, municipal organizations, innovation economy firms, non-profit organizations, foundations, and other Federal stakeholders.

By leveraging these various players in the broadband and communication arena, we will develop national strategies that will encourage activities in communities that elevate their broadband preparedness and innovation readiness, resulting in significant strides toward meeting the Administration’s broadband and economic development goals. It also enables better identification of opportunities to encourage community leaders and provide them with tools to advance projects that attract new business investments and spur economic growth.

Spectrum Management and Research. As demand for spectrum to meet commercial and Federal needs continues to increase, NTIA proposes a number of new actions to make additional spectrum available. The budget supports continuing work to make an additional 500MHz of spectrum available for commercial purposes by 2020. NTIA will expand efforts to monitor use of spectrum in key metropolitan areas to provide basic data for use in developing spectrum-sharing approaches. This activity is one of several to be supported under the planned Center for Advanced Communications.

The Center, a cooperative effort between NTIA and the National Institute for Standards and Technology, will conduct activities to expand our knowledge about the use and application of spectrum, including the development of approaches to expand spectrum sharing and innovative approaches for spectrum management. The budget request provides funding to cover costs associated Developing cooperative business practices, establishing a “spectrum information clearing house” for Federal, public, and private parties and supporting key initial projects to provide a base from which to advance spectrum sharing and innovation.

Public Safety – Mandatory

The Middle Class Tax Relief Act of 2012, P.L. 112-96, provided funding of up to \$7 billion to establish a nationwide interoperable public safety broadband network. The investment will be offset by proceeds from spectrum auctions to be conducted by the Federal Communications Commission and deposited in the Public Safety Trust Fund (PSTF). The Act authorizes NTIA to borrow up to \$2 billion from Treasury prior to the deposit of spectrum auction proceeds for the establishment of the First Responder Network Authority (FirstNet), and to begin part of the public safety broadband network.

The Act also authorizes NTIA to borrow up to \$135 million from Treasury to implement a grant program to assist state, regional, tribal, and local jurisdictions in identifying, planning, and implementing the most efficient and effective way to utilize and integrate infrastructure, equipment, and other architecture associated with the nationwide public safety broadband network. NTIA awarded grants totaling \$116 million to 54 states and territories in FY 2013.

Public Television Facilities Planning and Construction Program

The Public Telecommunications Facilities Planning and Construction Program was terminated in FY 2011. NTIA will continue to close out the grants using recoveries and unobligated balances of funds available until all open grants have expired.

Administrative Services

NTIA will continue to explore opportunities for managing its programs as effectively and efficiently as possible by reducing administrative costs and making investments that will reduce future costs. Efforts include working with other Department bureaus on shared information technology services, pursuing more competitive contracting practices, reducing consumption of paper and supplies, and focusing on human capital management.

Summary

The Department of Commerce and NTIA have great responsibilities in FY 2015 and beyond. The FY 2015 budget request continues a funding level reflective of the ever increasing leadership role NTIA plays in the fast-growing broadband and Internet world. This budget provides the resources necessary to: implement NTIA's responsibilities as advisor to the President on telecommunication and information issues; promote and create opportunities related to broadband access and adoption; manage core programs more effectively and efficiently; deliver on outstanding commitments, such as identifying and making available 500 MHz of spectrum; and ensure that the Internet remains an engine for continued innovation and economic growth.

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APP / Exhibit 3A

FY 2013 Annual Performance Report / FY 2015 Annual Performance Plan

(National Telecommunications and Information Administration)

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Part 1 Summary Information

Section 1 Overview

- *Mission Statement*

The National Telecommunications and Information Administration (NTIA) serves as the President's principal adviser on telecommunications and information policy matters and develops forward-looking spectrum policies and research that ensure efficient and effective spectrum access and use. NTIA manages all spectrum use by Federal departments and agencies and examines how spectrum is used and managed in the United States. NTIA also manages \$4.2 billion in grants to promote the availability and adoption of broadband and Internet technology. In addition, NTIA houses FirstNet, an independent authority charged with overseeing the deployment of a nationwide wireless broadband network for public safety.

- *Organizational Structure*

See the Organization Chart (Exhibit 2).

- *Description*

NTIA develops domestic and international telecommunications and information policy for the Executive Branch; ensures the efficient and effective management and use of Federal radio spectrum; administers and oversees programs to advance access to and use of broadband in the United States; and performs state-of-the-art telecommunications research, engineering, and planning. NTIA supports the Trade and Investment Goal's Strategic Objective 1.1 (Increase opportunities for U.S. companies by opening markets globally) through developing and influencing international policies to support fair competition and by negotiating international agreements and treaties that place the United States as a global leader in telecommunications. Additionally, NTIA supports the Innovation Goal's Strategic Objective 2.3 (Strengthen the Nation's digital economy by championing policies that will maximize the potential of the Internet, expanding broadband capacity, and enhancing cybersecurity) by serving as the principal adviser to the President on telecommunications and information policy. NTIA also manages national spectrum resources, including pursuing spectrum sharing and monitoring to make 500 MHz available for expanded high-speed broadband service, and it performs research in cutting-edge areas of telecommunications technology. Having successfully administered the Recovery Act broadband grant programs, NTIA is expanding broadband access and adoption further by providing expert technical assistance to communities to help them build partnerships to sustain the momentum. NTIA also supports FirstNet, which is charged with building a wireless broadband network for first responders throughout the Nation.

- *FY 2013 Accomplishments*

Increased Spectrum Availability: NTIA continued to address Presidential Memorandum "Expanding America's Leadership in Wireless Innovation" and made progress toward expediting commercial entry into spectrum bands previously allocated for Federal use, either through reallocation or acceptable sharing arrangements, while protecting the capabilities of Federal systems designed to operate in those bands. In FY 2013, NTIA's Commerce Spectrum Management Advisory Committee (CSMAC) concluded its ground-breaking work to explore relocation alternatives and spectrum sharing arrangements between Federal agencies and commercial mobile broadband systems in the 1695-1710 MHz and 1755-1780 MHz bands. NTIA also released regulations and guidance implementing changes to the Commercial Spectrum Enhancement Act (CSEA) that provide eligible Federal agencies incentives and financial assistance to facilitate transition from the reallocated Federal bands that will be auctioned by the Federal Communications Commission (FCC). In addition, NTIA published a report on spectrum-sharing technologies and the risk to Federal users if Unlicensed-National Information Infrastructure (U-NII) devices were authorized to operate in the 5350-5470 MHz and 5850-5925 MHz bands.

In FY 2013, NTIA also conducted several important engineering studies on band occupancy, in-band and adjacent band interference, and interference mitigation techniques that provided critical information for determining the feasibility of sharing in specific bands. These studies were conducted under Cooperative Research and Development Agreements (CRADAs) with commercial carriers and in collaboration with NTIA's Office of Spectrum Management (OSM), ensuring that industry stakeholders and NTIA policy makers had access to the same set of reliable data to plan for future spectrum sharing.

Planned the Center for Advanced Communications: In May 2013, NTIA signed an agreement with the National Institute of Standards and Technology (NIST) to collaborate on the establishment of a national Center for Advanced Communications (CAC) in Boulder, Colorado. The new center will implement a key provision of a memorandum President Obama issued in June 2013 on “Expanding America’s Leadership in Wireless Innovation.” CAC will leverage NIST and NTIA research and engineering capabilities to form a unique national infrastructure and collaborative environment needed to address a wide range of advanced communications challenges. This joint effort will increase the impact of existing efforts already under way in both bureaus.

A key focus of the CAC will be to promote interdisciplinary research, development, and testing in radio frequency technology and spectrum sharing for public safety and commercial broadband applications. The CAC will publish an inventory and description of Federal test facilities available to commercial and other stakeholders engaged in research, development, testing, and evaluation of technologies to enhance spectrum sharing and other wireless related efficiencies.

Supported Economic Benefits of the Internet: In May 2013, NTIA released its Broadband Adoption Toolkit, a document aimed at sharing best practices developed from broadband adoption and digital literacy projects funded by the Broadband Technologies Opportunities Program (BTOP). Leveraging the experience of about 100 communities served by BTOP to benefit the entire Nation, the toolkit gives practical ideas and tools for overcoming barriers to getting more Americans online. NTIA developed the publication to share the expert knowledge and experience of the broadband adoption and computer training projects with a broader base of anchor institutions, government agencies, non-profits, and others.

NTIA’s 68-page document gives guidance to communities and organizations across the country on how to structure the most effective broadband training programs, set up the most productive computing centers, and teach people to use technology to improve their lives. Key messages and guidance in the toolkit included the following:

- Make digital literacy programs relevant by teaching skills that can change people’s daily lives, such as how to apply and search for a job online;
- Partner with established community organizations that people know and trust to help engage hard-to-reach populations;
- Provide convenient times and locations for broadband training, and computer use to ensure easy access; and
- Address the cost of broadband adoption by providing access to discounted computer equipment and/or affordable broadband service.

Another key publication, released in August 2013, was the “Green Paper on Copyright Policy, Creativity, and Innovation in the Digital Economy”, which identified important copyright issues that need further discussion, public input, and development of solutions. The green paper was issued by the Department of Commerce’s Internet Policy Task Force (IPTF), with NTIA and the U.S. Patent and Trade Office leading the effort. NTIA worked closely with stakeholders and other parts of government on a full range of online innovation issues pertaining to copyright critical to economic growth, job creation, and cultural development. In 2013, the IPTF also conducted an inquiry and published a report on cybersecurity incentives, as called for in Executive Order 13636. Also in 2013, NTIA convened the first multistakeholder process on consumer data privacy. The first process focused on developing a code of conduct to provide transparency in how companies providing applications and interactive services for mobile

devices handle personal data. Through its petition for rulemaking to the FCC on cell phone unlocking, NTIA also was instrumental in spawning carrier adoption of a voluntary agreement addressing this important consumer issue.

Advanced Public Safety Communications: The Middle Class Tax Relief and Job Creation Act created the First Responder Network Authority (FirstNet), an independent authority within NTIA, to build a national public safety broadband network. During FY 2013, FirstNet made substantial progress in assessing potential network options, conducting outreach with stakeholders and first responders, and establishing the organizational structure and capacity to carry out the provisions of the Act. The Act also directed NTIA to establish the State and Local Implementation Grant Program (SLIGP), a program to assist state, regional, tribal, and local stakeholders on planning, consulting, and outreach activities as they work with FirstNet to deploy the historic national broadband network. Within eight months of launching the effort, NTIA awarded 54 states and territories over \$100 million in planning grants. With these grants, states and territories can start planning for a state-of-the-art broadband network that will give them modern tools to respond to 21st century emergencies.

Examples of anticipated improvements in the emergency-response community include:

- Ability of ambulance workers to transmit vital signs electronically to hospitals instead of hand-writing them for delivery later upon arrival;
- Ability of police officers to run fingerprints and query local and Federal databases on the scene instead of waiting until they return to their stations; and
- Provision of situational awareness to first responders about previous dispatches to specific addresses.

NTIA engineers representing the Public Safety Communications Research program, a joint effort between NTIA and NIST, also advanced the interests of public safety communications in the international standards bodies. In FY 2013, this work resulted in inclusion of requirements for two main Long Term Evolution (LTE) enhancements sought by public safety in the next scheduled release of LTE standards. LTE is a standard for wireless communication of high-speed data for mobile phones and data terminals. If the release schedule is met, commercial off-the-shelf systems for public safety LTE that include these functions will reach the global market in mid-2015 to 2016.

Section 2 **Corresponding DoC Strategic Themes, Goals, and Objectives**

Goal	Objective Number	Objective Name	Leader
Trade and Investment: Expand the U.S. economy through increased exports and inward foreign	1.1	Increase opportunities for U.S. companies by opening markets globally.	Kenneth E. Hyatt Acting Under Secretary for International Trade Ken.Hyatt@trade.gov

investment that lead to more and better American jobs.			
Innovation: Foster a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies that lead to higher productivity and competitiveness.	2.3	Strengthen the Nation’s digital economy by championing policies that will maximize the potential of the Internet, expanding broadband capacity, and enhancing cybersecurity.	Lawrence E. Strickling Assistant Secretary for Communications and Information LStrickling@ntia.doc.gov

Key Strategies for Objective 1.1:

- Ensure U.S. commercial and economic interests are advanced in trade agreements and in other international fora: NTIA ensures that U.S. negotiating objectives consider the priority needs of U.S. industries competing in the global market. NTIA will represent U.S. interests at treaty-making conferences, regional telecommunications conferences and meetings, bilateral and multilateral meetings, and multi-stakeholder meetings and conferences. NTIA’s priorities include strong and effective disciplines on trade barriers.
- Ensure that U.S. commercial interests are advanced with foreign governments: In many markets around the world, most U.S. companies do not have direct access to foreign government regulators or decisionmakers. Formal government-to-government mechanisms, such as the U.S.-China Joint Commission on Commerce and Trade, enable regular exchanges to raise and resolve systemic trade and investment issues. Other dialogues that involve the private sector, such as the U.S.-Brazil CEO Forum, provide U.S. companies with the opportunity to engage directly with key foreign government officials to whom they normally would not have access.
- Reduce foreign trade barriers: Foreign government-imposed trade barriers cost U.S. exporters billions of dollars each year. NTIA will take active steps to resolve trade barriers, while protecting U.S. regulatory interests, particularly those with industry-wide or market-wide impacts. NTIA will pursue policies that promote U.S. exports and international standards. NTIA will promote Information Communications Technology (ICT) products and services, recommend consistent international approaches to telecommunications and Internet issues, harmonize key international standards while safeguarding competition, and improve relations with countries with rapidly expanding markets.

- NTIA will continue to participate in and, in several cases, lead the extensive preparatory process for international and intergovernmental meetings, partnering with the relevant Federal agencies and U.S. industry, civil society, and technical stakeholders. NTIA's policy expertise and strategic coordination with other governments have contributed to the success of the United States at previous international and intergovernmental conferences and meetings.
- Several countries are increasing their focus on Internet regulation by proposing to regulate the Internet through intergovernmental institutions. Attempts to restrict and globally regulate the Internet are a major threat to the United States' approach to the development and expansion of the Internet, as well as more traditional telecommunications and information technologies. It is crucial that NTIA participate in developing and executing plans, policies, and programs that relate to international communications issues and provide advice and assistance on Internet issues, to ensure a free and open global Internet characterized by multistakeholder decisionmakers.
- The ITU's international regulation of radio spectrum directly affects U.S. roles in international commerce and diplomacy, including satellite orbit management. NTIA will continue investments to develop and present plans, policies, and programs for international telecommunications conferences and associated preparatory meetings which have consistently produced outcomes favorable to the United States.

Key Strategies for Objective 2.3:

- **Ensure policies promote the Internet as an engine of growth:** The Internet's potential to drive innovation and economic growth relies on the free flow of information as well as the Internet's inherent flexibility. NTIA will advocate for relevant domestic and international policies that do not unnecessarily hinder the digital economy or chill innovation in the online environment. NTIA will use and participate in multistakeholder processes to develop solutions to evolving digital economy issues.
- **Increase broadband infrastructure and use:** Broadband capabilities and appropriate mechanisms to leverage those capabilities to attract commerce can have a tremendous impact on local economies. NTIA will use its expertise in funding broadband projects and providing technical assistance to help communities increase their broadband infrastructure and provide citizens the tools to leverage broadband to attract jobs and investments.
- **Foster advanced communications technologies:** Spectrum sharing and other innovations in advanced communications will drive economic growth and development. NTIA and NIST have agreed to leverage both bureau's key research and engineering expertise and capabilities by planning the establishment of the Center for Advanced Communications (CAC). This unique national asset will provide both research and testing capabilities. NIST and NTIA will partner with industry, academia, and government agencies to foster the invention, development, and deployment of future advanced communications technologies.
- **Facilitate the continued development of the online marketplace by ensuring copyright policy adapts appropriately to current digital technologies:** Digital technologies have presented unprecedented challenges and opportunities for U.S. industries. The goals of both copyright and Internet policies can and should work in tandem to advance the digital economy. NTIA will convene stakeholders—creators, rights holders, service providers, and consumers—to develop a public record on critical digital copyright issues. The issues are identified in a Department green paper (*Copyright Policy, Creativity, and Innovation in the Digital Economy*). The product of stakeholder engagement will be policy recommendations that advance the goal of both ensuring a balanced and effective copyright system and promoting the continued development of an efficient online marketplace for creative works.
- NTIA remains committed to using the multistakeholder model of Internet policymaking and governance in its efforts to ensure sound policy frameworks. NTIA engages with a broad array of stakeholders to gain consensus on Internet policy issues. This process encourages decisionmaking and operating in an open, transparent, and accountable manner and increases opportunities for effective participation by those most directly impacted by decisions.
- NTIA is continuing efforts to make available 500 MHz of spectrum for commercial broadband use by 2020, as mandated by Presidential Memorandum. Through collaboration with the FCC, industry stakeholders, and other agencies, NTIA has been addressing challenges related to spectrum sharing as a means to maximize efficient spectrum use. The spectrum below 6 GHz most desired for wireless broadband is already committed to a host of Federal and non-Federal users. Decisions to repurpose spectrum through relocation of incumbent users or spectrum sharing will require policymakers to weigh the potential economic and technological benefits of increased

commercial broadband against the need for Federal agencies to use spectrum to achieve their missions. In 2013, NTIA published a report on spectrum-sharing technologies and the risk to Federal users if Unlicensed-National Information Infrastructure (U-NII) devices were authorized to operate in the 5350-5470 MHz and 5850-5925 MHz bands.

- NTIA implemented the Congressional mandate, using ARRA funding, to develop a national broadband map. The map is an unprecedented, searchable, public database showing the locations of broadband Internet service, the technology used to provide the service, the maximum advertised speeds of the service, and the names of the service providers. Each new data set loaded onto the map helps educate the Nation about broadband availability and assists the public and private sectors in making decisions affecting their businesses and constituents. During FY 2015, NTIA will conduct a final update to the national map of broadband availability and ensure an orderly transition of these responsibilities to the FCC, at which time NTIA will conclude its responsibility for updating and maintaining the map.
- NTIA has been assisting FirstNet in ramping up its hiring, acquisition, and financial operations so it can be prepared to deliver to each of the 50 states and six territories plans to build-out the public safety broadband network.
- In 2013 NTIA released its Digital Nation report focusing on America's emerging online experience and three "broadband briefs" analyzing Census and National Broadband map data to explore:
 - Broadband changes over time;
 - Urban/rural broadband differences; and
 - Broadband availability in the workplace.
- Driven by ongoing challenges to provide spectrum to meet growing commercial and government requirements, NTIA is taking steps to increase spectrum sharing between Federal agencies and the telecommunications industry. NTIA established a preliminary framework for ongoing engagements between Federal and non-Federal stakeholders on spectrum-sharing opportunities and future needs. Applying this framework to accommodate commercial wireless broadband in two frequency bands formerly allocated only for Federal agency use, NTIA identified critical spectrum access issues involving methods to optimize spectrum utilization and spectrum sharing, test and evaluation opportunities relevant to innovative sharing technologies, and improved planning methods to meet future Federal spectrum requirements.
- NTIA is developing a strategic plan to promote further spectrum sharing. The plan will address challenges in the areas of cooperation, technology, and information. NTIA has already begun to make progress in some of these areas. As NTIA completes the strategic plan and develops and executes implementation plans, NTIA will continue this cooperation toward the goal of institutionalizing spectrum sharing. These efforts may include, but are not limited to, establishing standard processes, methodologies, and models to determine the conditions under which sharing methods would be feasible.

- NTIA will build on the momentum generated by the successful implementation of its broadband programs to further increase broadband adoption and utilization in communities across the country and begin a multistakeholder process to develop community broadband benchmarks. NTIA will provide technical assistance to communities while also overseeing and managing the closeout of nearly \$4.2 billion in awarded grants funded through BTOP and the State Broadband Data and Development Program. Additionally, NTIA will continue to ensure BTOP 700 MHz public safety grants proceed in a manner that supports FirstNet, the nationwide public safety broadband network, as described in the Middle Class Tax Relief and Job Creation Act of 2012.
- In FY 2015, NTIA will complete the infrastructure for a spectrum-monitoring network. The development of this infrastructure was started in FY 2014. The infrastructure includes a prototype sensor for monitoring spectrum occupancy and a data network for storing the monitoring data. The sensors and database will also be tested and evaluated in FY 2015 to determine if the technology could be deployed across the nation to better understand how the nation's spectrum is being used.
- NTIA anticipates that the Center for Advanced Communications, a joint program between NTIA and NIST, will begin to implement a number of studies to promote interdisciplinary research, development, and testing in radio frequency technology and spectrum sharing for public safety and commercial broadband applications.

Part 2 Performance Results and Plans

Section 1: FY 2013 Summary Description of Performance by Objective

FY 14-18 Strategic Goal: EXPAND THE U.S. ECONOMY THROUGH INCREASED EXPORTS AND INWARD FOREIGN INVESTMENT THAT LEAD TO MORE AND BETTER AMERICAN JOBS. (TRADE AND INVESTMENT)

FY 14-18: Strategic Objective: 1.1: INCREASE OPPORTUNITIES FOR U.S. COMPANIES BY OPENING MARKETS GLOBALLY

Benefits: Internationally, NTIA advocates globally for foreign regulatory and policy frameworks that promote competition and innovation in the information and communications technology sector and strengthens the ability of U.S. firms to compete effectively for global trade opportunities. NTIA utilizes its policy tools in advance preparation to best position the United States in international forums as a global leader and to strengthen the ability of U.S. firms to compete effectively for global trade opportunities. In addition, NTIA pursues policies promoting international trade in communications products and services, promoting consistent international trade policy, and improving relations with countries with rapidly expanding markets. NTIA has utilized its policy expertise and strategic coordination with other governments to advocate the United States' positions and will continue to participate in and, in several cases, lead the extensive preparatory process for international and intergovernmental meetings.

Recurring Indicators

Indicator	Target	Actual	Status	Trend
75% of NTIA positions substantially adopted or successful at international meetings	75% of NTIA positions substantially adopted/ successful at international meetings	>80% of NTIA positions substantially adopted/ successful at international meetings	Exceeded	Positive

FY 14-18 Strategic Goal: FOSTER A MORE INNOVATIVE U.S. ECONOMY—ONE THAT IS BETTER AT INVENTING, IMPROVING, AND COMMERCIALIZING PRODUCTS AND TECHNOLOGIES THAT LEAD TO HIGHER PRODUCTIVITY AND COMPETITIVENESS. (INNOVATION)

FY 14-18: Strategic Objective: 2.3: STRENGTHEN THE NATION'S DIGITAL ECONOMY BY CHAMPIONING POLICIES THAT WILL MAXIMIZE THE POTENTIAL OF THE INTERNET, EXPANDING BROADBAND CAPACITY AND ENHANCING CYBERSECURITY.

Benefits: NTIA seeks to protect the Internet as a tool for innovation and economic growth, increase the spectrum available for broadband services and applications, and expand broadband availability and usage so communities can maximize the economic benefits of the Internet. NTIA has used approximately \$4 billion to fund grants through the Broadband Technology Opportunities Program (BTOP) to stimulate broadband demand, economic growth, and job creation. BTOP projects extend broadband access to unserved and underserved areas of the country and to vulnerable populations, including minorities, low-income residents, the aged, the unemployed, and people with disabilities. These projects are deploying broadband infrastructure, enhancing capacity at public computing centers, and supporting projects to encourage non-users to subscribe to broadband services.

NTIA will build upon these broadband efforts to advance U.S. communities' broadband infrastructure, adoption, and utilization by creating and sharing lessons learned and best practices resulting from the success of BTOP. To maintain the momentum generated by BTOP, NTIA will encourage communities to elevate their broadband preparedness and innovation readiness. NTIA has implemented the Congressional mandate, using ARRA funding, to develop a national broadband map, which shows broadband availability, including the locations of broadband Internet service, the technology used to provide the service, the maximum advertised speeds of the service, and the names of the service providers.

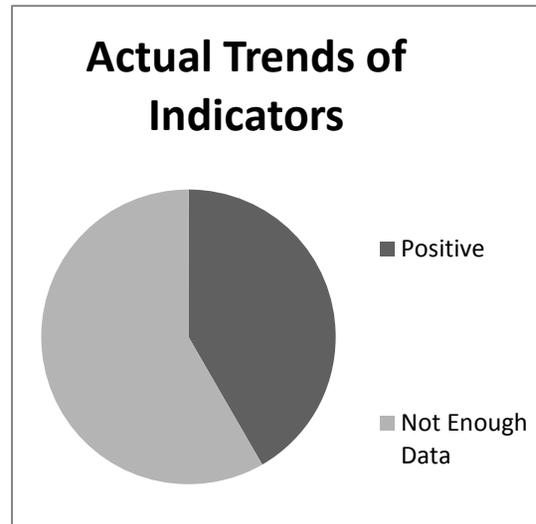
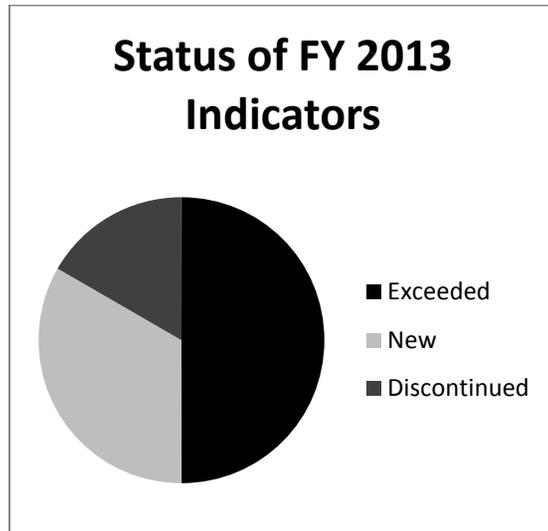
Recurring Indicators (reported on in FY 2013 and recur in FY 2014 onward)

Indicator	Target	Actual	Status	Trend
Identify up to 500 MHz of spectrum to support commercial broadband services or products	Meet 66% of annual milestones regarding the identification of 500 MHz for wireless broadband	Met 100% of annual milestones regarding the identification of 500 MHz for wireless broadband	Exceeded	Not enough data
Miles of broadband networks deployed (Infrastructure Projects)	100,000 miles	111,400 miles	Exceeded	Positive
Community anchor institutions connected (Infrastructure Projects)	18,000	20,332	Exceeded	Positive
New household and business subscribers to broadband (Sustainable Broadband Adoption Projects)	600,000	628,314	Exceeded	Positive

Non-recurring Indicators

Indicator	Target	Actual	Status	Trend
Annual Progress Report on the Test-Bed	Discontinued	Discontinued	N/A	N/A

All FY 2013 Indicators:



Section 2: Detailed Description of Past and Future Performance by Objective

New or Recurring Indicators (first appear in FY 2014 or FY 2015)

Trade and Investment Objective 1.1: Increase opportunities for U.S. companies by opening markets globally.

Indicator	75% of NTIA positions substantially adopted or successful at international meetings
Description	NTIA will promote acceptance of U.S. positions and proposals internationally by representing U.S. interests at treaty-making conferences, regional telecommunications conferences and meetings, bilateral and multilateral meetings, and multistakeholder meetings and conferences. This measure tracks the number of accepted U.S. technical and policy positions and proposals to international treaty-making conferences, bilateral and multilateral meetings, multistakeholder meetings, and regional telecommunications conferences and meetings.

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	75% of NTIA positions substantially adopted/ successful at international meetings	75% of NTIA positions substantially adopted/ successful at international meetings	75% of NTIA positions substantially adopted/ successful at international meetings	75% of NTIA positions substantially adopted/ successful at international meetings	75% of NTIA positions substantially adopted/ successful at international meetings
Actual	N/A	N/A	N/A	Exceeded target of 75 % by meeting 95% of NTIA positions substantially adopted/ successful at international meetings	>80% of NTIA positions substantially adopted/ successful at international meetings	>80% of NTIA positions substantially adopted/ successful at international meetings	N/A	N/A
Status	N/A	N/A	N/A	Exceeded	Exceeded	Exceeded	N/A	N/A
Trend	POSITIVE							
Explanation (if not met in FY 2013)	N/A							
Actions to be taken / Future Plans	N/A							

Adjustments to targets	N/A							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures	Data Limitations	Actions to be Taken			
Office of International Affairs (OIA)	Monthly, Annually	OIA, Associate Administrators	NTIA document clearance process, OMB/Interagency clearance process	None	None			

Innovation Objective 2.3. Strengthen the Nation’s digital economy by championing policies that will maximize the potential of the Internet, expanding broadband capacity, and enhancing cybersecurity.

Indicator	Identify up to 500 MHz of spectrum to support commercial broadband services or products							
Description	NTIA is undertaking tasks, in response to the June 28, 2010 Presidential Memorandum and in collaboration with the Federal Communications Commission (FCC), to make available a total of 500 MHz (in bandwidth) of spectrum to support wireless broadband services or products by 2020. NTIA, with input from other Federal agencies and the FCC, developed a Ten-Year Plan and Timetable, identifying over 2,200 MHz of spectrum for evaluation. As this work has progressed, the band analysis process continues, but much of the effort has turned toward implementation of bands that NTIA and/or the FCC have identified. The combination of the ongoing analysis and implementation of band-repurposing results in a new set of deliverables each fiscal year. NTIA will establish at the beginning of each fiscal year the set of expected deliverables to complete this complex project.							
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	N/A	Meet 66% of annual milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of annual milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of annual milestones regarding the identification of 500 MHz for wireless broadband	Meet 66% of annual milestones regarding the identification of 500 MHz for wireless broadband

Actual	N/A	N/A	N/A	N/A	Exceeded goal of 66% by achieving 85% of annual milestones regarding the identification of 500 MHz for wireless broadband	Exceeded goal of 66% by achieving 100% of annual milestones regarding the identification of 500 MHz for wireless broadband	N/A	N/A
Status	N/A	N/A	N/A	N/A	Exceeded	Exceeded	N/A	N/A
Trend	NOT ENOUGH DATA							
Explanation (if not met in FY 2013)	N/A							
Actions to be taken / Future Plans	N/A							
Adjustments to targets	N/A							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures	Data Limitations		Actions to be Taken		
NTIA Office of Spectrum Management (OSM)	Monthly, Annually	OSM, Associate Administrator	NTIA document clearance process, OMB/Interagency clearance process	None		None		

Indicator	In coordination with DOC operating units, conduct outreach activities with government, industry and multistakeholder groups to identify and address privacy and global free flow of information issues							
Description	Stakeholders from industry, consumer groups, government, academia, and the technical community will work toward crafting a consensus on privacy and global free flow of information issues. NTIA will seek public input and comments to lay the groundwork for these challenges. NTIA's role is not to substitute its judgment for the views of stakeholders, but will ensure the process is open, transparent, and consensus-based, leading to the achievement of consensus on at least one policy issue by the end of FY 2015.							
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	N/A	N/A	N/A	6 public forums and proceedings	6 public forums and proceedings
Actual	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Status	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trend	NOT ENOUGH DATA							
Explanation (if not met in FY 2013)	N/A							
Actions to be taken / Future Plans	N/A							
Adjustments to targets	N/A							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures		Data Limitations		Actions to be Taken	
Office of	Quarterly	NTIA	Inspection of data		None		None	

Policy Analysis and Development		website			
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Indicator	Miles of broadband networks deployed (Infrastructure Projects) (Agency Priority Goal)							
Description	BTOP funded projects that provide broadband service in unserved areas and enhance broadband service in underserved areas of the United States. The BTOP portfolio of projects initially included 123 infrastructure projects totaling \$3.5 billion in Federal grant funds to construct broadband networks and to connect “community anchor institutions” such as schools, libraries, hospitals, and public safety facilities. This measure’s target is the cumulative total number of miles of network (e.g., fiber, microwave) deployed using BTOP funding. The Recovery Act provided all funding for BTOP grants. Infrastructure projects are scheduled to be substantially completed by the end of FY 2013. As in FY 2014, NTIA will continue to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government’s investment in broadband infrastructure, public computer centers, and broadband adoption projects.							
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	10,000 miles	50,000 miles	100,000 miles	115,000 miles	118,000 miles
Actual	N/A	N/A	N/A	29,191 miles	78,120 miles	111,400 miles	N/A	N/A
Status	N/A	N/A	N/A	Exceeded	Exceeded	Exceeded	N/A	N/A
Trend	POSITIVE							
Explanation (if not met in FY 2013)	N/A							
Actions to be taken / Future Plans	N/A							
Adjustments	NTIA had previously defined FY 2013 and “end of program” targets for BTOP, based on expected performance of the BTOP							

to targets	portfolio. However, NTIA had not previously developed specific FY 2014 and FY 2015 targets, since individual projects were only recently extended into FY 2014 and FY 2015. The revised targets for Miles of Broadband Networks Deployed are based on NTIA's insight into the expected actual performance of BTOP projects as these grants are closed out.							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures	Data Limitations	Actions to be Taken			
Grantee reports	Quarterly	BTOP Post-Award Management (PAM) Tool	Inspection of data, site visits	Reporting errors on the part of grantees	Collection of data			

Indicator	Community anchor institutions connected (Infrastructure Projects) (Agency Priority Goal)							
Description	The Recovery Act places a high priority on deploying and enhancing broadband capabilities for community anchor institutions such as libraries, hospitals, schools, and public safety entities. The BTOP portfolio of projects initially included 123 infrastructure projects totaling \$3.5 billion in Federal grant funds to construct broadband networks and to connect "community anchor institutions" such as schools, libraries, hospitals, and public safety facilities. This measure's target is the cumulative total number of anchor institutions connected with new or improved broadband capabilities. The Recovery Act provided all funding for BTOP grants. Infrastructure projects are scheduled to be substantially completed by the end of FY 2013. As in FY 2014, NTIA will continue to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government's investment in broadband infrastructure, public computer centers, and broadband adoption projects.							
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	3,000	10,000	18,000	23,000	23,500
Actual	N/A	N/A	N/A	4,163	11,240	20,332	N/A	N/A
Status	N/A	N/A	N/A	Exceeded	Exceeded	Exceeded	N/A	N/A
Trend	POSITIVE							

Explanation (if not met in FY 2013)	N/A							
Actions to be taken / Future Plans	N/A							
Adjustments to targets	NTIA previously defined FY 2013 and “end of program” targets for BTOP, based on expected performance of the BTOP portfolio. However, NTIA had not previously developed specific FY14 and FY15 targets, since individual projects were only recently extended into FY 2014 and FY 2015. The revised targets for Community Anchor Institutions Connected are based on NTIA’s insight into the expected actual performance of BTOP projects as these grants move through closeout.							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures	Data Limitations	Actions to be Taken			
Grantee reports	Quarterly	BTOP Post-Award Management (PAM) Tool	Inspection of data, site visits	Reporting errors on the part of grantees	Collection of data			

Indicator	New household and business subscribers to broadband (Sustainable Broadband Adoption Projects) (Agency Priority Goal)
Description	The BTOP portfolio of projects initially included 44 sustainable broadband adoption (SBA) projects totaling \$250.7 million in Federal grant funds to support innovative projects that promote broadband adoption, especially among vulnerable population groups where broadband technology traditionally has been underutilized. This measure’s target is the cumulative total number of new household and business subscribers to broadband generated by projects funded through the BTOP Sustainable Broadband Adoption category of funding, as reported by awardees.

	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	100,000	350,000	600,000	670,000	670,000
Actual	N/A	N/A	N/A	230,755	522,981	628,314	N/A	N/A
Status	N/A	N/A	N/A	Exceeded	Exceeded	Exceeded	N/A	N/A
Trend	POSITIVE							
Explanation (if not met in FY 2013)	N/A							
Actions to be taken / Future Plans	N/A							
Adjustments to targets	NTIA previously defined FY 2013 and “end of program” targets for BTOP, based on expected performance of the BTOP portfolio. However, NTIA had not previously developed specific FY14 and FY15 targets, since individual projects were only recently extended into FY 2014 and FY 2015. The revised targets for New Household and Business Subscribers to Broadband are based on NTIA’s insight into the expected actual performance of BTOP projects as these grants move through closeout.							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures	Data Limitations		Actions to be Taken		
Grantee reports	Quarterly	BTOP Post-Award Management (PAM) Tool	Inspection of data, site visits	Reporting errors on the part of grantees		Collection of data		

Indicator	Number of times research publications are downloaded annually							
Description	Telecommunications engineering research publications are used by engineers and scientists associated with industry, other government agencies, standards development organizations, and academia for technical data and information to support efficient and effective management of spectrum and innovative use of new technologies.							
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	N/A	N/A	N/A	7,000 downloads	7,070 downloads
Actual	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Status	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trend	NOT ENOUGH DATA							
Explanation (if not met in FY 2013)	This is a new metric using new methodology; FY 2013 will establish the baseline.							
Actions to be taken / Future Plans	N/A							
Adjustments to targets	N/A							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures		Data Limitations		Actions to be Taken	
Google Analytics	Annually	Inspection	None		None		None	

Indicator	Successfully completed deliverables under reimbursable agreements (on time, on budget, and accepted)							
Description	NTIA's laboratory performs research on a cost-reimbursable basis for other Federal agencies under interagency agreements (IAAs) and for private entities under Cooperative Research and Development Agreements (CRADAs). As a proxy for customer satisfaction with research performed under an aggregate of unique agreements, the laboratory tracks as "Met/Not Met" three success parameters for each deliverable under all agreements: on time, on budget, and accepted. The metric reports the percent of total parameters (total number of deliverables under all MOUs x three parameters for each) that are reported as "Met."							
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	N/A	N/A	N/A	>95%	>95%
Actual	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Status	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trend	NOT ENOUGH DATA							
Explanation (if not met in FY 2013)	N/A							
Actions to be taken / Future Plans	N/A							
Adjustments to targets	N/A							
Information Gaps	N/A							
Validation and Verification								
Data Source	Frequency	Data Storage	Internal Control Procedures		Data Limitations		Actions to be Taken	
NTIA Institute for Telecommunication Sciences' Project Plans	Quarterly, Annually	Inspection	None		None		None	

Indicator	Delivery by FirstNet and acceptance of each state's network plan or, alternatively, FCC approval of a state's plan required for the implementation of the Public Safety Broadband Network							
Description	Under Title IV Subtitle B of the Middle Class Tax Relief and Job Creation Act of 2012, FirstNet must deliver to each state governor (or his designee) a plan for the build out of the network in the state. Upon delivery of the plan, states and territories may decide how they will participate in the build-out of the nationwide network. A state or territory may choose either to have FirstNet build its portion of the nationwide network (opt-in), or to build its own in-state portion of the network, compliant with national standards developed by FirstNet and subject to the approval of the Federal Communications Commission (opt-out).							
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Target	N/A	N/A	N/A	N/A	N/A	N/A	Issue Requests for Proposals	Consult with States and Territories
Actual	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Status	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Trend	NOT ENOUGH DATA							
Explanation (if not met in FY 2013)	This is a new performance indicator for FY 2014.							
Actions to be taken / Future Plans	N/A							
Adjustments to targets	N/A							
Information Gaps	N/A							
Validation and Verification								

Data Source	Frequency	Data Storage	Internal Control Procedures	Data Limitations	Actions to be Taken
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Non-Recurring Indicators

Indicator	Annual Progress Report on the Test-Bed					
Description	NTIA, in coordination with the Federal Communications Commission (FCC) and other Federal agencies, has established a Spectrum Sharing Innovation Test-Bed (Test-Bed) pilot program to examine the feasibility of increased sharing between Federal and non-Federal users. NTIA will continue to publish an Annual Progress Report on the Test-Bed but is converting this GPRA measure to an internal measure.					
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Target	N/A	N/A	N/A	Publish Annual Report	Publish Annual Report New	Discontinued
Actual	N/A	N/A	N/A	Published Annual Report	Published Annual Report	Discontinued
Status	N/A	N/A	N/A	Met	Met	N/A
Trend	NOT ENOUGH DATA					
Explanation (if not met in FY 2013)	Performance indicator discontinued due to delays in receiving devices to test. The program is being discontinued.					

Indicator	Update the Spectrum Inventory first established in FY 2011					
Description	NTIA will maintain a Spectrum Inventory and other information that describe Executive Branch spectrum use. The spectrum inventory is needed to inform spectrum-management policy decisionmakers and technology innovators. System characteristics and assignment data will be used to determine spectrum/geographic areas that are underutilized or vacant. NTIA will continue to maintain the Inventory but is converting this GPRA measure to an internal measure.					
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Target	N/A	N/A	N/A	Complete initial version of	Spectrum Inventory Update	Discontinued

				Spectrum Inventory		
Actual	N/A	N/A	N/A	Completed initial version of Spectrum Inventory	Completed Spectrum Inventory Update	Discontinued
Status	N/A	N/A	N/A	Met	Met	N/A
Trend	NOT ENOUGH DATA					
Explanation (if not met in FY 2013)	Performance indicator discontinued because the milestones were met.					

Indicator	New and upgraded public computer workstations (Public Computer Centers Projects) (Agency Priority Goal)					
Description	BTOP grants funded expansion of public-computer-center capacity. The BTOP portfolio of projects initially included 66 public computer center (PCC) projects totaling \$201 million in Federal grant funds to provide access to broadband, computer equipment, computer training, job training, and educational resources to the public and specific vulnerable populations. This measure's target is the cumulative total number of new and improved computer workstations funded through the BTOP Public Computer Centers category of funding. The Recovery Act provided all funding for BTOP grants. Public Computer Center projects are scheduled to be substantially completed by the end of FY 2013. As in FY 2014, NTIA will continue to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government's investment in broadband infrastructure, public computer centers, and broadband adoption projects.					
	FY 2008	FY 2009	FY 2010	FY 2011	FY 2012	FY 2013
Target	N/A	N/A	N/A	10,000	35,000	37,500
Actual	N/A	N/A	N/A	24,512	38,654	46,327
Status	N/A	N/A	N/A	Exceeded	Exceeded	Exceeded
Trend	POSITIVE					
Explanation (if not met in FY 2013)	Performance indicator discontinued because NTIA exceeded the targets.					

Part 3 - Resource Requirements Table

	FY 2008 Actual	FY 2009 Actual	FY 2010 Actual	FY 2011 Actual	FY 2012 Actual	FY 2013 Actual	FY 2014 Enacted	FY 2015 Base	Increase/ Decrease	FY 2015 Request
Salaries & expenses	\$48,614	50,631	55,467	89,370	81,657	77,093	107,481	88,344	3,264	91,608
Domestic and international policies	3,983	4,281	4,770	5,491	5,991	5,143	6,452	6,853	7,500	14,353
Spectrum management	30,967	32,191	35,870	45,245	37,228	34,963	52,132	41,548	(738)	40,810
Telecommunication sciences research	13,664	14,159	14,827	16,838	14,048	12,531	22,111	13,208	(111)	13,097
Broadband Programs	0	0	0	21,796	24,390	24,456	25,286	25,198	(9,350)	15,848
Spectrum Sharing and Monitoring	0	0	0	0	0	0	1,500	1,537	5,963	7,500
Digital Television Transition and Public Safety Fund	942,432	593,842	54,059	57,955	18,555	0	0	0	0	0
Broadband Technology Opportunities Program (ARRA)	0	77,477	4,287,827	0	0	0	0	0	0	0
Grants	0	325	4,248,380	0	0	0	0	0	0	0
Program management	0	77,152	39,447	0	0	0	0	0	0	0
Digital To Analog Converter Box Program (ARRA)	0	418,341	1,258	0	0	0	0	0	0	0
Public Telecommunications Facilities, Planning, and Construction	21,020	20,943	22,914	1,210	1,298	526	776	0	0	0
Grants	19,067	19,005	21,182	0	0	0	0	0	0	0
Program management	1,953	1,938	1,732	1,210	1,298	526	776	0	0	0
Information Infrastructure Grants	323	205	101	170	64	55	630	0	0	0
Grants	0	0	0	0	0	0	0	0	0	0
Program management	0	205	101	170	64	55	630	0	0	0
Total Funding	1,012,389	1,161,439	4,421,626	148,705	101,574	77,674	108,887	88,344	3,264	91,608
Direct	37,533	534,814	4,331,796	44,246	46,457	41,397	49,438	47,164	3,836	51,000
Reimbursable	32,424	32,783	35,771	46,504	36,562	36,277	59,449	41,180	(572)	40,608
Total	1,012,389	1,161,439	4,421,626	148,705	101,574	77,674	108,887	88,344	0	91,608
Total FTE	262	262	298	285	269	257	309	310	14	324

Part 4 Agency Priority Goals

Goal	INNOVATION																						
Performance Indicator(s)	Miles of broadband networks deployed (Infrastructure Projects)																						
Description	<p>BTOP funded projects that provide broadband service in unserved areas and enhance broadband service in underserved areas of the United States. The BTOP portfolio of projects initially included 123 infrastructure projects totaling \$3.5 billion in Federal grant funds to construct broadband networks and to connect “community anchor institutions” such as schools, libraries, hospitals, and public safety facilities. This measure’s target is the cumulative total number of miles of network (e.g., fiber, microwave) deployed using BTOP funding. The Recovery Act provided all funding for BTOP grants. Infrastructure projects are scheduled to be substantially completed by the end of FY 2013. As in FY 2014, NTIA will continue to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government’s investment in broadband infrastructure, public computer centers, and broadband adoption projects.</p>																						
Fiscal Year		Target			Actual																		
2015		118,000			N/A																		
2014		115,000			N/A																		
2013		100,000			111,400																		
2012		50,000			78,120																		
2011		10,000			29,191																		
Comments	N/A																						
Milestones	<p>NTIA performance measure focused on the infrastructure, public computing center, and sustainable broadband adoption abilities to timely complete the projects based on oversight, guidance, and assistance provided by the Federal program office. NTIA has established and met the following milestones:</p> <table border="1" data-bbox="310 1044 1581 1182"> <thead> <tr> <th></th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>FY 2014</th> <th>FY 2015</th> </tr> </thead> <tbody> <tr> <td>Milestone Target</td> <td align="center">20%</td> <td align="center">67%</td> <td align="center">75%</td> <td align="center">90%</td> <td align="center">100%</td> </tr> <tr> <td>Actuals</td> <td align="center">20%</td> <td align="center">67%</td> <td align="center">75%</td> <td align="center">N/A</td> <td align="center">N/A</td> </tr> </tbody> </table> <p>The following is a summary of the key BTOP closeout activities in FY2014-15:</p> <ul style="list-style-type: none"> • 3/31/2014: ASR Independent Case-Studies of CCI Portfolio Complete • 9/30/2014: NTIA Targets more than 85 Percent of BTOP Projects Completed and 80 percent of Grants Closed Out • 9/30/2014: Independent Report on Economic and Social Impact of BTOP Delivered 						FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Milestone Target	20%	67%	75%	90%	100%	Actuals	20%	67%	75%	N/A	N/A
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015																		
Milestone Target	20%	67%	75%	90%	100%																		
Actuals	20%	67%	75%	N/A	N/A																		

	<ul style="list-style-type: none"> 9/30/2015: All BTOP and SBI Recovery Act Projects Complete
Congressional Consultations	N/A

Goal	INNOVATION																						
Performance Indicator(s)	Community anchor institutions connected (Infrastructure Projects)																						
Description	<p>The Recovery Act places a high priority on deploying and enhancing broadband capabilities for community anchor institutions such as libraries, hospitals, schools, and public safety entities. The BTOP portfolio of projects initially included 123 infrastructure projects totaling \$3.5 billion in Federal grant funds to construct broadband networks and to connect “community anchor institutions” such as schools, libraries, hospitals, and public safety facilities. This measure’s target is the cumulative total number of anchor institutions connected with new or improved broadband capabilities. The Recovery Act provided all funding for BTOP grants. Infrastructure projects are scheduled to be substantially completed by the end of FY 2013. As in FY 2014, NTIA will continue to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government’s investment in broadband infrastructure, public computer centers, and broadband adoption projects.</p>																						
Fiscal Year		Target		Actual																			
2015		23,500		N/A																			
2014		23,000		N/A																			
2013		18,000		20,332																			
2012		10,000		11,240																			
2011		3,000		4,163																			
Comments	N/A																						
Milestones	<p>NTIA performance measure focused on the infrastructure, public computing center, and sustainable broadband adoption abilities to timely complete the projects based on oversight, guidance, and assistance provided by the Federal program office. NTIA has established and met the following milestones:</p> <table border="1" data-bbox="310 1203 1581 1344"> <thead> <tr> <th></th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>FY 2014</th> <th>FY 2015</th> </tr> </thead> <tbody> <tr> <td>Milestone Target</td> <td>20%</td> <td>67%</td> <td>75%</td> <td>90%</td> <td>100%</td> </tr> <tr> <td>Actuals</td> <td>20%</td> <td>67%</td> <td>75%</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>						FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Milestone Target	20%	67%	75%	90%	100%	Actuals	20%	67%	75%	N/A	N/A
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015																		
Milestone Target	20%	67%	75%	90%	100%																		
Actuals	20%	67%	75%	N/A	N/A																		

	<p>The following is a summary of the key BTOP closeout activities in FY2014-15:</p> <ul style="list-style-type: none"> • 3/31/2014: ASR Independent Case-Studies of CCI Portfolio Complete • 9/30/2014: NTIA Targets more than 85 Percent of BTOP Projects Completed and 80 percent of Grants Closed Out • 9/30/2014: Independent Report on Economic and Social Impact of BTOP Delivered • 9/30/2015: All BTOP and SBI Recovery Act Projects Complete
Congressional Consultations	N/A

Goal	INNOVATION																						
Performance Indicator(s)	New household and business subscribers to broadband (Sustainable Broadband Adoption Projects)																						
Description	The BTOP portfolio of projects initially included 44 sustainable broadband adoption (SBA) projects totaling \$250.7 million in Federal grant funds to support innovative projects that promote broadband adoption, especially among vulnerable population groups where broadband technology traditionally has been underutilized. This measure's target is the cumulative total number of new household and business subscribers to broadband generated by projects funded through the BTOP Sustainable Broadband Adoption category of funding, as reported by awardees.																						
Fiscal Year		Target			Actual																		
2015		670,000			N/A																		
2014		670,000			N/A																		
2013		600,000			628,314																		
2012		350,000			522,981																		
2011		100,000			230,755																		
Comments	N/A																						
Milestones	<p>NTIA performance measure focused on the infrastructure, public computing center, and sustainable broadband adoption abilities to timely complete the projects based on oversight, guidance, and assistance provided by the Federal program office. NTIA has established and met the following milestones:</p> <table border="1" data-bbox="310 1235 1581 1386"> <thead> <tr> <th></th> <th>FY 2011</th> <th>FY 2012</th> <th>FY 2013</th> <th>FY 2014</th> <th>FY 2015</th> </tr> </thead> <tbody> <tr> <td>Milestone Target</td> <td>20%</td> <td>67%</td> <td>75%</td> <td>90%</td> <td>100%</td> </tr> <tr> <td>Actuals</td> <td>20%</td> <td>67%</td> <td>75%</td> <td>N/A</td> <td>N/A</td> </tr> </tbody> </table>						FY 2011	FY 2012	FY 2013	FY 2014	FY 2015	Milestone Target	20%	67%	75%	90%	100%	Actuals	20%	67%	75%	N/A	N/A
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015																		
Milestone Target	20%	67%	75%	90%	100%																		
Actuals	20%	67%	75%	N/A	N/A																		

	<p>The following is a summary of the key BTOP closeout activities in FY2014-15:</p> <ul style="list-style-type: none"> • 3/31/2014: ASR Independent Case-Studies of CCI Portfolio Complete • 9/30/2014: NTIA Targets more than 85 Percent of BTOP Projects Completed and 80 percent of Grants Closed Out • 9/30/2014: Independent Report on Economic and Social Impact of BTOP Delivered • 9/30/2015: All BTOP and SBI Recovery Act Projects Complete
Congressional Consultations	N/A

Goal	INNOVATION	
Performance Indicator(s)	New and upgraded public computer workstations (Public Computer Centers Projects)	
Description	<p>BTOP grants funded expansion of public-computer-center capacity. The BTOP portfolio of projects initially included 66 public computer center (PCC) projects totaling \$201 million in Federal grant funds to provide access to broadband, computer equipment, computer training, job training, and educational resources to the public and specific vulnerable populations. This measure's target is the cumulative total number of new and improved computer workstations funded through the BTOP Public Computer Centers category of funding. The Recovery Act provided all funding for BTOP grants. Public Computer Center projects are scheduled to be substantially completed by the end of FY 2013. As in FY 2014, NTIA will continue to administer in FY 2015 the BTOP grants through their completion and Federal interest period in order to protect the Federal government's investment in broadband infrastructure, public computer centers, and broadband adoption projects.</p>	
Fiscal Year	Target	Actual
2015	Discontinued	N/A
2014	Discontinued	N/A
2013	37,500	46,327
2012	35,000	38,654
2011	10,000	24,512
Comments	N/A	
Milestones	<p>NTIA performance measure focused on the infrastructure, public computing center, and sustainable broadband adoption abilities to timely complete the projects based on oversight, guidance, and assistance provided by the Federal program office. NTIA has established and met the following milestones:</p>	

	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Milestone Target	20%	67%	75%	90%	100%
Actuals	20%	67%	75%	N/A	N/A
NTIA has discontinued this indicator in FY 2014.					
Congressional Consultations	N/A				

Part 5 Other Information

Section 1 Major Management Priorities and Challenges – NTIA’s responsibilities in FY 2015 and beyond include creation of economic potential through astute management of the Nation’s spectrum resources and a leadership role in the fast-growing broadband and Internet world, given highly restricted resources. Significant NTIA resources will also be devoted to ensuring the safety, stability, and security of the Internet via advocacy with regard to Internet governance and cybersecurity, both domestically and internationally.

In its November 25, 2013 report, the Department of Commerce’s Office of Inspector General (OIG) identified the following NTIA management issues:

- Due to limited remaining spectrum capacity, the NTIA must open up more commercial wireless broadband spectrum.
- NTIA faces several challenges in establishing the Public Safety Broadband Network and overseeing the First Responder Network Authority.
- NTIA should improve the BTOP closeout policies and procedures, ensure consistent implementation of those policies and procedures in place, as well as ensure that the Federal government’s interest in BTOP property is protected.

NTIA is committed to addressing several of the Nation’s most pressing needs, such as improving spectrum efficiency and enhancing public safety. NTIA understands the OIG’s concerns and is working diligently to make spectrum available and to improve spectrum sharing consistent with the President’s initiatives. In 2013, NTIA signed an agreement with NIST to work together to establish a joint Center for Advanced Communications to promote spectrum sharing and advance public safety applications. As FirstNet continues to ramp up its operations, NTIA is assisting FirstNet by sharing expertise acquired from establishing prior programs such as BTOP, the Public Safety Interoperable Communications (PSIC) grant program, and the 9-1-1 grant program. NTIA also remains committed to monitoring BTOP recipients’ compliance with grant award terms and achievement of

intended benefits and has taken steps to strengthen the BTOP closeout process. NTIA is committed to obtaining and reviewing all required closeout documentation, determining that all award activity has been completed, and reviewing whether grantees complied with pertinent laws and regulations. As Assistant Secretary for Communications and Information, Larry Strickling is the NTIA bureau official responsible for these management challenges.

Section 2 Cross-Agency Priority Goals / Collaborations – In support of the cross-agency priority goal to ensure 4G coverage for 98% of Americans by 2016, NTIA is collaborating with the FCC to make available a total of 500 megahertz of Federal and non-Federal spectrum over 10 years for mobile and fixed wireless broadband use. NTIA is collaborating with the FCC and the State Department to prepare the U.S. proposals to World Radiocommunication Conference 2015 (WRC-15). The conference in 2015 will consider spectrum requirements for uses ranging from mobile service allocations for broadband applications to controlling unmanned aircraft from space.

Section 3 Program evaluations – NTIA applied existing research to formulate strategies and to improve its programs' performance. The following were used to inform NTIA's strategic planning process:

- Exploring the Digital Nation: America's Emerging Online Experience. NTIA and ESA, June 2013.
- Plan and Timetable to Make Available 500 Megahertz of Spectrum for Wireless Broadband. NTIA, October 2010.
- Copyright Policy, Creativity, and Innovation in the Digital Economy. Internet Policy Task Force, July 2013.
- Preliminary Cyber Security Framework. NIST, February 2013.
- Spectrum Management: Federal Government's Use of Spectrum and Preliminary Information on Spectrum Sharing (GAO-12-1018T). U.S. Government Accountability Office, September 2012.
- Information Resellers: Consumer Privacy Framework Needs to Reflect Changes in Technology and the Marketplace (GAO-13-663). U.S. Government Accountability Office, September 2013.
- NTIA Must Continue to Improve its Program Management and Pre-Award Process for its Broadband Grants Program. Department of Commerce Office of Inspector General, April 2010.
- BTOP Grant Overview Report. ASR Analytics, Inc., December 2010.

- BTOP Evaluation Report. ASR Analytics, Inc., October 2012

Section 4 Hyperlinks to any other more detailed plans or evaluations – N/A.

Section 5 Data Validation and Verification – The FY 2013 Summary of Performance includes in the Secretary’s Statement an assessment of the reliability and completeness of the Department’s performance data.

Section 6 Lower-Priority Program Activities – Lower-priority program activities for FY 2014 can be found in The Cuts, Consolidations and Savings volume of the FY 2014 President’s budget, available at: <http://www.whitehouse.gov/omb/budget/CCS>.

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 SUMMARY OF RESOURCE REQUIREMENTS
 (Dollar amounts in thousands)

	2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
FY 2014 President's Budget										
less: Obligations from prior years										
plus: 2015 adjustments to base										
2015 Base										
less: Inflationary Cost Adjustment										
plus: 2015 program changes										
2015 Estimate										
Comparison by budget program/sub-program										
Domestic and international policies Pos/BA	26	\$5,036	31	\$6,535	33	\$6,853	48	\$14,353	15	\$7,500
FTE/Obl.	27	5,143	31	6,452	33	6,853	44	14,353	11	7,500
Spectrum management..... Pos/BA	39	7,822	39	8,002	39	8,168	39	8,002	0	(166)
FTE/Obl.	23	6,660	39	9,159	39	8,168	39	8,002	0	(166)
Telecommunication sciences research..... Pos/BA	49	4,894	42	5,278	42	5,408	42	5,297	0	(111)
FTE/Obl.	26	4,557	42	5,635	42	5,408	42	5,297	0	(111)
Broadband Programs..... Pos/BA	45	24,996	36	24,685	36	25,198	36	15,848	0	(9,350)
FTE/Obl.	45	24,456	36	25,286	36	25,198	36	15,848	0	(9,350)
Spectrum Monitoring Pilot Program..... Pos/BA	0	0	5	1,500	5	1,537	11	7,500	6	5,963
FTE/Obl.	0	0	5	1,500	5	1,537	8	7,500	3	5,963
TOTALS..... Pos/BA	159	42,748	153	46,000	155	47,164	176	51,000	21	3,836
FTE/Obl.	121	40,816	153	48,032	155	47,164	169	51,000	14	3,836
Adjustments to Obligations:										
Recoveries/Refunds.....		0		0		0		0		0
Unobligated Balance, start of year.....		0		(2,032)		0		0		0
Unobligated Balance, end of year.....		2,032		0		0		0		0
Unobligated Balance expiring.....		(100)		0		0		0		0
Financing from transfers:										
Transfer from DOC Census (-).....		0		0		0		0		0
Transfer to other accounts (+).....		0		0		0		0		0
Wireless Broadband Access (500 MHz).....										
Appropriation.....		42,748		46,000		47,164		51,000		3,836

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Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 SUMMARY OF REIMBURSABLE OBLIGATIONS
 (Dollar amounts in thousands)

Comparison by sub-program	2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
<u>Reimbursable projects</u>										
Telecommunication Sciences Research..... Pos/BA	45	\$0	45	\$0	45	\$0	45	\$0	0	\$0
FTE/Obl.	40	7,974	45	16,476	45	7,800	45	7,800	0	0
Other..... Pos/BA	1	0	1	0	1	0	1	0	0	0
FTE/Obl.	1	181	1	1,002	1	800	1	800	0	0
Total, Reimbursable projects..... Pos/BA	46	0	46	0	46	0	46	0	0	0
FTE/Obl.	41	8,155	46	17,478	46	8,600	46	8,600	0	0
<u>Spectrum Fees</u>										
Spectrum Management..... Pos/BA	109	0	109	0	109	0	109	0	0	0
FTE/Obl.	93	28,122	109	41,971	109	32,580	109	32,008	0	(572)
Total, Spectrum fees..... Pos/BA	109	0	109	0	109	0	109	0	0	0
FTE/Obl.	93	28,122	109	41,971	109	32,580	109	32,008	0	(572)
Total, Reimbursable Obligations..... Pos/BA	155	0	155	0	155	0	155	0	0	0
FTE/Obl.	134	36,277	155	59,449	155	41,180	155	40,608	0	(572)

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
SUMMARY OF FINANCING
(Dollar amounts in thousands)

Comparison by budget program	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/(Decrease)
Total Obligations.....	\$77,103	\$107,481	\$88,344	\$91,608	\$3,264
Offsetting collections from:					
Federal funds.....	(35,787)	(58,949)	(40,680)	(40,108)	572
Non-Federal sources.....	(500)	(500)	(500)	(500)	0
Recoveries/Refunds.....		0	0	0	0
Unobligated balance, start of year.....	0	(2,032)	0	0	0
Unobligated balance, end of year.....	2,032	0	0	0	0
Unobligated Balance expiring.....	(100)				
Budget Authority.....	42,748	46,000	47,164	51,000	3,836
Restoration of unobligated balance, rescission.....	0	0	0	0	0
Financing:					
Transferred from other accounts (-).....	0	0	0	0	0
Transferred to other accounts (+).....	0	0	0	0	0
Appropriation.....	42,748	46,000	47,164	51,000	3,836

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 JUSTIFICATION OF ADJUSTMENTS TO BASE

Adjustments to Base	FTE	Amount (\$000)
<u>NON RECURRING COST</u>		
Personal Identity Verification (PIV) was a one time charge to the Department's A&R account in the FY 2014 President's Budget. As such, this charge can be reduced as a non-recurring cost.		(199)
<u>COST CHANGES:</u>		
<u>Pay Raises</u>	0	\$ 235
<u>Full-year cost of FY 2014 pay increase and related costs</u>		
The FY 2014 President's budget assumes a pay raise of 1.0 percent to be effective January 1, 2014.		
Total cost in FY 2015 of FY 2014 pay increase.....	197,333	
Less amount funded in FY 2014.....	(148,000)	
Total amount requested in FY 2015 to provide cost of FY 2014 pay raise.....	49,333	
<u>FY 2015 pay increase and related costs</u>		
A general pay raise of 1.0 percent is assumed to be effective January 1, 2015.		
Total cost of FY 2015 pay raise.....	159,000	
Working Capital Fund.....	27,000	
Total adjustment for FY 2015 pay increase.....	186,000	
<u>Full Year Cost in FY 2015 of positions financed for part-year in FY 2014</u>	2	182
An increase of \$425,353 is required to fund the full-year cost in FY 2015 of positions financed for part year in FY 2014		
The computation follows:		
Annual salary of new positions in FY 2014.....	698,940	
Less 5 percent lapse.....	-34,947	
Full-year cost of personnel compensation.....	663,993	
Less personnel compensation in FY 2014.....	-524,205	
Cost of personnel compensation in FY 2015.....	139,788	
Additional amount required for personnel compensation.....	139,788	
Benefits.....	42,275	
Total adjustment to base.....	182,063	
<u>Civil Service Retirement System (CSRS)</u>	0	(6)
The number of employees covered by CSRS continues to drop as positions become vacant and are filled by employees who are covered by the Federal Employees' Retirement System (FERS). The estimated percentage of payroll for employees covered by CSRS will drop from 4.1 percent in FY 2014 to 3.6 percent in FY 2015. The contribution rate will remain 7.0 percent.		
FY 2015 (\$16,920,001 x .036 x .0700).....	42,638	
FY 2014 (\$16,920,001 x .041 x .0700).....	48,560	
Total adjustment to base.....	(5,922)	

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 JUSTIFICATION OF ADJUSTMENTS TO BASE

Adjustments to Base	FTE	Amount (\$000)
Federal Employees Retirement System (FERS)	0	\$ 222
<p>The number of employees covered by FERS continues to rise as employees covered by CSRS leave and are replaced by employees covered by FERS. The estimated percentage of payroll for employees covered by FERS will rise from 95.9 percent in FY 2014 to 96.4 percent FY 2015. The contribution rate remains the same at 11.9 percent in FY 2014 to 11.9 percent for FY 2015.</p>		
FY 2015 (\$16,920,001 x .964 x .132).....	2,153,036	
FY 2014 (\$16,920,001 x .959 x .119)	1,930,927	
Total adjustment to base.....	222,109	
Federal Insurance Contribution Act (FICA)	0	\$ (60)
<p>As the percentage of payroll covered by FERS rises, the cost of OASDI contributions will increase. In addition, the maximum salary subject to OASDI tax will remain \$119,100 from FY 2014 to FY 2015. The OASDI tax rate will remain at 6.2 percent.</p>		
Regular Employees		
FY 2015 (\$16,920,001 x .964 x .843 x .062).....	852,505	
FY 2014 (\$16,920,001 x .959 x .907 x .062).....	912,469	
Total adjustment to base.....	(59,964)	
Thrift Savings Plan (TSP)	0	1
<p>The cost of NTIA's contributions to the Thrift Savings Plan will also rise as FERS participation increases. The contribution rate is expected to decrease to 1 percent.</p>		
FY 2015 (\$16,920,001 x .964 x .01).....	163,109	
FY 2014 (\$16,920,001 x .959 x .01).....	162,263	
	846	
Health Insurance	0	42
<p>Effective January 2013, NTIA's contribution to Federal employees' health insurance premiums increased by 6.7 percent. Applied against the 2014 estimate of \$1,186,000, the additional amount required is \$41,510.</p>		
Employee Compensation Fund:	0	(9)
<p>The Employees Compensation Fund bill for the year ending June 30, 2013 is \$9,000 less than the bill for the year ending June 30, 2012. The Employee Compensation fund is based on an actual billing from the Department of Labor.</p>		
Mileage Rate Increase	0	4
<p>Effective January 21, 2013, the General Services Administration increased the mileage rate from 55 cents to 57 cents per mile, a 7.2 percent increase. This percentage was applied to the 2014 estimate of \$53,000 to arrive at an increase of \$3,816.</p>		
Postage	0	1
<p>Effective January 22, 2013, the Governors of the Postal Service implemented a rate increase for shipping. The overall price change for all shipping services is 4.6%. This percentage was applied to the 2014 estimate of \$29,000 to arrive at an increase of \$1,334.</p>		

**Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF ADJUSTMENTS TO BASE**

Adjustments to Base	FTE	Amount (\$000)
<u>Electricity</u> The average decrease for PEPCO electricity is projected to be 7 percent. This percentage was applied to the 2014 electricity estimate of \$416,000 for a decrease of \$(30,000).	0	\$ (30)
<u>Water</u> The average increase for DCWASA water is projected to be 44 percent. This percentage was applied to the 2014 DCWASA estimate of \$62,000 for an increase of \$27,000.	0	27
<u>Steam</u> The average decrease for GSA steam is projected to be 5 percent. This percentage was applied to the 2014 water estimate of \$230,000 for a decrease of \$(11,000).	0	(11)
<u>Rental Payments to GSA</u> GSA rates are projected to increase 1.6 percent in FY 2015. This percentage was applied to the FY 2014 estimate of \$2,010,000 to arrive at an increase of \$32,160.	0	32
<u>Storage</u> National Archives and Records Administration (NARA) storage costs - In FY 2015, NARA estimates reflect a decrease of \$7,990 for records storage and maintenance costs.	0	1
<u>Working Capital Fund</u> An additional amount of \$441,000 is required to fund the cost increases in the Department's Working Capital Fund.	0	441
<u>General Pricing Level Adjustment</u> This request applies 1.014 percent based on OMB economic assumptions for FY 2014 to object classes where the prices that the Government pays are established through the market system. Factors are applied to: other services (\$276,738), supplies and materials (\$1,372), equipment (\$9,380), transportation of things (\$546), GPO Printing (\$1,554), and communications, utilities, and misc. charges (\$1,582).	0	291
Total, non recurring costs.....		(199)
Subtotal, Cost Changes	2	1,363
Total, Adjustments to Base	2	\$ 1,164

National Telecommunications and Information Administration (NTIA) Salaries and Expenses

APPROPRIATION ACCOUNT: SALARIES and EXPENSES BUDGET PROGRAM: SALARIES and EXPENSES

For FY 2015, NTIA requests a net increase of \$3,836,000 and a net increase of 14 FTE. NTIA has realigned some resources within the Broadband Programs, Spectrum Sharing and Monitoring *and Spectrum Management* activities to reflect changes in resource allocation in order to fund priorities. NTIA has also requested an increase to our Domestic and International Policy Offices. As the global activity on the Internet increases, so do the associated policy issues. NTIA's policy offices have an enormous responsibility as the advisors to the Executive Branch of the Government on Internet Policy. To meet this demand and responsibility, more resources are required. Inflationary adjustments in the amount of \$827,570 were taken from various subprograms to partially offset increased funding requirements for adjustments-to-base. These adjustments are reflected in a brief paragraph within the subactivities.

BASE JUSTIFICATION:

SALARIES and EXPENSES Overview

NTIA serves as the principal adviser to the President on telecommunications and information policy issues. In this role, NTIA formulates, advocates, and participates in the implementation of policies that further domestic and foreign policy goals and enhance the international competitiveness of U.S. telecommunications and information technology, equipment, and service companies. These policies further the United States' strategic goals of opening markets and encouraging competition, innovation, and entrepreneurship, in the United States and globally; advancing the public interest in telecommunications, mass media, and information services; and promoting the availability of advanced services to people around the globe.

Since its creation in 1978, NTIA has been at the cutting edge of critical telecommunication issues. For example, NTIA identified Federal radio spectrum that the Federal Communications Commission (FCC) auctioned to commercial wireless markets, collecting over \$19 billion, with the net proceeds deposited in the U.S. Treasury. NTIA also administered the TV Converter Box Coupon Program so that analog televisions could function after the June 2009 transition of full-power television stations to digital broadcasting. In 2009 and 2010, NTIA awarded grants to develop and expand broadband services to areas not adequately served, to improve access to broadband by public-safety agencies, and to upgrade technology and capacity at public computing centers, including community colleges and public libraries. During some national and international emergencies, such as Hurricane Katrina and the 2010 earthquake in Haiti, NTIA responders have assisted in maintaining or restoring radio spectrum frequency assignments to ensure continued telecommunications. Additionally, NTIA is the primary U.S. government expert on the Internet's domain name system (DNS) – the critical underlying infrastructure upon which the Internet depends.

NTIA policy objectives are based on the identification and interdisciplinary analysis of economic, technological, regulatory, legal, social, and foreign policy issues. The Department of Commerce's Strategic Plan describes NTIA's activities that include working with the White House and other Federal agencies on Administration-wide telecommunications and information policy statements and on obtaining private-sector views on a broad range of telecommunications and information policy issues. NTIA's activities fall within two Department of Commerce (DOC) Strategic Goals:

Trade and Investment: Expand the U.S. economy through increased exports and inward foreign investment that lead to more and better American jobs: Objective 1.1. Increase opportunities for U.S. companies by opening markets globally.

Innovation: Foster a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies that lead to higher productivity and competitiveness: Objective 2.3. Strengthen the Nation's digital economy by championing policies that will maximize the potential of the Internet, expanding broadband capacity, and enhancing cybersecurity.

NTIA's Salaries and Expenses base budget is organized into five budget programs:

- The **Domestic and International Policies program** formulates and promotes national policies for consideration by the President, Congress, other Executive Branch agencies, by the independent Federal Communications Commission (FCC), Federal Trade Commission (FTC), and by other government and non-government organizations. The program has leadership responsibility for promoting broad articulation of policy and policy frameworks necessary to continue Internet innovation both domestically and internationally. The program also formulates and promotes national policies for presentation in multilateral, bilateral, international, and multi-stakeholder organizational settings as well as ensures the stability and security of the Internet DNS.
- The **Spectrum Management program** develops, establishes, and implements plans, policies, activities, capabilities, and procedures to ensure that the U.S. spectrum policy, spectrum allocations, and spectrum management capabilities and processes keep pace with the needs of Federal agencies and the American public for access to the radio spectrum in the 21st century domestically and internationally.
- The **Telecommunication Sciences Research program** utilizes telecommunications research and engineering to support Administration telecommunications goals, such as enhanced domestic competition, advanced services and new technology deployment, improved foreign trade opportunities for U.S. telecommunication firms, and more efficient use of the radio frequency spectrum. The Institute for Telecommunications Sciences (ITS) in Boulder, CO, is NTIA's research and engineering laboratory. On a reimbursable basis, NTIA's laboratory also serves as a principal Federal resource for addressing the telecommunications, information technology (IT), and security challenges of other Federal agencies and state, local, and tribal governments.
- **The Broadband Programs** serve and monitor recipients of grants from the Broadband Technology Opportunities Program and the State Broadband Data and Development Program, which originated from the receipt of \$4.7 billion through the American Recovery and Reinvestment Act of 2009 (Recovery Act, Public Law No. 111-5). The grants were awarded for state broadband initiatives (SBI) throughout the United States, to improve broadband services in areas of the Nation not adequately served, to encourage broadband adoption, and to develop a map of broadband services in the United States.

- As the grant program is being closed-out, NTIA will ensure that recipients comply with all grant terms and conditions. With over \$3 billion in investments in construction projects, grant recipients have deployed significant infrastructure across the Nation that needs to be inventoried and properly recorded so that NTIA can ensure over time that the BTOP-funded property continues to serve the public purpose for which it was intended.
- Throughout the closeout process, NTIA will be reviewing final reports to identify any unused grant funds. NTIA will expeditiously deobligate any funds not spent during the grant period of performance and ensure that those funds are returned to the Treasury.

NTIA will continue to administer and closeout SBI awards during the year. These grants are collecting broadband availability data as well as adoption data for schools, libraries, and other anchor institutions. In addition, they are building capacity within each state to increase broadband availability and adoption. NTIA will continue to update the broadband inventory map in the first half of FY 2015 and work with the FCC to transfer these responsibilities.

- NTIA seeks to continue the momentum generated by nearly \$4.2 billion investments in broadband projects across the Nation by transitioning staff to support states and municipalities through a new program designed to expand community broadband and the digital economy. The new effort is an important initiative to promote sustainable approaches to planning, financing, and implementing broadband projects. Building on the knowledge and experience gained by managing hundreds of projects through the grant program, NTIA seeks to motivate and support communities by providing technical assistance, financing advice, and management tools to help communities leverage existing resources and build public-private partnerships to support broadband projects, including hands-on assistance for targeted underserved communities.
- The **Spectrum Sharing and Monitoring program** underscores the importance of building an understanding of spectrum usage and applying lessons learned to promote new and innovative ways to leverage spectrum as a resource for economic growth, social interaction, and national security. NTIA recently announced a cooperative effort with the National Institute for Standards and Technology (NIST) to align the world-class advanced communications capabilities of both organizations under a Center for Advanced Communication. The Center is expected to address current and long-term communication challenges related to spectrum sharing, public safety communications, standards coordination, electromagnetics, and quantum electronics. NTIA proposes support for the Center and for continuing a project to be managed under the Center for expanding the Spectrum Monitoring Initiative (SMI). The SMI seeks to foster a better understanding of spectrum usage by monitoring spectrum in major metropolitan areas.

By gaining insight into how spectrum is used and what its potential limits may be, researchers will be positioned to develop more informed policy and practices for spectrum assignment, sharing, and innovation by both Federal and commercial spectrum stakeholders.

The NTIA staff and facilities are located primarily in Washington, DC, and at a laboratory facility in Boulder, CO.

INFORMATION AND TECHNOLOGY

NTIA staff are supported by a full range of ongoing infrastructure and information management services to support and promote NTIA's mission capabilities. NTIA proposes to continue its modernization of IT systems to support the required mission and business. Through modernization, NTIA will standardize its platforms to support new initiatives in the areas of spectrum management, telecommunications policy, and public safety communications. NTIA will seek to migrate all legacy systems to standard platforms, reducing the number and types of technology it employs.

NTIA will implement the Federal Spectrum Management System Release 3 in FY 2015. This version will allow NTIA to begin to retire its legacy spectrum systems while providing a solution that: improves data capture and analysis capabilities; expands data modeling for system characterization; strengthens compliance and data integrity; enhances engineering algorithms that identify frequencies in congested environments; provides easier system interface tools; and ensures a more secure operating environment for spectrum information.

NTIA will continue to investigate and seek opportunities for new modernization efforts to improve business performance as well as investing in shared services, consolidation efforts, and improvements in administrative efficiencies, including those led by the Department of Commerce focusing on data center consolidation, call center operation, information security, and electronic travel systems.

SIGNIFICANT ADJUSTMENTS-TO-BASE:

NTIA requests a net increase of \$1.164 million to fund adjustments-to-base (ATBs) to current programs for S&E activities. The increase will fund the estimated FY 2015 Federal pay raise of 1 percent. The increase will also provide inflationary increases for non-labor activities, including service contracts, utilities, field office lease payments, and rent charges from the General Service Administration (GSA).

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Budget Program: Salaries and expenses
 Sub-Program: Domestic and international policies

Comparison by sub-program	2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and international policies..... Pos/BA	26	\$5,036	31	\$6,535	33	\$6,853	48	\$14,353	15	\$7,500
FTE/Obl.	27	5,143	31	6,452	33	6,853	44	14,353	11	7,500
Direct Obligations Pos/BA	26	5,036	31	6,535	33	6,853	48	14,353	15	7,500
FTE/Obl.	27	5,143	31	6,452	33	6,853	44	14,353	11	7,500

SUB-PROGRAM: DOMESTIC AND INTERNATIONAL POLICIES

NTIA is the only Executive Branch agency that has as one of its core missions “the protection and promotion of the Internet and the innovation and economic value it fosters.” As the Internet policy agency, NTIA works to ensure that the Internet remains an open, dynamic platform for innovation, job creation, and economic growth. NTIA promotes competition, transparency, fairness, and openness in traditional and new communications networks and services. The Internet and telecommunications and information services are integral to the U.S. economy and account for a significant portion of our economy’s recent growth. According to a 2011 estimate, the Internet accounted for 21 percent of the GDP growth in mature economies over the past five years. In the United States, online retail sales are growing more quickly than the economy as a whole. By 2016, the Internet economy is projected to contribute a trillion dollars to the U.S. GDP (just over five percent).

NTIA strives to maintain a policy environment that supports continued Internet innovation and job creation. While maintaining openness and competition are essential to achieving these goals, so are policies that maintain the security and stability of communications networks and infrastructure, protect consumers, and encourage Americans to connect to the digital economy through broadband. Moreover, the United States must engage with its international partners to maintain this environment and promote a global approach of inclusion and participation. The Internet has flourished because of the approach taken from its infancy to resolve technical and policy questions. Known as the multistakeholder process, this approach involves the full inclusion of all stakeholders, relies on consensus-based decision-making and operates in an open, transparent, and accountable manner. This approach is contested by countries that do not share our interest in an open, dynamic, innovative Internet and continually seek to exert greater control. NTIA addresses these challenges through a combination of subject matter expertise; engagement with a broad array of multistakeholder organizations, regulatory agencies, and multilateral bodies; empirical research on broadband adoption and usage; and interagency coordination and collaboration.

The objectives of the “Domestic and International Policies” sub-activity are to:

- Assist the Assistant Secretary for Communications and Information in executing his duty to advise the President on telecommunications and information policies pertaining to economic and technological advancement and the regulation of the telecommunications industry under 47 U.S.C. § 902;
- Promote, measure, and understand the deployment and adoption of broadband services and their impact on the U.S. economy;
- Encourage U.S. economic growth through policies that support competitive and innovative Internet, telecommunications, and information technology infrastructures;
- Foster an Internet that industry and consumers trust through the development and promotion of appropriate safeguards for privacy, security, and intellectual property;
- Advance the multistakeholder model for Internet governance and policymaking and continue to support multistakeholder technical coordination of the Internet’s domain name system (DNS), and the security and stability of the Internet DNS;
- Work with the United States’ international partners to encourage communications and information policies and regulations that are fair, open, transparent, pro-competitive, low-burden, and conducive to using the Internet to promote economic development; and
- Promote small business and minority interests in the digital economy.

NTIA's pursuit of these objectives falls largely within the Department of Commerce Strategic Goal – Innovation: Foster a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies that lead to higher productivity and competitiveness: Objective 2.3. Strengthen the Nation's digital economy by championing policies that will maximize the potential of the Internet, expanding broadband capacity, and enhancing cybersecurity. Within NTIA, the Office of International Affairs (OIA) and the Office of Policy Analysis and Development (OPAD), working in close collaboration, execute NTIA's work under this subactivity. In addition, OIA also supports the Department of Commerce Strategic Goal: Trade and Investment: Expand the U.S. economy through increased exports and inward foreign investment that lead to more and better American jobs: Objective 1.1. Increase opportunities for U.S. companies by opening markets globally.

To accomplish NTIA's mission of promoting an open, dynamic, and globally interconnected Internet and support competition in and liberalization of telecommunications and information services and technologies, the FY 2015 budget request for this subactivity seeks to align sufficient staffing and resources with a comprehensive strategy to achieve the goals discussed below.

Policy for an Open, Dynamic, Innovative, Stable, and Secure Internet

As the Internet and other communications networks and services become more critical to the U.S. economy, the areas of privacy, security, and the protection of copyrighted works are increasingly important. Insufficient privacy protections may inhibit consumers' use of new services. Unaddressed security threats impose significant time and expense on companies and consumers and threaten U.S. economic security. Online copyright infringement reduces revenues for creators and may reduce their incentives to produce new works. NTIA, working with other Department of Commerce bureaus and relevant Federal agencies, develops policies that will improve privacy, security, and copyright protections in ways that avoid detailed, inflexible prescriptions that could stifle innovation.

Consumer Data Privacy. NTIA has significant expertise in consumer data privacy. NTIA was the lead author of the groundbreaking privacy reports issued by the Department of Commerce in 2010 and by the White House in 2012. The privacy principles and policy frameworks in these reports reflect input that NTIA received from extensive engagement with industry, advocacy groups, academics, other Federal agencies, and our international partners. The reports also called on NTIA to establish a privacy policy development process that provides an ongoing role for all of these stakeholders. NTIA has developed such a process, and has over the past year, convened a series of open, public meetings to encourage private-sector stakeholders to develop codes of conduct. The stakeholders – not NTIA – draft and negotiate these codes. NTIA is evaluating topics for future codes, and will convene additional processes in FY 2014.

NTIA is also leading interagency efforts to influence global consumer data privacy frameworks. NTIA develops and coordinates positions on ensuring interoperability between the consumer data privacy frameworks in the U.S. and the European Union. NTIA works with colleagues in the International Trade Administration to support the U.S. and EU Safe Harbor Framework and the APEC Cross-Border Privacy Rules system, which both provide mechanisms for the free flow of information across borders. Ensuring interoperability of privacy frameworks is critical to enhancing the free flow of information across borders and building economic growth.

Cyber Security. In the complex debate surrounding how to improve the cyber security posture of the United States, NTIA brings a perspective informed by its expertise in telecommunications markets and Internet-based services. This expertise allowed NTIA to play a leading role in preparing a report for the President on cyber security incentives under Executive Order 13636, "Improving

Critical Infrastructure Cyber security.” NTIA, working with the National Institute of Standards and Technology (NIST) and the Office of the Secretary of Commerce, published a Notice of Inquiry to inform its recommendations. NTIA reviewed these comments; held informal discussions with key stakeholders; participated in discussions with the Department of Homeland Security and the Department of the Treasury, both of which were tasked with preparing their own incentives reports; and took the lead in drafting the Department’s recommendations, which were delivered to the White House within the 120-day deadline set in the Executive Order. NTIA also engages with the Departments of Defense and Homeland Security on a broad range of cyber security issues. In addition, NTIA promotes U.S. cyber security policies in intergovernmental organizations, including the Organizations for Economic Cooperation and Development (OECD) and the Asia Pacific Economic Cooperation (APEC) Telecommunications and Information Working Group.

Online Copyright Protection. NTIA is helping to develop positions on potential changes to U.S. copyright law. Large-scale infringement on the Internet continues to threaten the revenues and business models of the music, film, and other copyright-dependent industries. NTIA’s Internet expertise informs policy development in this area with an understanding of how potential policy and technical measures to prevent infringement could affect innovation and the free flow of information online. NTIA also provides policy analysis and recommendations to U.S. regulators, encouraging them to recognize the importance of openness and competition in U.S. markets.

Every three years, NTIA by statute recommends to the Register of Copyrights which exemptions to recognize to the Digital Millennium Copyright Act’s prohibition against circumvention of access controls protecting copyrighted works. Throughout the rulemaking process, NTIA advocates for a range of exemptions that promote innovative new technologies, accessibility for persons with disabilities, and more creative works by independent artists who rely on fair use exemptions. During the most recent rulemaking, concluded in 2012, NTIA recommended several important exemptions that were adopted, including protections for facilitating the dissemination of e-books by visually impaired Americans, and for educational uses of audiovisual works in the classroom.

In 2012, NTIA asked the Register of Copyrights to renew an exemption to the Digital Millennium Copyright Act’s prohibition against circumvention of access controls protecting copyrighted works for unlocking mobile phones, and advocated its expansion to include tablets and other mobile devices. Although this exemption was not renewed for devices sold after January 2013, NTIA actively worked to enable consumers to use devices they own on the networks they choose. In addition to collaborating with the White House Office of Science and Technology Policy on their response to a petition about the matter, NTIA has been working with the Federal Communications Commission and asking carriers to agree to liberalize their unlocking policies.

Law Enforcement and National Security. NTIA provides a viewpoint focusing on innovation and economic growth in policy discussions related to the protection of Americans from criminal and national security threats. For example, NTIA participates in extensive discussions with law enforcement and national security agencies on potential changes to electronic surveillance statutes. NTIA brings an understanding of how potential changes to these laws could affect companies’ ability to innovate as well as consumers’ confidence in Internet-based services. Applying its expertise in privacy and the free flow of information to new settings, NTIA also participates in interagency discussions on topics ranging from countering online violence to radical extremism to proposals to authorize companies to “hack back” against the perpetrators of cyber-attacks.

Information/Communications Technology Policy. Finally, NTIA continues to analyze and engage on a broad range of other policy and regulatory issues, such as cable unbundling, location beacons, and the convergence of the public switched telephone network and Internet Protocol (IP) technology.

Global Internet Policymaking and Governance

NTIA leads development of U.S. policy and international engagement on Internet policymaking and governance, and represents the U.S. in the organizations that coordinate key policy and technical services critical to the continued operations of the Internet's Domain Name System (DNS).

Domain Name System. The DNS plays a vital role in Internet commerce, security, and stability. It serves as the Internet's "address book," translating human-readable addresses (e.g., www.commerce.gov) to the numerical addresses that computer applications use. As the Internet has become an increasingly important component of the global communications and information infrastructure, there has been growing pressure to introduce some form of international political control over the Internet and the DNS. This pressure comes both from intergovernmental and international organizations seeking authority over the Internet and the DNS, and from individual countries that would like to end the stewardship role of the United States.

NTIA is the Executive Branch agency responsible for DNS issues and provides technical and policy expertise to help steward this important element of Internet infrastructure. A July 1997 Presidential directive required the Department of Commerce (DoC) to transition the management of the Internet DNS to the private sector. In 2009, with the signing of the Affirmation of Commitments (Affirmation), the United States transitioned the multistakeholder, private-sector led technical coordination of the Internet DNS to the Internet Corporation for Assigned Names and Numbers (ICANN). The Affirmation establishes mechanisms and timelines for continuing reviews by the ICANN community of ICANN's execution of core tasks in four areas: ensuring accountability, transparency, and the interests of global Internet users; preserving security, stability, and resiliency; impact of new generic top level domains (gTLDs); and WHOIS policy. NTIA's Administrator is a member of the Accountability and Transparency Review Team (ATRT) ensuring accountability, transparency, and the interests of global Internet users. The first ATRT developed 27 recommendations advancing specific actions to improve ICANN's responsiveness to the diverse community of interests it serves. Five of these recommendations pertained to the role of governments, through the Governmental Advisory Committee (GAC), in ICANN, which is a critical element of ICANN's global credibility. The ICANN Board and broader community endorsed all of the ATRT Recommendations, the majority of which have been implemented. NTIA is also a member of the second ATRT, which intends to elaborate further steps ICANN needs to take to fulfill its accountability and transparency commitments in the Affirmation.

ICANN's responsibilities include facilitating DNS policy development through a bottom-up process involving the diverse interests of generic and country code top level domain registries, domain name registrars, the regional Internet registries, the technical community, business and individual Internet users, and governments. NTIA represents the U.S. Government in the GAC. The GAC's key role is to provide advice to ICANN on issues of public policy related to the DNS, and especially where there may be an interaction between ICANN's activities or policies and national laws or international agreements. In performing this function, NTIA convenes the monthly U.S. Government DNS Interagency working group and consults on a routine basis with domestic and international industry, academic, civil society, and technical stakeholders. Through this policy development process, NTIA has successfully coordinated and advanced a broad range of U.S. Government interests in the GAC, which have been subsequently forwarded to the ICANN Board in the form of consensus GAC advice. In particular, the U.S. Government's perspectives on consumer protection, intellectual property protection, preventing abusive uses of the DNS, and ensuring continued security and stability have been directly reflected in GAC consensus advice regarding ICANN's new generic top level domain (new gTLD) program.

NTIA is also at the forefront of preserving the security and stability of the Internet DNS. NTIA has worked to ensure the continued stability and security of the DNS by overseeing the performance of certain interdependent Internet technical management functions, known collectively as the Internet Assigned Numbers Authority (IANA). The IANA functions are key technical services critical to the continued operations of the Internet's underlying authoritative root zone file. NTIA accomplishes this important mission by administering the IANA Functions Contract and the Cooperative Agreement with private sector root zone management partners. These complex legal agreements represent the core of Internet infrastructure, but the policies are not developed by the U.S. Government. Instead, they incorporate policies and procedures developed over time by a variety of actors, including ICANN; the Internet Engineering Task Force (IETF) and the Internet Architecture Board (IAB); Regional Internet Registries (RIRs); top-level domain (TLD) operators/managers (e.g., country codes and generic); governments; and the Internet user community.

NTIA is also a leader in promoting Internet DNS security and stability. For example, in 2008, NTIA developed a multistakeholder public consultation process to determine whether and how DNSSEC (a security technology designed to address specific DNS vulnerabilities) should be deployed at the authoritative root of Internet DNS, the top-level zone of the DNS hierarchy. After extensive consultation with global stakeholders, DNSSEC was deployed at the authoritative root zone in July 2010. NTIA's DNSSEC multistakeholder collaboration continues today to ensure its root zone partners neutrality, transparency, and security. Another example of leadership in DNS security and stability was NTIA's insistence in 2011 and 2012 that DNS filtering techniques being proposed in the Stop Online Piracy Act (SOPA) and Preventing Real Online Threats to Economic Creativity and Theft of Intellectual Property Act (PIPA) draft legislation were inappropriate and should be removed as they would undermine existing and future deployments of DNSSEC as well as potentially destabilizing the DNS overall. Ultimately, due to NTIA's leadership and unprecedented public outcry, both bills did not move forward in the legislative process.

Furthermore, NTIA administers several other no cost legal agreements that support the Internet DNS. For example, NTIA administers the uTLD contract for the benefit of the nation's Internet community. Our nation's country code top-level domain has historically served as a home for American business, individuals, and localities. NTIA also administers the Cooperative Agreement with EDUCAUSE to maintain the .edu domain for use by educational institutions. This cooperative agreement facilitates the policy development and technical operations of the .edu domain and provides a framework for the administration of the .edu domain.

International Fora. As required by statute, NTIA participates in a wide-range of activities to enhance the global strength of United States Internet, telecommunications, and information services industry including Internet policymaking and governance. We will encourage bilateral, regional, and multilateral adoption of policies that encourage an open Internet; promote market liberalization; and stimulate democratization, economic development, and promotion of communications technology interests internationally. A wide variety of international fora – some treaty-based, others producing policy guidelines and research – are developing Internet policy, and NTIA participates in these fora to ensure that they maintain a central focus on innovation and economic growth and preserve the multistakeholder approach to Internet policymaking.

NTIA plays a central role in the Executive Branch's involvement in the Internet Governance Forum (IGF), a multistakeholder venue that facilitates global discussions of Internet policy issues. NTIA is an appointed representative for the Multistakeholder Advisory Group, which is the program committee for the IGF. NTIA also serves on the steering committee of the Internet Governance Forum USA (IGF-USA) a multistakeholder effort to illuminate issues and cultivate constructive discussions about the future of the Internet domestically. In this role, NTIA has helped to establish

the overall theme and itemized agenda of workshops for the forum. Staff-level experts from NTIA have always participated in the IGF-USA workshops, and the NTIA Administrator has traditionally delivered keynote remarks. Both venues provide a forum to engage all stakeholders in developing and shaping Internet policy by creating partnerships, coalitions, and dialogues that demonstrate best practices and help move policy forward.

The United States' commitment to the Internet's successful multistakeholder model is not universally shared. A handful of countries have repeatedly sought greater control over the multistakeholder process, an eventuality that could slow technological decision-making, introduce governmental censorship, and restrict innovation on the global Internet. Some countries are proposing to regulate the Internet by expanding the influence of intergovernmental institutions via the United Nations system. Consequently, it is more important than ever that the United States continue efforts to oppose attempts to restrict and globally regulate the Internet. This is a major threat to the United States' approach to the development and expansion of the Internet as well as more traditional telecommunications and information technologies.

In order to preserve and enhance the multistakeholder approach, NTIA works with the Department of State and other interagency partners to develop and execute strategies that empower our corporate and civil society partners, build support among our allies, and rigorously prepare our official delegations. We promote consensus-based, private sector-led standards development, in contrast to the work of the ITU Telecommunication Sector, which sets its standardization agenda through an intergovernmental conference. We also participate in the ITU Development Sector and the ITU Council. We have advocated for open, multistakeholder meetings at the ITU. We successfully opened the ITU World Telecommunication Policy Forum to all interested stakeholders, and ensured that stakeholders had a voice in the outcome of that forum. We subsequently attempted to open ITU Council to stakeholders, but faced Member State resistance to the multistakeholder model. This resistance will only grow stronger, and NTIA must have the resources necessary to face this challenge and protect the multistakeholder governance model fundamental to the growth of the Internet.

NTIA also participates in the deliberations of other intergovernmental bodies that shape global norms, standards, and law related to Internet, telecommunications, and information services. These multilateral forums include the APEC, CITEL- the specialized telecommunications Advisory organization of the Organization of American States (OAS), and the OECD. We participate in these organizations because they tackle important Internet and telecommunications services issues, including cyber security, broadband metrics, regional development issues, and others. We have successfully promoted U.S. positions in these organizations. For example, at the OECD, we developed the Principles for Internet Policy-Making, which OECD Member States turned into an agreed OECD Recommendation in 2011. These principles will not only guide existing OECD Member States when making Internet policy, but they will also serve as best practices for countries who are not yet Member States of the OECD. APEC Member Economies also embraced these principles as a benchmark. Due to our efforts in these organizations, the OECD Principles for Internet Policy-Making are becoming a globally accepted model.

NTIA's policy expertise and strategic coordination with other governments has contributed to the successes of the United States at previous international and intergovernmental conferences and meetings. NTIA will continue to participate, and in some cases, lead the extensive preparatory process for international and intergovernmental meetings, partnering with the relevant Federal agencies and US industry, civil society, and technical stakeholders. The U.S. Government must continue to address the challenges presented by international and intergovernmental organizations or the United States risks relinquishing its global leadership role in telecommunications and

information technology policy, including Internet policy. Unfortunately, reductions in resources have led to reduced participation in critical preparatory meetings, particularly those in regions where U.S. Government outreach is critical, including engaging in early consultation with a number of countries, in particular, the Africa and Asia regions. Our ability to impact the development of positions in countries and these regions is hindered by a lack of resources.

Satellite Organizations. NTIA provides policy and technical guidance on issues before the International Telecommunications Satellite Organization (ITSO), and the International Mobile Satellite Organization (IMSO) oversight processes. This is to ensure fair and competitive provisioning of fixed and mobile satellite services on a global basis, to protect lifeline telecommunications connectivity for developing nations, to protect Safety of Life at Sea (under the SOLAS treaty), and to implement provisions of the U.S. Maritime Transport Security Act of 2002 to ensure long-range tracking of vessels on the high seas. In all of these areas, NTIA provides technical expertise coupled with a pro-innovation perspective.

Trade Negotiations. NTIA works with colleagues in the Department of Commerce and other Federal agencies to ensure that U.S. trade agreements support telecommunications and e-Commerce services and the free flow of information across borders. Our promotion of these cross-border services and the free flow of information create jobs for Americans and leads to economic growth. NTIA is consistently involved in trade policy discussions that impact the Internet. NTIA provides expertise to Federal agencies and offices with operational trade responsibilities. For example, NTIA provides advice on telecommunications, e-Commerce, and free flow-related language in specific trade negotiations, such as the Trade in Services Agreement, the Transpacific Partnership, and the Transatlantic Trade and Investment Partnership. NTIA must devote significant resources to ensuring that U.S. trade agreements protect and support the Internet and telecommunications services.

Training of International Partners. NTIA also provides training to communications regulators from other countries through the U.S. Telecommunications Training Institute and the Telecommunications (USTTI) and the Digital Development Leadership Program (DDLDP). These interactions with regulators and policymakers in emerging economies provide NTIA with the opportunity to emphasize the importance of open and competitive markets and transparent decision-making in telecommunications and information policy as elements of economic development and growth. These programs also provide us with an opportunity to promote the OECD Principles for Internet Policy-Making, which can serve as a framework for thinking about Internet governance and policymaking.

Promoting, Measuring, and Understanding Broadband Deployment

Surveying Broadband Adoption. Broadband is a key ingredient for job creation, sustainable economic growth, civic engagement, and social development. Broadband and the range of applications that it enables can benefit society by boosting employment, improving public health, facilitating active citizenship, and improving efficiency in virtually every sector of the economy. Therefore, measuring broadband adoption, as well as understanding the reasons that some households and small businesses do not use broadband, is integral to informing policy decisions on an issue of such national economic importance.

NTIA, working with the Census Bureau and the Economics and Statistics Administration (ESA), has made the Department of Commerce the leading source of published data on broadband availability and Internet use in America. The Department collects data from several sources, including the Broadband Technologies Opportunities Program, the State Broadband Initiative, and the Computer

and Internet Use Supplement to the Census Bureau's Current Population Survey ("CPS"). These datasets are publicly available for use by researchers to conduct economic, financial, demographic, and other studies. The findings they enable provide a basis for sound policymaking to further encourage broadband adoption.

Promoting Small Business and Minority Interests in the Digital Economy. Broadband adoption in minority households lags behind the national average. Outreach to minority groups is therefore critical to the national goal of increasing broadband adoption. Through the Minority Telecommunications Development Program, NTIA conducts outreach to groups that represent minority interests in telecommunications and information policies. NTIA also engages with minority telecommunications associations and participates in meetings, conferences, and other events that focus on minority issues in the digital economy.

Interagency Coordination and Leadership NTIA communicates policy positions in many ways. NTIA works with the White House to develop policy positions and draft executive memoranda; participates in White House or interagency policy committees (e.g., the cabinet-level National Science and Technology Council (NSTC), Interagency Policy Committees (IPCs); files comments with independent agencies such as the FCC or FTC; works with Congress on the formulation of legislation and provides comments through OMB; addresses issues through briefings to senior officials or interagency meetings; and communicates with the public through reports, speeches, public events, and participation in international organizations. Consequently, NTIA's expertise plays a vital role in scoping and developing these activities. Areas of expertise include: an understanding of domestic and international telecommunications and information policies and the resultant policy and regulatory structures and processes; an appreciation of U.S. economic, foreign, and trade policies and objectives, in particular as they relate to foreign telecommunications and information regulatory policies; knowledge of U.S.-backed foreign assistance resources that can supplement our educational efforts; in-depth expertise regarding U.S. and foreign-developed telecommunications and information products and services; and a detailed understanding of relevant international and intergovernmental organizations and treaties.

Internet Policy Task Force Leadership. To advance NTIA's role as the President's principal adviser on telecommunications and information policies and its mission to coordinate executive branch policies on telecommunications issues, NTIA devotes significant staff resources to coordinating Department of Commerce and interagency policy development efforts. NTIA is the executive secretariat for the Department's Internet Policy Task Force (IPTF). The IPTF is a cross-Department group established under a 2010 Departmental Operating Order; its mission is to coordinate the efforts of the Department's experts in communications and information policy, economic analysis, intellectual property, trade, and technical standards to address the most pressing issues in the Internet economy: consumer privacy, cyber security, online copyright protection, and the free flow of information. NTIA provides staff support for the working groups that produce IPTF policy documents, runs coordination meetings, and briefs officials from the Department and other agencies on the status of related projects.

DNS Interagency Working Group: NTIA is the chair of the Interagency DNS Working Group composed of representatives from the Executive Branch and independent agencies. The working group meets monthly to coordinate the development of U.S. Government views, positions, and interests for ICANN meetings. The working group also addresses other DNS issues, which impact the security and stability of the DNS, such as DNSSEC, and the IPv4 to IPv6 transition. Furthermore, the Working Group coordinates with the Department of Homeland Security, the Department of Commerce, the Department of Defense, the State Department, and other Federal agencies to maintain the security and stability of the DNS.

NTIA also coordinates interagency groups that develop Internet policy. For example, under the White House-convened NSTC Subcommittee on Privacy, NTIA staff leads working groups that focus on international engagement and further development of a domestic consumer privacy agenda. NTIA also provides expertise on privacy issues to U.S. delegations to the OECD and APEC.

During FY 2015, NTIA will:

- Coordinate and develop policies that promote the economic interests of the United States in an open, globally interconnected Internet;
- Lead and participate in U.S. delegations to international fora to build a global consensus on the multistakeholder approach to Internet policymaking;
- Advocate for transparent, accountable management of the Internet DNS, including representing the United States in ICANN's Governmental Advisory Committee;
- Measure and analyze broadband adoption in U.S. households and share its findings with the American public;
- Support NTIA's efforts to increase broadband adoption in the U.S. and to inform consumers of the benefits of using broadband;
- Administer contracts and cooperative agreements related key technical services critical to the continued performance to the Internet's underlying authoritative root zone file as well as the .edu and .us top-level domain name spaces;
- Convene open, transparent, consensus-based meetings of stakeholders who are interested in developing codes of conduct to improve consumer privacy protections;
- Identify emerging consumer privacy issues that could undermine consumer trust in the Internet, and organize public and interagency engagements to develop positions on these issues;
- Advocate for legislation based on the White House's consumer privacy blueprint;
- Engage with international partners to encourage them to adopt privacy laws and regulations that promote innovation and permit the free flow of information while also protecting individual privacy;
- Work with law enforcement and national security agencies to assess whether to recommend changes to electronic surveillance statutes are necessary to promote Internet innovation and preserve consumer trust in the Internet;
- Work with USPTO and other relevant agencies to review and, as appropriate, develop legislative proposals to amend U.S. copyright law to address challenges in the Internet economy;
- Provide training to representatives of foreign telecommunications regulators through USTTI and the DDLP and other appropriate venues;
- Coordinate and engage with relevant minority business, advocacy, and academic participants in the multistakeholder processes that NTIA convenes;
- Assist in coordination with the Minority Business Development Agency (MBDA), to identify strategic partnership prospects in emerging economies to advance the Administration's Internet governance goals and that promote MBDA's export initiatives; and
- Coordinate and assist FirstNet in publicizing procurement opportunities for minority businesses to provide goods and services to support building, operating, and maintaining the network.

To continue achieving the performance goals of this program, NTIA must maximize its resources by leveraging interagency relationships, technology, and expertise. We need to hire and commit more staff resources to coordinating interagency positions related to Internet policymaking and the DNS.

NTIA will need to continue to develop outreach strategies to facilitate gaining international support for the U.S. multistakeholder approach. Positions that are more cohesive will improve our domestic and international strategies by ensuring that they represent a diverse array of interests and are consistent with U.S. Government policy. Better-coordinated positions will also ensure the Internet remains open, global, secure, and resilient to support innovation and economic growth. Today, the security and stability of the DNS are subject to unprecedented risks, both because of the extraordinary growth of the Internet and the well-documented threat of malicious activity. Reductions to the FY 2014 requested level, combined with absorption of inflationary increases, have negatively impact NTIA's ability to address Internet stability and security, governance and policymaking activities, the continued leadership of the United States in international telecommunications and information technology infrastructure discussions, and our ability to influence these policies both domestically and internationally.

SUB-PROGRAM: DOMESTIC AND INTERNATIONAL POLICIES

PROGRAM CHANGES FOR FY 2015:

Internet Policy Center (Base Funding: \$0 and 0 FTE Program Change: \$7,500,000 and 11 FTE):

The Internet, with the communication and services it supports, represents one of the most important drivers of economic growth and job creations for the country. While NTIA adeptly leverages its modest policy resources, the growing complexity and challenges associated with policy and governance in these areas threatens to overwhelm NTIA's capacity to provide leadership and effective stewardship of the U.S. interests. Much is at stake: billions in trade, innovation, privacy, free expression, child protection, and the integrity of the Internet. NTIA requests an increase of \$7,500,000 and 11 FTE to establish an Internet Policy Center (IPC), which will ensure timely analysis and development of policy recommendations on Internet and information policy issues. The IPC will assist the Administration in developing and implementing views and positions to aid deliberations and decisions that implicate U.S. economic, social, or political interests arising from or directly affecting the Internet and converged telecommunications and information infrastructure, technology, and services.

Background

The need for focused policy attention to protect and promote innovation and economic growth on the Internet is critical. Without it, there is a much greater risk that U.S. policy will – perhaps unintentionally – harm the ability of companies to innovate and citizens to take full advantage of the Internet and other communication and information services. In a broad array of policy areas – including cyber security, intellectual property, law enforcement, surveillance policy, trade policy, and others – well-staffed agencies of the U.S. Government pursue their niche policy objectives, but those agencies are sometimes not well equipped to evaluate the full impact of their initiatives on Internet innovation, the digital economy, and on the global, multistakeholder approach to Internet governance and policymaking. U.S. policy outcomes and positioning would be better if NTIA is able to advocate strongly within interagency discussions for the Internet as a platform to be protected and promoted.

These additional resources are critical to ensuring that the U.S. Government can keep up with the rapid evolution of the Internet and other communications services. Policymakers continue to struggle with the disruptive changes caused by the Internet. As NTIA is the only Executive Branch agency focused on protecting and promoting the Internet, it is vital that NTIA be involved in the full range of policy issues impacting the Internet. If not, the U.S. Government risks impeding the Internet's growth by saddling it with regulations. NTIA's request for funding is commensurate with the importance of the Internet to economic growth in the U.S.

The world is becoming more interconnected with the rapid growth of the Internet and the globalization of information technology services and equipment. U.S. communication needs are global. The United States must be capable of operating anytime and anywhere in the world. Communications are the backbone of our economic and national security. Therefore, it is imperative that any new frameworks for information technology services are forward-looking and flexible to accommodate existing and future technologies. As a result of the Internet and these new information technologies and services, traditional business models, governance and regulation concepts are being challenged. The preferred model of private sector leadership and multistakeholder Internet governance and policy development – all of which the Administration and Congress (see, e.g., H. Res. 57 (2011) and S. Res. 446 (2011)) have strongly embraced – does not imply that the U.S. Government can step away from Internet policy. To the contrary, the U.S. Government must engage in a wide variety of forums,

domestic and international, to advance our economic interests. The government's Internet policy analysis must also come from legal, economic, and technical perspectives.

Strategy

NTIA's strategic approach for the IPC builds on the six specific policy priorities articulated in the Administration's *International Strategy for Cyberspace*. NTIA's approach includes:

1. Promoting international standards and innovative, open markets, and doing so in a more expansive array of bilateral and multilateral dialogues, with a focus on the developing world (where early engagement will be critical);
2. Enhancing the security, stability, and resiliency of our networks, with effective law enforcement and the rule of law, and doing so by enhancing participation in existing policy discussions and participating in new forums;
3. Preparing for 21st century security challenges, and promoting effective and inclusive structures of Internet governance;
4. Supporting fundamental freedoms and privacy by convening multistakeholder processes to develop codes of conduct on a wide array of consumer data privacy topics, including those with international impacts, while also advancing our legislative proposals and influencing privacy legislation in the developing world;
5. Working to implement the *Strategy's* admonition that achieving these goals requires Federal departments and agencies to coordinate effectively and to deepen their engagement with stakeholders throughout the world; and
6. Working to ensure that Federal departments and agencies coordinate, in order to ensure their activities are consistent with established Internet policies.

NTIA has pursued these objectives since they were announced, but Internet-focused policy initiatives both across the U.S. Government and from governments around the world have accelerated dramatically in the past few years. There is a critical need to establish an Internet Policy Center with sufficient, dedicated resources to address the number and range of Internet-related policy issues and questions that arise today. In the absence of significantly increased resources dedicated to effective, pro-innovation Internet policymaking, the United States will not be able to achieve its objectives of keeping the Internet an open, unregulated platform for economic growth and civic engagement.

Better collaboration and coordination within the Federal government will reduce the chance of unintentional conflicts and duplication of efforts and provide a greater capacity to persuade the United States' international partners to pursue policies that keep the Internet globally interconnected and open for innovation. NTIA has the authority and experience to combine these elements of analysis, coordination, and advocacy. The \$7.5 million that NTIA is requesting will allow the agency to hire personnel who possess the expertise necessary to execute all elements of this mission and provide training to developing countries.

Proposed Actions:

Implementation

NTIA will continue to support economic growth by working to promote an open, globally connected Internet. New resources are required to identify the full range of relevant policy issues, fully analyze them, and propose and execute policies that advance U.S. economic interests. In addition, this work will require engagement with legislators, regulators, stakeholders including civil society, and international partners.

NTIA will begin implementation of the IPC on Day 1 according to a carefully phased implementation plan. Phase 1 of the plan will involve executing on plans to administratively establish the IPC (i.e., executing staffing and workspace plans; assigning teams, portfolios, and tasks; creating information resources and operating procedures); Phase 2 of the plan will include two parallel tracks: outreach and engagement with stakeholders to socialize processes and plans; and developing analyses, plans, strategies, and priorities for action on key substantive issue-sets. Phase 3 will involve full operations related to policy analysis and development. Subsequent phases will involve formalization and operation of the interagency coordination process and the private-sector stakeholder engagement process. During the establishment of the IPC, NTIA will continue to execute its existing statutory mission and policy focus areas while moving through the phased implementation.

One critical change that the IPC would enable is the ability to hire and deploy experts able to sufficiently focus on specific policy areas that are rapidly growing in frequency and importance. For example, today NTIA has two employees who work on cyber security issues, but they have many other subject matter responsibilities and in aggregate, NTIA is only able to dedicate about .5 FTE to cyber security. With the IPC, NTIA would be able to have 3-4 FTEs dedicated to cyber security, which would greatly expand NTIA's ability to represent the interests of the Internet and the Internet industry in the burgeoning cyber security arena. Similarly, today NTIA can only dedicate less than 1 FTE to intellectual property issues, even though these issues are critical front-burner questions about how to protect copyright and trademark interests without reducing the ability of innovators to develop new technologies and services. With the IPC, NTIA would be able to dedicate 2-3 FTEs to the critical intellectual property topic.

While a number of individual government agencies have interests in Internet policy, it is important that there be a single point within the Administration to consider and harmonize national and international Internet policy. As indicated previously, NTIA is the only agency directed by law to provide for the coordination of the telecommunications activities of the Executive Branch. While the legislation creating NTIA predates the rise of the Internet, the law directs NTIA "to conduct studies and make recommendations concerning the impact of the convergence of computer and communications technology," in other words, the Internet.

NTIA's need to have sufficient resources in the broad array of policy areas (for example, cyber security or intellectual property) arises not to be able to duplicate work of other agencies, but instead to be able: (1) to ensure that potential impacts on the Internet ecosystem and economy are appropriately considered in crafting U.S. Government actions; and (2) at times to facilitate dialogue between U.S. agencies on difficult policy questions. Drawing on examples from 2012, NTIA successfully led a push for more Internet-supportive copyright policy within an interagency process about the Trans-Pacific Partnership, (TPP) trade negotiations, and NTIA successfully helped to resolve a dispute between U.S. Trade Representatives (USTR) on the one hand and the Department of Justice (DOJ) and the Department of Homeland Security (DHS) on the other about a security matter that arose in an Federal Communications Commission (FCC) proceeding. NTIA's contributions in these and other areas are vital to promote the best possible U.S. policy toward the Internet.

With the IPC, NTIA would be able to pursue the following specific initiatives:

Policy Analysis. Because of its extraordinary reach into our society and its rapid growth, the Internet is a platform that policymakers are still struggling to understand. NTIA will deepen and extend its policy analysis and develop expertise in legislative, regulatory, technical, and economic analysis. All of these disciplines are necessary to evaluate the full range of proposals pertaining to the Internet. For example, the IPC will coordinate policy development related to Internet openness,

Internet intermediaries, privacy, security, the domain name system (DNS), and Internet routing, Internet standards setting activities, and intellectual property issues. Furthermore, the IPC will develop a “one stop” source for Internet governance and policymaking best practices resources. Proposals to address specific issues must also be informed by multidisciplinary analysis, so that the executive branch has a full understanding of the potential impacts of specific policy choices.

In addition, the United States’ advocacy of pro-innovation policies internationally would benefit from a better understanding of the Internet economy: how to define it, how to measure it, and how to account for the influence of policy choices on innovation and growth within this sector of the economy. NTIA will work with the Economics and Statistics Administration and other relevant entities to study the Internet economy, using existing Federal datasets and developing new analyses and sources of data. Because the Internet economy is so broadly diffuse – with participants ranging from multinational corporations to tiny “Mom and Pop” innovators, it is vital to develop a better understanding of all aspects of the industry.

Risks: In the absence of funding, NTIA will be unable to maintain policy expertise on the full range of Internet policy issues that are critical to U.S. economic and national security interests. Internet and communications policy issues are complex and interwoven, and without a strong ability to make connections among diverse policy initiatives, U.S. policy decisions could have unintended consequences that could damage our economy.

Interagency Coordination and Collaboration. Collaboration and coordination are fundamental to avoid duplication of efforts and incompatible policies. Federal agencies are responsible for carrying out a broad array of missions that touch the Internet and telecommunications and information infrastructure, technology, and services in some way. Policies that impact the Internet and information infrastructure must be coordinated to ensure consistent U.S. messaging and positions domestically and internationally.

NTIA is uniquely qualified to coordinate the Executive Branch’s Internet policies, given its existing statutory authority. It is responsible for maintaining a comprehensive view of Internet and information policy issues, assessing their impact on U.S. economic interests, and coordinating Federal agencies (under 47 U.S.C. § 902(b)(2)(T)) to develop policy positions domestically and internationally. Through the IPC, NTIA will develop a more mature capacity for coordinating Internet policy analysis and development within the Department and with relevant Federal and independent agencies. As noted above, NTIA’s ability to effectively engage (for example) with the Departments of Homeland Security, Defense, Justice, and State – as well as the independent agencies and offices such as the U.S. Trade Representative – on the full range of Internet-focused policy issues, is greatly hampered by NTIA’s current lack of resources. Almost every Federal Department addressing health, education, labor, etc. – considers and adopts policies that affect the Internet, and today that policy development is undertaken without a “big picture” perspective on how the policies might affect the Internet. To ensure that an Internet- and innovation-focused perspective informs U.S. policy on issues such as cyber security, surveillance, intellectual property, and many other issues, it is vital that NTIA have increased resources.

Risks: In the absence of funding, U.S. Government decisions will be made without sufficient consideration of the impact of policy initiatives on the continued innovation and growth of the Internet and the digital economy. The resulting lack of coordination would lead to “right hand/left hand” problems where some U.S. policy initiatives undercut or diminish other U.S. policy initiatives.

Engagement with Stakeholders. Implementing policies that promote innovation and entrepreneurship requires extensive engagement with private-sector stakeholders and international and intergovernmental partners. The market-driven, private sector-led approach that the U.S. Government advocates often does not fit the mold of regulation that many governments, international organizations, and even some companies have come to expect. Persuading these parties of the economic benefits of following a multistakeholder policy development approach on Internet policy issues requires NTIA to develop specific proposals and to build coalitions that support them. NTIA will expand opportunities for companies, civil society groups, academics, and other U.S. stakeholders to provide their advice and views to the government on Internet policy issues. NTIA will use the IPC to facilitate collaboration to ensure that the advice received from U.S.-based commercial industry and civil society stakeholders are given due consideration in developing Internet policy by establishing an Internet policy advisory board comprised of experts from outside the United States Government, which shall be chartered as a Federal Advisory Committee.

Risks: In the absence of funding, NTIA will be unable adequately to engage with stakeholders to develop sound policies and build support for non-regulatory policy solutions. And in the absence of robust multistakeholder engagement, critical policy goals might be addressed using more regulatory approaches that would in turn slow the innovation that is critical to the Internet economy.

Promoting the Multistakeholder Model. A lynchpin of U.S. policy toward the Internet is the promotion of the multistakeholder model for Internet policy development. In the context of issues to be addressed by primarily U.S. stakeholders, the multistakeholder approach can involve creating a neutral forum for stakeholders to convene to “hammer out” policy solutions in a collaborative manner. This in turn often requires significant resources to provide venues and remote participation capabilities to allow stakeholders to meet. Of the funds requested in this initiative, NTIA plans to use \$500,000 to support multistakeholder meetings on policy issues ranging from privacy to cyber security to global Internet governance.

Risks: In the absence of funding, NTIA will be unable to convene stakeholders to develop consensus policy solutions on the full range of critical Internet policy issues. The multistakeholder approach is the lynchpin of the U.S. international strategy toward the Internet, and it is critical to “put our money where our mouth is.” Without funding, we would be severely limited in what we can accomplish on Internet policy.

Engagement with International Partners. The multistakeholder approach is also critical to U.S. policy toward global Internet governance and decision-making. That model, however, is under threat, and it is critical to dedicate greater attention to promoting the multistakeholder model to other countries, particularly developing nations. NTIA will expand its outreach to promote the non-governmental approach to Internet governance. NTIA will also expand its participation in the Executive Branch’s preparations for international conferences on Internet policy issues so as to leverage the benefits of multilateral institutions by reviewing proposals and providing recommendations and strategic guidance to Federal departments and agencies.

In addition to broad engagement with international partners about the multistakeholder approach, NTIA also proposes to provide direct funding for a critical global multistakeholder body, the Internet Governance Forum (IGF). The IGF provides a forum for governments, industry, civil society, and academics from around the world to discuss pressing Internet policy issues and collaboratively identify solutions to those issues. Also key to the success of the IGF are regional meetings that prepare for the annual IGF meeting. Of the funds requested in this initiative, NTIA plans to use \$600,000 to engage with and support the IGF, and participate in the regional IGF activities.

Risks: In the absence of funding, the U.S. will be unable to fully and sufficiently build and maintain support for the multistakeholder model of Internet governance and policymaking. The global acceptance of the multistakeholder model is under direct threat, and if we are unable to engage with the full range of countries, we will not be able to achieve our international goals to ensure that the Internet remains a healthy platform for innovation and economic growth. This would in turn undermine the ability of U.S. industry to compete in the global online marketplace.

International Training. In the wake of the ITU's World Conference on International Telecommunications in December 2012, it is clear that one of the largest threats to an open and innovative Internet is the attempt by individual governments to cede decision making on Internet governance to international intergovernmental organizations such as the ITU. The on-going effort to increase the role of the ITU over Internet governance poses a serious threat to an open and innovative Internet. There is a critical need to empower government officials particularly in developing countries, with information needed to understand the benefits of an open and unfettered Internet, the multistakeholder Internet governance model, and the appropriate laws which will promote innovation while reducing fraud and cybercrime. Many countries, including developing nations in Africa and Asia, are not active in multistakeholder organizations where Internet governance policymaking discussions are taking place as they lack the capacity and understanding of how to engage in a multistakeholder environment.

The United States is committed to assisting developing countries in building this capacity by providing more training aid. To accomplish this goal, the NTIA proposes to collaborate with the United States Telecommunications Training Institute (USTTI) by funding seminars and webinars to develop a consortium of countries that will help to uphold and maintain the goals of open and innovative Internet and sound Internet governance and policymaking based on the multistakeholder model. Successfully providing training to developing countries is critical to harnessing future multilateral support from developing countries for the U.S. preferred multistakeholder Internet governance model.

As stated in the White House *International Strategy for Cyberspace*, USTTI continues to be a key component of the U.S. outreach strategy. Since 1982, the USTTI has operated as a non-profit organization providing tuition-free information and communications technology (ICT) training for women and men exclusively from developing countries. Throughout its 31-year history, the USTTI has partnered with U.S. Government and private industry leaders to offer training programs on topics such as spectrum management, cyber security and information technology policy, the rule of law, mobile broadband, utility regulation, radio and television broadcast technology, management skills, distance learning, satellite communications, telemedicine, and emergency communications. In conducting these courses, the USTTI has shared the United States' experience in the telecommunications and information technology sector with developing country leaders who are well-positioned to utilize that information and make modern communications a reality in their respective countries. In addition to having considerable experience organizing and implementing specialized training programs of this nature, the USTTI also has a unique team of expert partners. Based on Congressional legislation which authorizes full membership on the USTTI Board which includes NTIA's Administrator, the Coordinator for International Communications Policy at the State Department, and the Chairman of the FCC, in conjunction with leading ICT companies from around the U.S., these entities provide USTTI's tuition free training and volunteer their expertise on a regular basis.

Of the funds requested in this initiative, NTIA plans to use \$500,000 to support USTTI capacity building activities and training with senior policy makers from developing countries to discuss the

need to maintain an unregulated and free Internet importance of Internet freedom, Internet governance, and the ways in which networks can empower citizens and nations. This would aid capacity building in the following areas: (1) Internet governance and policymaking in a multistakeholder environment; (2) cyber security policy development; (3) webinars; and (4) improve linkages between U.S. and developing countries on Internet policy issues. This request is consistent with the authority of Section 632(b) of the Foreign Assistance Act (22 U.S.C. 2392).

Risks: In the absence of funding, the U.S. will miss a critical opportunity to reach, and help inform, policymakers in countries around the world, and to provide them with information about the multistakeholder model and experience with developing policy using it. By reaching out to these countries, we can maximize the chance that they will support our approach – but by failing to bolster global support, we would be increasing the chance that countries would look to the ITU for leadership.

Broadband and Internet Metrics and Analysis. NTIA has in the past engaged with the U.S. Census Bureau to add an “Internet Use Supplement” to the Current Population Survey of 54,000 households in America. NTIA has published the respected *Digital Nation* series of reports based on this data, and has made the data available to other governmental and academic researchers. Most years, however, NTIA has been unable to budget for the data gathering and report. In the wake of significant Administration efforts to fund broadband projects, it is important to be able to complete a substantial data collection in FY15 in order to evaluate the statistical impact of broadband promotion efforts. Of the funds requested in this initiative, NTIA plans to use \$1.2 million dollars to support a FY15 data collection and report, including focused research and analysis of critical issues such as minority and low income access to broadband.

Risks: In the absence of funding, NTIA will be unable to measure the impact of U.S. Government policies to promote broadband deployment and adoption. Broadband access and adoption are critical to economic and educational opportunity in this country, and without an ability to assess the impact of our efforts to promote broadband, future investment and policy decisions would be less effective.

Statement of Need and Economic Benefits.

The economic benefits to the United States of an open, globally interconnected Internet are tremendous. These benefits are manifest in quantitative measures, such as GDP contributions and productivity gains, and in ways that are more difficult to measure, such as consumer surplus, convenience, and international economic and cultural leadership. For example, according to the Census Bureau, between 1999 and 2007, business-to-consumer online commerce increased over 500 percent. Taking into account business-to-business transactions, online commerce in 2010 accounted for approximately \$4.1 trillion in shipments, sales, or revenue to the U.S. economy. U.S. mobile commerce grew to an estimated \$2.4 billion. Demand for new broadband applications and services, in combination with the arrival of smart phones and tablets, has created a seismic shift in industry structure and relationships. For example converged services, emerging machine-to-machine communications, cloud computing services, and “over-the-top” services are giving raise to new service providers. Cisco, for example, predicts that global mobile data traffic will grow 18-fold from 2011-2016 with a compound growth rate of 78 per cent, rate that is three times faster than fixed broadband traffic. Sustaining this growth is one of the most pressing economic issues for the U.S. Government.

NTIA’s Internet policy work strongly complements NTIA’s leading role in identifying spectrum to expand wireless broadband Internet access. Ensuring that the wireless broadband revolution leads

to the same economic benefits that the past 15 years of Internet privatization and broadband adoption have brought requires continuing attention to privacy, cyber security, copyright, the free flow of information, and other policy challenges. NTIA is uniquely positioned to provide leadership on these issues domestically and internationally.

The creation of the IPC will result in a number of benefits. Non-monetary benefits include advances in the government's understanding of the size and scope of the Internet economy as well as the policy variables that affect growth and innovation in this segment of the economy. This understanding will provide the Executive Branch and Congress with a stronger empirical basis for developing Internet policy. It will also provide NTIA and other Federal agencies with a foundation that can be used to support U.S. positions in international discussions and negotiations. Finally, industry and the economy will benefit from this understanding and the opportunity to participate in the development of the study. This initiative will also deliver benefits through more rapid and complete implementation of existing U.S. Internet policy positions.

NTIA's Internet Policy Workforce.

NTIA's workforce for this program continues to be one of its greatest assets due to our staff's expertise in a wide variety of policy areas related to telecommunications and information technologies including the Internet. NTIA remains committed to applying these assets to benefit society, address contemporary environmental and social issues, lead or participate in emerging technology opportunities, collaborate and strengthen the capabilities of commercial partners, and communicate the challenges and results of NTIA programs and activities. Base funding alone does not maintain current civil service staffing. The proposed FY 2015 budget provides for an NTIA workforce -- economists, scientists, engineers, researchers, managers, and technicians -- that more appropriately matches the workforce size and mix of skills necessary to meet the challenges correctly facing the nation. With base funding alone, NTIA will struggle to maintain staffing levels at a critical mass, jeopardizing mission-essential work in developing telecommunications and information policy, including the Internet, research, and technology.

With the requested funding, NTIA aims to advance U.S. leadership in defending and promoting a free and open, secure, and stable Internet that will deliver the following:

- A comprehensive study of the Internet economy;
- Additional consumer privacy codes of conduct;
- Recommendations on legislative amendments to copyright, trade secret, and patent law;
- Support for IPTF and IPEC efforts to identify voluntary solutions to online copyright infringement challenges; and
- International acceptance and use of the multistakeholder approach to Internet policy and governance leading to economic growth and development, both domestically and internationally.

Beyond the specific actions and programs discussed above, it is vital that the United States have a coherent, coordinated policy toward and about the Internet – at a level of coherence and coordination that is simply lacking today. No other Executive Branch agency views – as a core mission – the Internet as something to protect and promote. NTIA can provide the needed coordination and coherence that is essential for effective U.S. policymaking. But at its current staffing levels, NTIA is not able adequately to represent the economic and innovative potential that the Internet offers.

Base Resources Assessment.

NTIA's base funding is used primarily for labor expenses. The current level of funding supports NTIA's analysis of policies relating to the Internet as well as policies and potential regulations that apply to wireline and wireless telephony. This capacity, however, is acutely limited; and it is declining. At the same time, the range of policy issues that affect Internet-based innovation and economic growth continues to expand. Moreover, though NTIA will continue to play leadership and coordinating roles in interagency processes, current resource levels are already requiring some retrenchment in these activities.

NTIA needs additional subject matter and methodological expertise to be able to fulfill its advisory, policy development, and international engagement missions under 47 U.S.C. § 902.

- Greater capacity to conduct economic analysis will enable NTIA to advance innovation and entrepreneurship, because NTIA could combine its existing expertise in substantive areas (e.g., consumer privacy and cyber security) with economic analysis methods in ways that other Federal agencies cannot.
- Similarly, computer science and engineering experts would enrich and expand the policy analysis that NTIA can provide.

Schedule & Milestones.

Internet Policy Center (IPC)

FY 15: The IPC will coordinate policy development related to Internet openness, Internet intermediaries, interoperability, privacy, security, resiliency, the DNS, and Internet routing, and participation in Internet standards setting activities. The IPC will develop a "one stop" resource for Internet governance and policymaking best practices resources.

Through the IPC, NTIA will consult bilaterally and multilaterally to advance U.S. Internet governance and policymaking. NTIA will work to foster a better international awareness of the United States Government's multistakeholder approach to Internet Governance by creating and engaging in bilateral and regional education programs. This will include the translation of policy documents and other relevant materials that will support these bilateral relationships and inform developing countries on issues related to Internet governance and policymaking.

Deliverables:

FY 15: NTIA will represent within a broad range of interagency discussions the critical goals of protecting and promoting the Internet and the innovation and economic growth that flows from it; advance the multistakeholder approach to Internet policymaking both domestically and internationally; and participate in various regional and bilateral training activities to encourage the adoption of U.S. Government policy approaches with the goal of increasing U.S. Government allies in international debates, policy summits, treaty conferences, and Internet governance policy development. NTIA will also partner with USTTI to develop seminars and webinars on Internet governance and policymaking.

Performance Goals and Measurement Data:

Performance Goal: Innovation	FY 2013 Actual	FY 2014 Target	FY 2015 Target	FY 2016 Target	FY 2017 Target	FY 2018 Target	FY 2019 Target
Recommendations With Increase	5	5	10	15	15	15	15
Without Increase	5	5	5	5	5	5	5
Description: This measure is focused on formulating through the Internet Policy Center (IPC) coherent and pro-innovation policy recommendations that will be advanced in interagency discussions and through policy papers, speeches, and domestic and international conferences.							

Performance Goal: Innovation	FY 2013 Actual	FY 2014 Target	FY 2015 Target	FY 2016 Target	FY 2017 Target	FY 2018 Target	FY 2019 Target
Multistakeholder engagements With Increase	2	2	4	6	7	7	7
Without Increase	2	2	2	2	2	2	2
Description: This measure is focused on significant NTIA-led multistakeholder engagements to address critical privacy, security, intellectual property, governance, and other issues.							

Performance Goal: Innovation	FY 2013 Actual	FY 2014 Target	FY 2015 Target	FY 2016 Target	FY 2017 Target	FY 2018 Target	FY 2019 Target
International training With Increase	15	15	30	50	50	50	50
Without Increase	15	15	15	15	15	15	15
Description: This measure is focused on the number of foreign government officials with which NTIA can meaningfully engage through outreach, meetings, workshops, conferences, and USTTI trainings to promote the understanding and acceptance of the multistakeholder model of Internet governance and decisionmaking.							

PROGRAM CHANGE PERSONNEL DETAIL

Budget Program: Salaries and Expenses
 Sub-Program: Domestic and International
 Policy Program Change: Internet Policy Center

Title:	Location	Grade	Number of Positions	Annual Salary	Total Salaries
Economist	Washington, DC	GS-15	2	123,758	247,516
Telecommunications Policy Specialist	Washington, DC	GS-15	2	123,758	247,516
Telecommunications Policy Specialist	Washington, DC	GS-14	2	105,211	210,422
Economist	Washington, DC	GS-13	2	89,033	178,066
Telecommunications Policy Specialist	Washington, DC	GS-13	2	89,033	178,066
Telecommunications Policy Specialist	Washington, DC	GS-12	2	74,872	149,744
Business and Industry Specialist	Washington, DC	GS-11	1	62,467	62,467
Telecommunications Policy Specialist	Washington, DC	GS-9	2	51,630	103,260
Total			15		1,377,057
Less Lapse		25%	(4)		(344,264)
Total full-time permanent (FTE)			11		1,032,793
2013 Pay Adjustment (0%)					0
2014 Pay Adjustment (1%)					10,328
TOTAL					1,043,121
Personnel Data			Number		
Full-Time Equivalent Employment					
Full-time permanent			11		
Other than full-time permanent			0		
Total			11		
Authorized Positions:					
Full-time permanent			15		
Other than full-time permanent			0		
Total			15		

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Budget Program: Salaries and Expenses
 Sub-Program: Domestic and International Policy
 Program Change: Internet Policy Center

Object Class	2015 Change
11 Personnel compensation	
11.1 Full-time permanent	1,043
11.3 Other than full-time permanent	0
11.5 Other personnel compensation	0
11.8 Special personnel services payments	0
11.9 Total personnel compensation	<u>1,043</u>
12 Civilian personnel benefits	286
13 Benefits for former personnel	0
21 Travel and transportation of persons	400
22 Transportation of things	1
23.1 Rental payments to GSA	145
23.2 Rental Payments to others	0
23.3 Communications, utilities and miscellaneous charges	20
24 Printing and reproduction	12
25.1 Advisory and assistance services	0
25.2 Other services	1,200
25.3 Purchases of goods & services from Gov't accounts	4,176
25.4 Operation and maintenance of facilities	0
25.5 Research and development contracts	0
25.6 Medical care	0
25.7 Operation and maintenance of equipment	11
25.8 Subsistence and support of persons	0
26 Supplies and materials	24
31 Equipment	182
32 Lands and structures	0
33 Investments and loans	0
41 Grants, subsidies and contributions	0
42 Insurance claims and indemnities	0
43 Interest and dividends	0
44 Refunds	0
99 Total obligations	<u>7,500</u>

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Budget Program: Salaries and expenses
 Sub-Program: Spectrum management

Comparison by sub-program		2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum management.....	Pos/BA	39	\$7,822	39	\$8,002	39	\$8,168	39	\$8,002	0	(\$166)
	FTE/Obl.	23	\$6,660	39	9,159	39	8,168	39	8,002	0	(166)
Direct Obligations.....	Pos/BA	39	7,822	39	8,002	39	8,168	39	8,002	0	(166)
	FTE/Obl.	23	6,660	39	9,159	39	8,168	39	8,002	0	(166)

SUB-PROGRAM: SPECTRUM MANAGEMENT

The tremendous growth in demand for wireless broadband by consumers, businesses, and government agencies, and two recent Presidential Memoranda to make an additional 500 MHz of wireless broadband spectrum available for commercial users, require NTIA to reassess its management of the nation's Federal airwaves. Decisions to repurpose spectrum through relocation of incumbent users or spectrum sharing require weighing the potential economic and technological benefits of increased commercial broadband against the need for Federal agencies to use spectrum to achieve their missions.

Spectrum is a limited resource, but many Federal agencies need radio frequency spectrum to perform vital operations. NTIA manages the Federal government's use of spectrum, ensuring that America's domestic and international spectrum needs are met. The demands for Federal spectrum range from law enforcement operations to scientific applications to weather prediction to satellite operations. Such services could not be provided without NTIA's monitoring and assigning access to vital spectrum bands.

NTIA is examining various spectrum-sharing techniques to leverage spectrum as a resource for economic growth. To this end, NTIA collaborates with the Federal Communications Commission (FCC), industry stakeholders, and other agencies to examine new technologies that can improve Federal spectrum management and help address the ever-increasing demands of wireless communications.

The objectives of the Spectrum Management sub-activity are to:

- Execute the spectrum management functions and activities assigned to NTIA under 47 U.S.C. 902 and 903;
- Develop, establish, and implement plans, policies, activities, capabilities, and procedures to meet the needs of the Federal agencies and the American public for access to the radio spectrum domestically and internationally;
- Execute work in conjunction with the FCC to recover and reallocate spectrum, update spectrum policies, and provide adequate incentives and assistance to enable Federal agencies or affected entities to make up to 500 MHz (in bandwidth) available, in accordance with the President's National Wireless Initiative and the Presidential Memorandum of June 28, 2010 (*Unleashing the Wireless Broadband Revolution*);
- Promote spectrum sharing by facilitating government and industry collaboration, establishing methods to quantify Federal spectrum use, and requiring agencies to justify spectrum use between 400 MHz and 6 GHz as required, in accordance with the Presidential Memorandum of June 14, 2013 (*Expanding America's Leadership in Wireless Innovation*);
- Plan for and enable performance of Federal spectrum management functions during emergencies;
- Coordinate and register internationally planned Federal Government satellite networks and selected assignments for terrestrial systems;
- Work cooperatively with the FCC and other Federal agencies to coordinate spectrum use;
- Develop positions and promote U.S. interests in international bodies dealing with radio regulations and other spectrum issues; and
- Develop, implement, and maintain the automated spectrum management capabilities necessary for performing support services required for spectrum management.

These activities fall within the Department of Commerce Strategic Goal – Innovation: Strengthen the Nation’s digital economy by championing policies that will maximize the potential of the Internet, expanding broadband capacity, and enhancing cybersecurity.

Interdepartment Radio Advisory Committee (IRAC) and other Advisory Committee Support

NTIA will continue to manage Federal use of the radio spectrum, maintaining and updating the NTIA Manual of Regulations & Procedures for Federal Radio Frequency Management. NTIA also will provide the management and administrative support to the Inter-department Radio Advisory Committee (IRAC), the Executive Branch interagency advisory body for Federal spectrum management. The IRAC is composed of the representatives of 19 Federal agencies and an FCC liaison. Through the Space Systems, Spectrum Planning, Technical, Radio Conference, Emergency Planning and Frequency Assignment Subcommittees as well as numerous ad hoc groups, the IRAC advises NTIA on spectrum policy and procedural matters, develops Federal positions on international radio treaty conferences, and provides recommendations for conflict resolution. NTIA chairs and provides secretariat support to IRAC and also maintains the archive of all documents for the committee.

NTIA also supports to the Commerce Spectrum Management Advisory Committee (CSMAC) that provides private-sector advice to the Assistant Secretary and the Policy and Plans Steering Group (PPSG), a committee of executive level representatives from the main spectrum-using agencies, plus the Office of the Director of National Intelligence, the FCC, the Office of Science and Technology Policy, and the Office of Management and Budget.

During FY 2015, NTIA will:

- Provide the necessary leadership and administrative support for the IRAC, its subcommittees, and ad hoc groups as the committee provides advice to NTIA on spectrum management, including coordination of spectrum use, review of spectrum plans, development of Federal technical standards, emergency planning, satellite registration and coordination, international conference preparations, and development of coordination arrangements with Canada and Mexico;
- Manage, conduct, and maintain document records for nearly 100 inter-agency and private-sector advisory committee meetings that serve as the mechanisms for efficient and effective conduct of Federal spectrum management, Federal spectrum policy, and for ensuring that the United States meets spectrum needs for consumers, businesses, state and local government, and Federal agencies’ mission requirements;
- Coordinate with the FCC on all technical and policy decisions under consideration by the FCC that may impact Federal operations and decisions under consideration by NTIA that may impact non-Federal operations;
- Develop and update the Federal rules and regulations necessary to manage the Federal Government’s use of the spectrum, including those governing the relationships between the FCC and the NTIA;
- Provide public access to the IRAC and to releasable spectrum management information;
- Improve and upgrade the electronic archives of the IRAC and distribute it periodically to the NTIA staff and Federal agencies; and
- Provide support and management of the PPSG and CSMAC.

Spectrum Policy and Information

In coordination with the IRAC, NTIA develops and implements policies regarding spectrum use by the Federal agencies. At the same time, NTIA develops Executive Branch views and inputs on FCC decisions that may affect Federal operations.

Via the OSM Spectrum Affairs and Information Division, NTIA also provides website information to the public regarding Federal spectrum use and regulation of Federal operations. Furthermore, as necessary, NTIA responds to requests from Congress and other sources for specific information about Federal operations.

NTIA also supports the Emergency Communications Preparedness Center and the joint Department of Defense/Department of Homeland Security's National Security or Emergency Preparedness Telecommunications Executive Committee.

The Division also conducts spectrum training courses and seminars for U.S. and foreign spectrum managers. The Division coordinates these courses, drawing upon experts from other divisions of OSM as well as various Federal agencies and the private sector.

During FY 2015, NTIA will:

- Develop security/emergency preparedness and long-range plans for use of the spectrum; and
- Identify current and future technologies which could enhance interoperability;
- Provide the necessary leadership, technical expertise, applied research, policy guidance, and spectrum management support for the successful coordination of national public safety requirements, goals, and objectives both within the Federal Government and the state and local entities in coordination with the FCC;
- Develop and implement policies regarding spectrum use by the Federal agencies;
- Develop Public Safety Telecommunications Policy consistent with Administration goals;
- Provide spectrum management input to First Responder Network Authority (FirstNet);
- Provide leadership, liaison, and guidance for the integration of National Public Safety telecommunications systems, ensuring inter-operability among Federal, state, and local public safety agencies; and provide for the spectrum needs of these integrated systems;
- Develop and disseminate via the web and printed materials information describing Executive Branch spectrum management and Federal agencies' use of spectrum;
- Plan and conduct spectrum training courses and seminars for U.S. and foreign spectrum managers; and
- Respond to queries from Congress and the private sector concerning the use of spectrum by the Federal Government.

International Spectrum Plans and Policies

NTIA provides leadership and participates with the State Department, FCC, Federal agencies, commercial industry, and private-sector interests in preparing for diverse international radio treaty conferences, negotiations, and other meetings on spectrum management, allocations, technical standards, and regulations via the OSM International Spectrum Policy Division (ISPD). Specifically, NTIA coordinates and develops the Federal Government's contributions to the U.S. proposals for these treaty conferences and meetings and helps prepare the U.S. preliminary views and positions. In many cases, NTIA representatives chair the national preparatory groups for these events. NTIA

provides leadership to relevant working groups of the IRAC Radio Conference Subcommittee (RCS) in the development of U.S. preliminary views and positions to treaty conferences. In addition, these representatives are often called upon to chair or organize activities at an international level on behalf of the International Telecommunications Union (ITU), Inter-American Telecommunications Commission (CITEL), International Civil Aviation Organization (ICAO), and International Maritime Organization (IMO). NTIA analyzes the known intentions and positions of other nations and regional organizations to determine whether U.S. counter-proposals are necessary. NTIA monitors and participates, as necessary, in the preparatory activities of regional organizations including, but not limited to, the European Conference of Postal and Telecommunications Administrations (CEPT) and the Asia Pacific Telecommunity (APT), for international radio treaty conferences. NTIA also participates in bilateral/multilateral negotiations and provides personnel and technical support for the U.S. delegations to radio treaty conferences and other ITU, CITEL, ICAO, IMO, and regional administrative, policy, and technical forums. In addition, NTIA works to build confidence worldwide in U.S. spectrum planning techniques to win support for U.S. positions in negotiations and forums. After each World Radiocommunication Conference, ISPD leads efforts to develop and propose a plan to implement the results of the completed conference into domestic spectrum regulations. NTIA also chairs the IRAC Space Systems Subcommittee (SSS) and, as a result, oversees the activities related to the international registration of Federal satellite systems within the ITU. In addition, NTIA leads the international coordination of these Federal satellite systems, including relevant consultation as mandated by international radio regulations.

During FY 2015, NTIA will:

- Coordinate, develop, and present the Federal Government's contribution to U.S. proposals and positions for the 2015 ITU World Radio-communication Conference. This treaty conference will address critical future needs for spectrum for wireless broadband, promoting international harmonization while protecting U.S. interests within the international community;
- Coordinate, develop, and present the Federal Government's contribution to U.S. proposals and positions for international forums where radio frequency spectrum management issues are addressed;
- Analyze other countries' proposals to determine the impact on U.S. spectrum requirements;
- Develop and implement a plan for ongoing outreach strategies to facilitate gaining international support for U.S. positions;
- Lead or participate in and contribute to ITU-Radio-communication Sector study groups and other international telecommunication regulatory forums;
- Participate in and contribute to other international forums dealing with radio spectrum issues, such as the North Atlantic Treaty Organization (NATO) Joint Civil/Military Committees, the International Civil Aviation Organization, and the International Maritime Organization;
- Chair the IRAC Radio Conference Subcommittee (RCS) and through this forum coordinate Federal Government positions and proposals to be submitted to international forums involved in spectrum management matters;
- Consult with foreign countries on reforming spectrum management processes to use spectrum more efficiently and effectively;
- Lead and participate in bilateral and multilateral meetings on spectrum management issues with foreign administrations including bi-lateral frequency coordination agreements with Mexico and Canada;
- Implement the results of international radio treaty conferences by recommending changes to U.S. domestic rules;
- Chair the IRAC ad hoc group on WRC Implementation;

- Provide leadership on spectrum-related issues that come before the ITU Council;
- Review Federal space systems for compliance with national requirements, coordinate with other Federal and non-Federal radio-communication systems, and participate in satellite coordination meetings with other administrations;
- Chair the IRAC Space Systems Subcommittee;
- Coordinate non-Federal space systems with Federal radio-communication systems;
- Develop spectrum policies on satellite operation, national and international coordination, notification, and advanced publication;
- Negotiate satellite coordination agreements with foreign countries concerning either Federal Government satellite operations or foreign government satellite operations;
- Coordinate with the FCC on both domestic satellite systems and Federal Government systems;
- Provide recommendations on FCC rulemakings on space allocations and rules and regulations;
- Provide comments to the FCC on rulemakings concerning international activities;
- Provide support and technical analysis in cooperation with other Department offices to promote U.S. product sales to other countries;
- Initiate and conduct scientific and technical cooperation in the field of telecommunications and spectrum management with specific foreign countries in accordance with U.S. foreign and international trade policy objectives;
- Identify regulatory and procedural barriers to the timely and global implementation of United States innovations in radio-communications technologies and services and recommend methods to remove those barriers;
- Participate in and contribute to Federal strategic spectrum planning on emerging technologies such as dynamic spectrum access and incorporate domestic activities in international planning; and
- Lead and participate in international spectrum management training activities, including support for the United States Telecommunications Training Institute (USTTI).

Strategic Planning

NTIA develops the Strategic Plan for Federal Spectrum Management, preparing a comprehensive strategy to carry out spectrum management improvements to meet long-range goals and objectives for Federal spectrum management. NTIA also develops the spectrum management roadmap or action plan to improved spectrum access and efficient and effective spectrum use across the Federal Government. Additionally, NTIA investigates the means to gather, maintain, and update accurate information on current and future spectrum requirements, including collaborating and coordinating effectively among the various Federal agencies to obtain the necessary results to collectively execute the means in a unified approach. Not only does NTIA investigate advanced technologies and concepts for the management of the spectrum that hold the potential for increasing the efficiency of spectrum use, but NTIA also assesses the continued effectiveness of spectrum allocations in light of changes in planned spectrum usage.

When necessary, NTIA convenes the PPSG to deal with particularly contentious, difficult, long-term, or strategic issues. Given the strategic nature of President Obama's calls to identify an additional 500 megahertz of spectrum for wireless broadband and increased spectrum sharing, NTIA has called on the PPSG to support this effort.

NTIA will analyze, identify, monitor, and report on making the 500 MHz available, develop new spectrum access approaches and technologies, and use its test bed to test devices that could promote spectrum sharing. NTIA's research focus will expand the initial test-bed pilot program to

review all promising spectrum-sharing technologies and implementation approaches to ascertain if these are effective in sharing with other radio services. This research will play a critical role in making spectrum available for consumer wireless use by 2020.

In accordance with the President's National Wireless Initiative, NTIA will execute work in conjunction with the FCC in recovering and reallocating spectrum, updating spectrum policies, and providing adequate incentives and assistance to enable Federal agencies or affected entities to make up to 500 MHz (in bandwidth) available. This work will also include regular progress reports. It will require in-depth review of Federal spectrum use and short- and long-term actions for accommodating mobile broadband. Some actions are likely to require analytical support and spectrum measurements to support new approaches for spectrum sharing. Other actions may require "domino" movement of systems from additional bands and the identification of comparable spectrum.

NTIA will develop new spectrum access approaches that will improve management of the nation's airwaves and deliver new ways for industry to provide wireless services to consumers. NTIA will apply its policy and scientific expertise to advance the Administration's spectrum-sharing reform recommendations. The White House, Congress, telecommunications industry, and consumers support reforms that will ensure that there is a sufficient, flexible spectrum of radio frequencies that can accommodate growing consumer demand and evolving wireless technologies, with the understanding that scarcity of mobile broadband could mean higher prices, poor service quality, and an inability for the U.S. to compete internationally. NTIA will address increasing the access to and efficiency of spectrum through an integrated program of research, testing, and policy development. This will be done through the combined efforts of NTIA's spectrum management and research programs.

In 2015, NTIA will have reached the halfway point in the 500 MHz effort. NTIA expects to be engaged with the FCC in carrying out rule changes to allow consumer access to 1675-1710 MHz, 1755-1780 MHz, and 3550-3650 MHz and will reach the decision point on 406.1-420 MHz, 1675-1680 MHz, 5350-5470 MHz, and 5850-5925 MHz.

During FY 2015, NTIA will:

- Engage the FCC in carrying out rule changes to allow consumer access to 1675-1710 MHz, 1755-1780 MHz, 3550-3650 MHz, and 5150-5250 MHz;
- Conclude analyses of spectrum sharing in the 406.1-420 MHz, 5350-5470 MHz, and 5850-5925 MHz bands;
- Conclude analysis of 1675-1680 MHz and determine whether it can be repurposed for consumer wireless;
- Begin full implementation of outcomes related to spectrum quantification and efficiency as required under the June 14, 2013, Presidential Memorandum;
- Develop long-range goals for Federal spectrum management that will include the development of a spectrum management roadmap to identify the future actions and coordinate among affected stakeholders;
- Assist Federal agencies in maintaining and updating their agency-specific spectrum plans defining current and future spectrum requirements, to include the identification of those spectrum efficiency-enhancing technologies under consideration;
- Maintain and update the Strategic Plan for Federal Spectrum Management and coordinate the Plan with appropriate Federal agencies;
- Assist the Federal agencies and the Office of Management and Budget with incorporating the consideration of spectrum-related requirements within the capital planning process;

- Investigate and develop a future Federal spectrum management roadmap that considers advanced and spectrum-efficient concepts to improve the effectiveness and efficiency of spectrum use by Federal agencies and thereby increase spectrum availability in fulfilling the national interest for national security, public safety, and economic opportunities; and
- Monitor and report annually on progress on Administration spectrum goals in coordination with Federal agencies and other relevant components of the Executive Branch.

Emergency Preparedness

NTIA will support the National Response Framework (NRF) and, upon activation of Emergency Support Function #2 by the Department of Homeland Security, deploy (as needed) in support of the coordinated Federal response effort to provide Federal spectrum management services at the Joint Field Office or other designated facility.

During FY 2015, NTIA will:

- Develop procedures and incorporate them in the planning process for a timely and orderly transition from normal to emergency modes;
- Participate with other Federal agencies in planning and implementing communications emergency readiness;
- Formulate and advocate plans and policies necessary to the development of strategies to improve and restore U.S. telecommunications resources;
- Develop and modify spectrum policies and procedures for crisis-related situations under the National Response Framework, specifically Emergency Support Function #2;
- Provide emergency readiness planning for the Federal use of the radio frequency spectrum; and
- Identify and provide solutions to issues and deficiencies in the planning process for national security/emergency preparedness communications in support of the National Communications System (NCS).

Spectrum Assignment and Certification Services to Federal Agencies

NTIA reviews, processes, and authorizes Federal radio frequency assignments. NTIA also reviews each frequency assignment action to determine the degree of compliance with regulations and procedures applicable to Federal use of the radio spectrum and will continue its reviews of Federal frequency assignments to evaluate the validity of current needs. This frequency assignment responsibility involves chairing the IRAC Frequency Assignment Subcommittee (FAS) as well as directing the subcommittee's activities and providing its administrative support. The assignment responsibility also involves ensuring that the spectrum needs of certain Federal agencies not represented on the IRAC and the spectrum access requirements of the United Nations and foreign embassies in the United States are satisfied. NTIA maintains and updates files and records for radio spectrum management. The computerized files include the Government Master File of Frequency Assignments (GMF); portions of the FCC frequency records necessary for use in Federal spectrum management, especially the management of frequency bands allocated for shared Federal/non-Federal use; frequency allocation records; terrain elevation data; and Federal systems characteristics data used to support the processing of requests for spectrum certification. NTIA also coordinates Federal spectrum requirements with Canada and Mexico.

NTIA also reviews proposed Federal radio-communication systems to determine compliance with applicable Federal regulations and policies and to evaluate such systems for compatibility with other present and planned spectrum-dependent systems, providing guidance concerning frequency bands, design parameters, and appropriate operating constraints necessary to mitigate harmful interference and ensure effective use of available spectrum resources. NTIA, in accordance with the advice of the IRAC Spectrum Planning Subcommittee (SPS), approves or withholds certification of spectrum support for the system or, alternatively, indicates what adjustments to the system are needed to enable the certification to be approved. The spectrum certification responsibility involves chairing the SPS and directing the subcommittee's activities. NTIA performs certification reviews at the conceptual, experimental, developmental, and operational stages of a given system's procurement cycle, as required by OMB Circular A-11.

NTIA's spectrum management activities are currently supported by antiquated information systems which hinder the identification of available spectrum and were designed prior to the dramatic expansion of commercial devices, applications, and technology requiring interference-free spectrum availability. The Federal Spectrum Management System (FSMS) will replace legacy spectrum systems and provide a solution that: improves data capture and analysis capabilities; expands data modeling for system characterization; strengthens compliance and data integrity; enhance engineering algorithms that identify frequencies in congested environments; provide easier system interface tools; and ensure a more secure operating environment for spectrum information. Through the FSMS Investment, NTIA is currently deploying FSMS Release 2 and will deploy Release 3 in FY2015. FSMS had been under development since 2010 with an initial go-live date of 2012 and is expected to be available at final operating capacity in FY 2015.

With sustained funding, NTIA will implement FSMS and retire its legacy systems, leading to reduced overall spending and more effective application of spectrum data for spectrum assignment and management decision making. However, initially this transition will create during 2015 a need for increased training and familiarization with new processes. Furthermore, NTIA staff will need to begin implementation of outcomes related to spectrum quantification and efficiency and impacting the spectrum assignment and assignment processes as required under the June 14, 2013, Presidential Memorandum. This activity may require increased staff or changes to staff capabilities.

During FY 2015, NTIA will:

- Begin full implementation of outcomes related to spectrum quantification and efficiency and impacting the spectrum assignment and assignment processes as required under the June 14, 2013 Presidential Memorandum.
- Process Federal agencies' requests for frequency assignment authorizations and actions;
- Provide Federal agencies with accurate spectrum management data;
- Assist non-IRAC agencies in identifying spectrum to meet their radio-communications needs;
- Resolve conflicting requirements concerning Federal agencies' use of the spectrum;
- Evaluate proposed Federal radio-communications systems for certification of spectrum support in accordance with OMB Circular A-11;
- Identify and implement the information technology capabilities required to satisfy the needs of Federal agencies for computer automated tools to assist in the preparation of frequency authorization and spectrum certification requests, the determination of compliance with rules and regulations, and the prediction and mitigation of radio frequency interference;
- Participate in the negotiation of spectrum coordination agreements and spectrum sharing protocols with Mexico and Canada;

- Coordinate requests for radio frequency assignments in the U.S./Canadian border area in order to ensure interference-free operations in both the U.S. and Canada;
- Coordinate FCC requests for Special Temporary Authorizations assignments from the private sector when such requests involve use of spectrum that is allocated for Federal use on a primary or shared Federal/non-Federal basis; and
- Chair the IRAC Frequency Assignment and Spectrum Planning Subcommittees (FAS and SPS) and through these forums, coordinate the processing of requests by Federal agencies for frequency assignment and spectrum-certification actions.

Spectrum Engineering and Analysis

NTIA conducts in-depth analyses of spectrum use; assists Federal agencies in resolving operational interference problems; provides technical engineering/policy analysis support for international studies and radio treaty conferences; and establishes and improves Federal standards to assure efficient use of spectrum. These studies evaluate the effect of existing and planned radio systems and provide technical engineering support for domestic and international policy development and long-range planning. These technical/policy analyses fall into two categories: the first focuses on selected portions of spectrum, and the second focuses on particular types of uses of spectrum. Both types of studies examine present and planned equipment usage to determine if the spectrum is efficiently and effectively used, the potential for compatible sharing of Federal radio services, and the effects of proposed and planned national and international allocation changes on the ability of Federal agencies to complete their mandated missions. NTIA also investigates the possibility of increased sharing of spectrum resources between Federal and non-Federal radio systems to increase the efficient use of the spectrum within the United States. Results from field and laboratory measurements aid in the evaluation of frequency utilization, policy compliance, new technologies, and radio frequency interference.

NTIA resolves operational conflicts that arise between Federal agencies regarding the use of the spectrum and coordinate the process of meeting spectrum requirements that cannot be satisfied within existing policies and procedures. Solving such problems demands analyses of the effects that proposed changes in frequency assignments, operational procedures, or equipment will have on the electromagnetic environment, as well as consideration of the various tradeoffs between technical and operational factors. In support of international spectrum management, NTIA provides engineering analyses on technical issues necessary to support U.S. participation in and preparation for international conferences and meetings.

Recent years have seen a dramatic increase in the number of problems and spectrum issues involving adjacent band interference (i.e., interference from a transmitter operating in one band to a receiver operating in an adjacent allocated band). In the national and international marketplaces, adjacent band problems surface as the search goes on to identify spectrum for an ever-expanding number of new and innovative radio-based telecommunication services. Billions of dollars of investment depend on the availability of spectrum and the resolution of in-band and adjacent band interference concerns through proper coordination or by effective equipment designs through the use of technologies. Within this environment, addressing the adjacent band interference problem has become a significant issue. The effects of adjacent band emission from transmitters and the characteristics of the adjacent band receiving equipment and its interference susceptibility to unwanted signals create a particularly challenging problem because the FCC has not traditionally applied standards to receivers and cost factors have led to interference-prone designs. NTIA has undertaken a comprehensive examination of adjacent band and man-made interference, including technical and regulatory issues.

NTIA evaluates new technologies that can be used to increase the efficiency with which the Federal and private sector use spectrum, and that make more spectrum available for emerging technologies; develops new engineering analysis capabilities to improve spectrum efficiency in the Federal frequency assignment process; uses advances in engineering modeling and information technology to improve existing Federal spectrum certification and frequency-assignment processes; and develops measurement techniques to assess innovative, adaptive sharing techniques between Federal and non-Federal systems.

During FY 2015, NTIA will:

- Complete its spectrum-sharing innovation test bed dealing with new cognitive technologies seeking to gain entrance to the 406.1-420 MHz band;
- Assess the present and projected Federal use of the spectrum by conducting studies of spectrum use, concentrating on bands and services involving: upcoming international radiocommunication conferences, Federal and non-Federal sharing, and those areas where significant improvements in utilization appear possible;
- Resolve spectrum-sharing problems concerning conflicts between Federal agencies or between Federal and non-Federal spectrum users and identify any changes to existing spectrum policies and procedures that could minimize such problems;
- Provide technical engineering support to the IRAC and its subcommittees, especially in the areas of spectrum standards, FCC proposed rulemaking, frequency coordination procedures, and reported interference cases;
- Undertake a comprehensive examination of adjacent band interference, including technical and regulatory issues and make appropriate recommendations;
- Evaluate new technologies, applicable to various radio services and frequency bands to determine their potential spectrum efficiency and usefulness for Federal applications;
- Develop plans for intra-service and inter-service sharing in selected bands;
- Define new or improved automated techniques for the study of spectrum sharing, interference prediction, and frequency coordination;
- Plan and coordinate spectrum measurements in selected frequency bands to support ongoing studies involving spectrum sharing, radio interference, spectrum standards, spectrum policy development, frequency coordination, and/or spectrum efficiency;
- Provide technical support in performing research and development of automated spectrum engineering and analysis capabilities;
- Provide technical engineering and policy analysis support in preparation for and participation in international radio-communication conferences and in development of domestic spectrum policy and long-range planning;
- Develop an annual plan for Spectrum Measurement Program operations to address spectrum issues and support goals and objectives of the NTIA Strategic Plan for Federal Spectrum Management, in accordance with Section 8.2.6 of the NTIA Manual;
- Chair the IRAC Technical Subcommittee (TSC) and through this forum, coordinate and develop spectrum standards that apply to all Federal systems; and
- Lead and participate in domestic spectrum management training activities, including support for the USTTI.

PROGRAM CHANGES:

INFLATIONARY ADJUSTMENT:

The Spectrum Management base program has been reduced by \$166,000 to offset increased funding requirements for inflationary increases to core, cross-cutting Department fixed costs. This includes the 2015 estimated pay raise of 1 percent and service contracts with inflationary labor rates. Non-labor activities that require inflationary increases include areas such as rent, utilities and security. NTIA must manage this reduction through vacancy management and reductions to program contracts and training.

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Budget Program: Salaries and expenses
 Sub-Program: Telecommunication sciences research

Comparison by sub-program		2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Telecommunication sciences research.....	Pos/BA	49	\$4,894	42	\$5,278	42	\$5,408	42	\$5,297	0	(\$111)
	FTE/Obl.	26	\$4,557	42	\$5,635	42	5,408	42	\$5,297	0	(111)
Direct Obligations.....	Pos/BA	49	4,894	42	5,278	42	5,408	42	5,297	0	(111)
	FTE/Obl.	26	4,557	42	5,635	42	5,408	42	5,297	0	(111)

SUBPROGRAM: TELECOMMUNICATION SCIENCES RESEARCH

With the proliferation of mobile and fixed communications devices, research is crucial to evaluate and study the nature and interaction of communications equipment, systems, and services. NTIA plays a critical role through cutting-edge wireless telecommunications research and engineering for Federal government and private-sector partners. Advanced research is required to enhance domestic competition, advance services and new technology deployment, improve foreign trade opportunities for U.S. telecommunications firms, and use radio frequency spectrum more efficiently.

NTIA's laboratory in Boulder, Colorado, is recognized as one of the world's leading laboratories for telecommunications research. The laboratory continues to leverage its engineering expertise to perform extensive research on the characteristics and quality of wireless transmissions, and on the characteristics and usage of the different spectrum bands on which they are carried. This research supports NTIA's development of policies related to the introduction of new technologies and spectrum sharing as well as advances Administration positions in national and international standards-setting bodies. In addition to direct-funded research, the laboratory performs research on a cost-reimbursable basis for other Federal agencies and for private entities.

The objectives of the Telecommunication Sciences Research subactivity are to:

- Conduct engineering studies to promote the efficient use of government spectrum and to help identify 500 MHz of spectrum that can feasibly be made available for mobile broadband wireless uses through spectrum reallocation or sharing;
- Perform research and engineering that promote technology advancement through new, expanded scientific understanding of telecommunications technologies and systems;
- Provide timely technical advice to support NTIA's mandate to develop and promulgate Executive Branch policies that address domestic and international telecommunications and information issues;
- Provide leadership and participation in both international and national standards organizations to develop and influence standards and policies to support the full and fair competitiveness of the U.S. telecommunications technology sector; and
- Promote timely, effective application of NTIA's research and engineering results to U.S. industry through government publications, technology transfer, and commercialization activities.

Research activities performed by this subactivity support the Department of Commerce's Innovation theme and the strategic goal: Foster a more innovative U.S. economy—one that is better at inventing, improving, and commercializing products and technologies that lead to higher productivity and competitiveness.

The laboratory specifically supports Strategic Objective 2.3: Strengthen the nation's digital economy by championing policies that will maximize the potential of the Internet, expanding broadband capacity, and enhancing cybersecurity.

On a reimbursable basis, NTIA's laboratory also serves as a principal Federal resource for addressing the telecommunications, IT, and security challenges of other Federal agencies, state, local, and tribal governments, and the private sector.

To support fundamental research into the nature, interaction, and evaluation of telecommunication devices, systems, and services, NTIA manages the Table Mountain Field Site and Radio Quiet Zone. This 1,800-acre, open-air test location is protected from strong external radio signals by both Federal and state laws to enable sensitive radio or electromagnetic experiments, as well as research applications needing low vibration and unobstructed views of the sky. Recent activities include exploratory field tests of dynamic spectrum access (DSA) radio systems and controlled measurements of low-to-ground radiowave propagation to validate models for use in mitigating and jamming improvised explosive devices (IEDs). The results of the Table Mountain work are transferred to other government agencies and industry via reports, technical papers, journal articles, conference papers, web documents, and computer programs.

FY 2015 operating objectives for the Telecommunication Sciences Research activity are summarized by program area below:

- **Radio Spectrum Occupancy:** Conduct measurements of radio spectrum occupancy and usage patterns to identify radio bands for spectrum sharing or reallocation, enabling more efficient use of the spectrum. Collect and disseminate characteristic transmitter emission waveforms to facilitate telecommunications industry research into enhanced detect-and-avoid spectrum sharing approaches. Develop improved occupancy measurement techniques to better describe the radio environment to facilitate more agile and efficient uses of the radio spectrum for both government and commercial applications.
- **Electromagnetic Compatibility:** Conduct measurements and analysis to improve spectrum management practices and policies. Troubleshoot and resolve interference issues involving Federal systems by determining the source of the interference; recommending mitigation actions to Federal agencies, including necessary system modifications; and/or assisting the FCC Enforcement Bureau in enforcement actions. Conduct experiments to define technical parameters such as transmitter emission limits, frequency offsets, or separation distances for proposed rulemakings in support of new spectrum uses/sharing requirements. Develop and disseminate conformity assessment systems (i.e., required methods for testing compliance with regulations) to American businesses and the FCC. Develop receiver and sensor performance requirements for improved spectrum sharing and efficiency.
- **Radiowave Propagation:** Develop and validate, through scientific theory and measurements, improved radio propagation models for various radio bands and environments and promulgate them to industry, other agencies, and national and international standard bodies. Apply these and existing propagation models towards the assessment of new spectrum-sharing techniques and the development of improved dynamic frequency management and spectrum-sharing systems.
- **Broadband Wireless Research:** Develop ultrawideband, wideband, and narrowband propagation measurement systems, radio channel models, statistical analysis techniques, signal processing algorithms, and specialized RF emissions measurement systems. Study and characterize the broadband transmission channel for within-building and campus-wide wireless networks and ultrawideband communications.
- **Interoperability of Public Safety Communication Systems:** Develop standards, technologies, and test methods to ensure interoperability of land mobile radio and broadband systems used by public safety and justice communities, public service, and land transportation agencies. Develop

information technology standards that public safety can adopt to ensure interoperability for information sharing.

- **Domestic and International Standards:** In cooperation with the U.S. International Telecommunications Union (ITU) National Committees, provide leadership of committees in ITU-T (Telecommunication Standardization Sector) and ITU-R (Radiocommunication Sector) Study Groups developing technical standards of importance to U.S. industry and government. Submit ITU recommendations on emerging mobile radio technologies, broadband network performance, radio propagation prediction, and radar systems, and coordinate their formal review and approval. Develop and coordinate approval of related U.S. voluntary consensus standards where appropriate.
- **Table Mountain Field Site and Radio Quiet Zone:** The Table Mountain Field Site and Quiet Zone supports fundamental research into the nature, interaction, and evaluation of telecommunication devices, systems, and services. In addition, this site serves as a resource for Federal agencies and private companies through interagency agreements and Cooperative Research and Development Agreements (CRADA).
- **Performance Assessment:** Develop and demonstrate perception-based audio and video performance assessment tools for critical new areas including Internet multimedia conferencing, advanced television, and wireless services. Document the advances associated with these tools in open-literature publications. Perform technology transfer to government, industrial, academic, and individual users via NTIA-developed, easy-to-use, portable software toolkit.
- **Wireless Networks:** Perform interoperability and quality assessments of representative wireless network technologies. Spearhead standards committee activities and provide engineering analysis and simulation results defining quantitative limits for adjacent and co-frequency block interference within and among advanced wireless communications technologies.
- **E-Government Research and Engineering:** Support agencies and industry in the evaluation and development of innovative e-government tools aimed at improving government services, expanding Internet access, and promoting technology transfer opportunities.

Radio Spectrum Occupancy

This program measures the spectral, temporal, and spatial characteristics of spectrum usage through comprehensive spectrum surveys and band-specific usage studies. These analyses are necessary for NTIA to fulfill its Federal spectrum management role. The program provides fundamental knowledge of the characteristics of the various systems within a band, their interactions with other systems, and the effects of the radio channel. This knowledge enables enhancements to the spectrum efficiency of existing systems, facilitates ever-expanding Federal agency spectrum uses, and directly supports development of spectrum-sharing strategies needed to identify 500 MHz of spectrum for mobile broadband wireless uses.

NTIA's knowledge base underpins numerous spectrum management decisions and guides a variety of Federal agency and industry spectrum uses. Spectrum occupancy measurements characterize Federal incumbent spectrum usage, help identify candidate bands for spectrum sharing or reallocation, and facilitate feasibility analyses of proposed sharing schemes. NTIA spectrum occupancy research also directly supports FCC management of the non-Federal spectrum.

Radio spectrum occupancy measurements are performed using NTIA's Radio Spectrum Measurement System (RSMS). The RSMS mobile laboratory is protected by a radiofrequency-shielded enclosure that permits measurements in challenging environments where high-power transmitters would otherwise obscure lower-level signals. The system consists of automated test software routines created by NTIA, commercial-off-the-shelf test equipment, and in-house developed custom preselectors. Different configurations and combinations of these components enable measurements in bands ranging from 10 kHz to 40 GHz. ITS constantly upgrades the system to characterize increasingly complex spectrum uses including spread-spectrum, ultrawideband, frequency-agile, and time-division duplexed systems, such as DFS or dynamic spectrum access (DSA).

This state-of-the-art measurement system is also used by NTIA interference mitigation teams dispatched to critical Federal installations where agencies have encountered interference that they cannot resolve themselves. For instance, ITS identified and proposed corrective actions to resolve DFS device interference with safety-of-life FAA Terminal Doppler Weather Radars (TDWR). NTIA findings guided both the FCC's subsequent enforcement actions and improvements to its DFS conformity assessment system. These activities provide substantial economic benefit to the private sector and to Federal agencies by enhancing the commercial availability of spectrum while sustaining Federal agency mission requirements.

Any reduction to radio spectrum measurement capabilities will reduce the availability of technical support activities for efforts by NTIA's Office of Spectrum Management (OSM) to improve spectrum-sharing strategies as part of the effort to identify 500 MHz of spectrum that can be made available for mobile broadband wireless uses. Specifically, ITS would not be able to procure and maintain the complex instrumentation required to complete complex spectrum measurements on behalf of the spectrum-sharing initiatives.

Electromagnetic Compatibility

Electromagnetic compatibility (EMC) analysis is the study of spectrum-sharing techniques that enable multiple radio systems to share spectrum; it is used to identify, troubleshoot, and resolve interference problems that affect Federal communications and radar systems. NTIA conducts comprehensive EMC studies that include realistic scenarios, radio wave propagation constraints, transmitter emission characteristics, receiver susceptibility to other signals, radio system protocols, and radio regulation considerations. NTIA validates its analyses using laboratory and field measurements.

The analyses culminate in the development of spectrum-sharing rules and interference protection criteria for both incumbent and new entrant systems. Interference protection criteria quantify the threshold to prevent harmful interference from the spectrum user's operational perspective and provide the technical foundation for new rulemakings. When new rules are adopted, NTIA provides lifecycle support for the regulatory process by developing and disseminating conformity assessment test procedures and test systems. For example, NTIA developed the system that the FCC uses for compliance testing of DFS devices and continues to provide system updates to the FCC as necessary. NTIA also conducts surveillance tests on emerging systems to ensure continued regulatory compliance.

In FY 2015, NTIA will continue to support key regulatory reforms aimed at improving radar spectrum efficiency through revised Radar Spectrum Engineering Criteria (RSEC). RSEC requirements are derived from ITS-developed measurement methods and institutional knowledge of radar system characteristics. NTIA will continue surveillance testing of existing dynamic frequency selection (DFS) devices, evaluation of DFS performance in proposed new bands, and mitigation of interference

problems as necessary. These research and engineering efforts promote a more agile regulatory environment, which positions U.S. industry for international leadership in telecommunications technology. NTIA provides technical support to Federal agencies for both these efforts through consultation with the Interdepartment Radio Advisory Committee (IRAC) technical subcommittee.

Improving spectrum-sharing strategies will require an increase in EMC analysis capability and research to identify spectrum bands that are feasible candidates for Federal/nonfederal sharing, including more analysis of interference protection criteria. The current focus of this research activity is to support OSM in this area. This research activity is crucial to efforts currently underway to identify 500 MHz of spectrum for mobile broadband wireless uses.

Radiowave Propagation

NTIA is a key developer of radio propagation models that support spectrum policy and management. For example, the ITS-developed Longley-Rice propagation model was a key component of the FCC's TV white spaces ruling. Over more than five decades of related research, NTIA has established a core telecommunications research expertise in propagation model development that is used by both the public and private sectors. Through CRADAs with industry and reimbursable agreements with other Federal agencies, both the private sector and Federal agencies access NTIA radio propagation models at cost. Most other models that are available to industry and government agencies are actually based on the NTIA models and depend on NTIA maintenance. Direct-funded NTIA programs and other agency-sponsored research activities interact synergistically, generating greater total contributions to national goals such as public safety communications interoperability and efficient spectrum management than they would individually.

As technology advances, radio systems are increasingly utilizing higher frequencies. Some radio systems are already moving into the millimeter-wave band, located at the upper end of the allocated radio spectrum (30-300 GHz). NTIA-developed and maintained propagation models are important resources in planning expansion of communications into this band. NTIA is also developing models to predict the performance of radio systems operating over short paths using detailed geographic information systems (GIS).

A reduction in direct funding for this research activity would reduce NTIA work in this area to reimbursable funded propagation models and tools designed to meet the limited specific needs of funding Federal agencies. Models developed with direct funding are approved for public release with unlimited distribution and have historically benefitted NTIA, all government agencies, and private industry, while modeling applications developed on a reimbursable basis are frequently restricted to limited distribution within the funding agency only. Radio wave propagation modeling is a critical tool for spectrum-sharing research in support of critical broadband deployment and spectrum-sharing objectives which would not be available to support NTIA programs without direct funding.

Broadband Wireless Research

Global trends are moving toward providing diverse personal communication services, such as audio, video, data, broadcasting, and common carrier services, through a converged system of wireline and wireless networks to connect the end user to the information infrastructure. As new wireless technologies emerge, NTIA has strengthened its efforts to develop improved measurements to support increasingly sophisticated uses of the spectrum, including spread-spectrum, ultrawideband, and frequency-agile systems such as DFS and DSA.

In FY 2015, NTIA's Broadband Wireless Research program will continue to perform spectrum-engineering analyses to assess current and future Federal use of the spectrum and determine where significant improvements in utilization appear possible. For example, knowledge from measurements and modeling of new frequency-agile, software-defined DFS and DSA radio technologies, which have been proposed as interference-free secondary users in Land Mobile Radio bands, is crucial in determining the feasibility of commercially viable systems. NTIA is also developing models that use detailed GIS to predict the performance of radio systems operating over short paths. Very few models exist to meet the increasing need for models for short-path applications such as in-building radio coverage, radio control systems, and radio systems utilizing higher frequencies, including those already moving into the millimeter-wave band at the upper end of the allocated radio spectrum (30-300 GHz).

NTIA develops the measurement procedures needed to characterize signals emitted by new systems and to perform increasingly complex system-compatibility analyses to assess, for example, the effects that emerging technologies may have on incumbent systems. Technical support will be continued for major frequency management concerns through representation at technical subcommittee (TSC IRAC) meetings, with principal emphasis on improving Federal spectrum efficiency.

OSM and IRAC agencies frequently request system compatibility analyses and related technical support. In some cases, this technical support has been used to identify and resolve interference on life-saving radar stations. A reduction in funding to this research activity will diminish ITS's ability to respond to requests by OSM and other Federal agencies for assistance of this nature.

Interoperability of Public Safety Communication Systems

NTIA is assessing emerging spectrum requirements for public safety and law enforcement in coordination with the Public Safety Communications Research (PSCR) program and a number of different Federal departments and programs that have a keen interest in public safety interoperability. On a reimbursable basis, NTIA provides telecommunications engineering support to improve public safety communications interoperability through the PSCR program on behalf of a multiagency effort that includes the National Institute for Standards and Technology (NIST) Office of Law Enforcement Standards (OLES) and the Department of Homeland Security (DHS) Office for Interoperability and Compatibility (OIC) and Office of Emergency Communications (OEC).

In general, the broad-based interoperability effort addresses four key areas: (1) development of qualitative and quantitative public safety communication and information-sharing requirements that are accepted nationally by the public safety community and industry; (2) identification and development of interface standards that satisfy defined user requirements through leadership and direct technical contribution to national and international standards bodies focused on public safety communications; (3) research, development, test, and evaluation of concepts, products, and services for long-term interoperability solutions as well as interim improvements; and (4) research and development to accommodate technical gaps that emerge during the entire process. All elements of the NTIA public safety activity involve close and constant coordination with public safety practitioners. Recent efforts include the implementation of a broadband demonstration network to provide manufacturers a location to test and evaluate broadband technologies and systems for newly available 700 MHz spectrum.

While this research activity has been funded primarily by the Department of Homeland Security and other Federal agencies, NTIA provides a small amount of funding to purchase laboratory equipment, and supplies that are not provided through reimbursable arrangements. Reimbursable funding does

not always provide resources to train and educate program staff on new technologies, public safety practices, and general research methodologies, outside of the current program activities. Staying informed in the field engineering and technology, outside of the program focus, is necessary for understanding and forecasting future needs and requirements. A reduction to this activity would limit professional growth, curtail program innovation, and hinder the program's ability to invest in new equipment and ideas – all of which will limit the amount and quality of support provided to Federal agencies.

Domestic and International Standards

In cooperation with other interested U.S. government agencies and U.S. industry groups, NTIA prepares and coordinates domestic and international telecommunications standards. Through its international standards work, NTIA expands trade opportunities for U.S. telecommunications and information providers by leading and supporting U.S. participation in key technical negotiations of the International Telecommunication Union's Telecommunication Standardization Sector (ITU-T) and Radiocommunication Sector (ITU-R) as well as associated ITU Rapporteur groups (e.g., VQEG). ITU telecommunication standards and radiocommunication recommendations serve as blueprints for future technology development involving billions of dollars in telecommunications industry investment worldwide. NTIA staff engage in ITU negotiations and provide the technical content for international standards and recommendations. A plurality of ITU technical recommendations are based on research conducted at NTIA's ITS. NTIA organizes and coordinates U.S. participation in international telecommunications conferences, standards development organizations, technical meetings, and treaty negotiations and U.S. industry and U.S. Government agencies depend heavily on NTIA to provide both technical information and negotiators in ITU-T and ITU-R, and in the related domestic standards organizations.

NTIA contributions to national standards committees provide technical solutions to critical issues facing U.S. telecommunications planners, and thereby help to more rapidly evolve our national information infrastructures. The public interest and user-oriented technical contributions NTIA develops and presents to national and international standards organizations address quality of service (QoS); communication network resource management, and other topics essential to the development and implementation of advanced Internet Protocol (IP)-based networks; optical transport networks; next-generation networks (NGN) and supporting broadband infrastructures; switched optical networks; IP Multimedia Subsystem (IMS) and other advanced signaling systems; integrated broadband cable networks; video quality; and radar systems. In FY15, NTIA will continue to chair the ITU-T Study Group 9 (Television and sound transmission and integrated broadband cable networks) and will contribute to its technical work. NTIA will also contribute to the ITU-affiliated Video Quality Experts Group (VQEG) and will promote and lead related national standards work organized by the Alliance for Telecommunications Industry Solutions (ATIS), the Society of Cable Telecommunications Engineers (SCTE), and other U.S. voluntary consensus standards organizations.

NTIA provides important, ongoing technical support for the U.S. Administration in ITU-R Study Group 3 (Radiowave Propagation) and Study Group 5 (Mobile, Radiodetermination, Amateur and Related Satellite Services); Working Party 5B; the Radar Correspondence Group, and the Radar Unwanted Emissions Group. In Study Group 3, NTIA is a leader in the development and evaluation of radio propagation models for Working Party 3K. An NTIA engineer serves as the Chair of U.S. Study Group 3. It is devoted to making improvements in propagation models and studies with the goal of improved efficiency in radio spectrum usage domestically and internationally.

In Study Group 5, Working Party 5B, current areas of interest include potential reallocation of radar spectrum, effects on radars of interference from communication systems, dynamic frequency selection technology, development of radar emission spectrum measurement techniques, and development of more efficient radar spectrum emission criteria. NTIA provides critical support to the U.S. Administration on radar systems, preserving the spectrum that critically important radar systems need for their continued operation in areas of safety and defense.

Under agency reimbursable agreements, NTIA will continue to support other Federal agencies with development of telecommunication specifications, standards, proof of concept and demonstration measurements, interoperability analyses, technical and economic impact assessments, and prototype development. FY 2015 reimbursable programs are expected to address standards development for public safety communications interoperability, digital land mobile radio, and priority access capabilities for public wireless and IP-based networks. In Public Safety work, for example, NTIA advances the work of other Federal programs (e.g., NIST/OLES, DHS/OIC, etc.) through leadership and critical technical contributions to the Third Generation Partnership Project (3GPP) for public safety broadband and the Project 25 Technical Committees, Working Groups, and Task Groups, as well as the associated organizational entities within the Telecommunications Industry Association (TIA) TR-8 Committees for public safety narrowband communications.

Through participation on these standard bodies, NTIA influences international standards and policies that support fair competition in the information and communications technology sector. Currently, NTIA provides technical leadership on a number of international and national standard bodies. A reduction to this program activity will require NTIA to stop participation on several working groups. This will decrease U.S. influence abroad on telecommunication-related issues and will reduce NTIA's ability to protect the interests of U.S. industry and influence international and national standards through authoritative technical contributions.

Performance Assessment

NTIA's international and U.S. standards committee leadership, including roles in the ITU-T and the Video Quality Experts Group, is supported by telecommunications research and engineering activities that develop and implement performance measures for integrated data, audio (including voice), video, and multimedia communication equipment and services. NTIA applies its unique expertise and state-of-the-art voice and video measurement laboratories to validate and optimize telecommunication performance standards. This research leads U.S. Industry and the world in the development of user-oriented, technology-independent performance parameters and measurement methods for high-speed data communication services.

In FY 2015, NTIA will continue its groundbreaking work in perception-based audio and video quality assessment and associated digital compression and transmission issues. NTIA will focus its work toward important new technology areas including Internet multimedia conferencing and advanced television (e.g., Internet Protocol Television (IPTV)) services. Both of these fundamentally new technologies pose significant and novel coding, transmission, and quality assessment challenges. NTIA will also conduct research addressing specific coding and transmission quality issues associated with wireless and broadband access services. NTIA will continue to pursue in-service quality assessment techniques, since these allow for the most relevant assessments and do not require the interruption of services. NTIA will continue to enhance its laboratory facilities to support fully-automated, all-digital subjective audio-visual testing, and will demonstrate the enhanced audio/video test capabilities to industry and government users. To encourage technology transfer and widespread adoption of NTIA-developed audio and video quality assessment technologies, NTIA will

enhance and make available an easy-to-use, highly portable audio-video assessment software toolkit.

A reduction to this research activity will have a significant impact on the video and audio research laboratories and capabilities. These programs are already operating at minimal capacity; i.e., there are only three engineers remaining who are trained and qualified to support these research activities. The audio and video quality research program is currently focused on addressing research questions related to video and speech quality in support of the Department's goals of efficient, robust, and widely deployed mobile broadband telecommunication services. The contributions from this research have already been applied to public safety interoperability issues related to sound and video transmissions. These research programs have patented a number of approaches and methodologies over the past 10 years which are being adopted by international organizations and U.S. companies. This research also supports spectrum sharing by voice, video, and data services. For example, advances in video and voice coding and transmission algorithms made possible by this research will allow more users and technologies to share limited spectrum resources without interfering with one another.

Wireless Networks

NTIA will continue its on-going wireless networking program in FY 2015. Advanced wireless technologies are expected to provide wireless voice, data, and image communications and a variety of advanced service features using small, inexpensive, lightweight, low-powered portable radio terminals. Advanced wireless technologies will extend wired information infrastructures to mobile, rural, and other users and may dramatically improve telecommunication service availability in natural disaster and other emergency situations. However, achieving these benefits will require solutions to major implementation problems. As wireless networks and applications expand, interference among users sharing spectrum also becomes more likely. Users and service providers hoping to develop advanced wireless networks may be faced with an over-abundance of candidate technologies, many of which are non-interoperable.

NTIA is addressing these problems by providing objective, expert technical contributions in support of public interest concerns in national and international committees responsible for resolving wireless network implementation issues. A particular focus of NTIA activity is in the development of intra-system and inter-system interference assessment metrics and standards in the Alliance for Telecommunications Industry Solutions (ATIS) subcommittee WTSC/G3GRA (Wireless Technologies and Systems Committee — Radio Aspects of GSM/3G and Beyond) to enhance capability and harmonization among telecommunication systems in the environment. Results promote efficient use of increasingly scarce radio spectrum and improve wireless system coverage and performance.

Currently, NTIA provides technical leadership on several industry standard bodies. A reduction to this program activity will require NTIA to lessen its participation in these groups. This will have an impact on the nation's ability to develop technically sound telecommunication standards to support synchronization and interoperability within the nation's telecommunication systems, improved spectrum usage, and expanded competitive wireless system coverage.

Table Mountain Field Site and Radio Quiet Zone

The Table Mountain Field Site and Quiet Zone supports fundamental research into the nature, interaction, and evaluation of telecommunication devices, systems, and services. In addition, this site serves as a resource for Federal agencies and private companies through interagency agreements

and CRADAs. CRADAs enable access to this unique resource for the purpose of testing and evaluating promising new telecommunication technologies. The site is currently being used by several Federal agencies and companies to develop measurement techniques for new communication technologies, to test operational performance of new radar systems and other communication technologies, to evaluate broadband and laser radar (LADAR) technologies for public safety and national defense applications, and to test radio receivers for the purpose of alerting citizens to potential weather hazards in cooperation with the National Weather Service.

A reduction in funding for the field site would result in safety and security threats. The current funding was appropriated by Congress over a decade ago because the field site and buildings had become rundown and dangerous over time. Without adequate support and care of the site, researchers working at the site would be exposed to potential threats, including Hantavirus, electric shock, and unsafe road conditions. If the conditions of the site deteriorate, researchers would be forced to abandon the site because of the potential safety hazards. The Table Mountain Quiet Zone is one of only two sites in the country regulated to prevent the transmissions of powerful signals over the site, and currently the only one consistently available for use by private industry. This, and the flat surface of the site, create ideal conditions for radio research, including in particular that required to develop and test new spectrum-efficient technologies.

E-Government Research and Engineering

NTIA's many decades of experience in the management of very large data stores is being leveraged to support agencies and industries in the evaluation and development of electronic records management tools. Under an agency reimbursable agreement, NTIA is supporting the National Archives and Records Administration (NARA) by providing the technical backbone for a proposed electronic Federal Record Center (eFRC). Working closely with NARA archivists, NTIA designed and implemented a prototype for a potentially large-scale (up to 100 Terabyte) records management infrastructure to administer, store, and manage temporary e-records in compliance with well-established NARA records management requirements, including support for automation of NARA business processes through electronic workflow. ITS is tasked with assisting NARA to design and implement a large-scale records management infrastructure to administer, store, and manage e-records. Currently, this work is fully supported through reimbursable funding.

PROGRAM CHANGES:

INFLATIONARY ADJUSTMENT:

The Telecommunication Sciences Research base program has been reduced by \$111,000 to offset increased funding requirements for inflationary increases to core, cross-cutting Department fixed costs. This includes the 2015 estimated pay raise of 1 percent and service contracts with inflationary labor rates. Non-labor activities that require inflationary increases include areas such as rent, utilities and security. NTIA must manage this reduction through vacancy management and reductions to program contracts and training.

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Budget Program: Salaries and expenses
 Sub-Program: Broadband Programs

Comparison by sub-program	2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)		
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
Broadband Programs.....	Pos/BA	40	\$24,996	36	\$24,685	36	\$25,198	36	\$15,848	0	(\$9,350)
	FTE/Obl.	45	24,456	36	25,286	36	25,198	36	15,848	0	(9,350)
Direct Obligations.....	Pos/BA	40	24,996	36	24,685	36	25,198	36	15,848	0	(9,350)
	FTE/Obl.	45	24,456	36	25,286	36	25,198	36	15,848	0	(9,350)

SUBPROGRAM: BROADBAND PROGRAMS

In FY 2015 NTIA will continue and largely conclude its critical oversight responsibilities of the broadband programs under the American Recovery and Reinvestment Act of 2009 (Recovery Act, Public Law No. 111-5), delivering enormous benefits to the American people.

The objectives of the broadband programs in FY 2015 are to:

- Oversee nearly \$4.2 billion in awarded grants funded through the Broadband Technology Opportunities Program (BTOP) and the State Broadband Initiative (SBI) to prevent waste, fraud, and abuse by grant recipients; protect the Federal Government's investment in broadband infrastructure and services; and provide assistance to grant recipients in delivering the benefits promised in their applications;
- Ensure BTOP 700 MHz public safety grants proceed in a manner that supports FirstNet, the nationwide public safety broadband network, as described in the Middle Class Tax Relief and Job Creation Act of 2012;
- Demonstrate transparency and accountability of program activities and Recovery Act funds by (1) ensuring the public availability of recipient reporting and other program information; and (2) promoting broadband investments and adoption through sharing best practices and proven solutions from the broadband grants;
- Manage the grant closeout process to ensure that recipients have met all financial and reporting requirements; review documentation to ensure that the federal interest in BTOP-funded property has been recorded; and ensure that obligated funds not used for eligible grant activities during the period of performance are deobligated during grant closeout and expeditiously returned to the Treasury.

Baseline Broadband Programs—Completing the Recovery Act Investments:

During FY15, NTIA's broadband programs will exert significant oversight over the Recovery Act investments. The Recovery Act appropriated \$4.4 billion to NTIA to provide grants for broadband initiatives throughout the United States (www.ntia.doc.gov/broadbandgrants). The Recovery Act instructed NTIA to establish BTOP, a grant program providing access to broadband in unserved areas of the United States; improving access in underserved areas; providing broadband technologies to schools, hospitals, libraries and other strategic institutions; improving broadband capabilities for public safety agencies; and stimulating demand for broadband.

The Recovery Act also required NTIA to establish the SBI and to develop and maintain an interactive and searchable map of broadband services in the United States. SBI provided grants to U.S. States and Territories for projects that collect comprehensive and accurate state-level broadband availability data, develop state-level broadband maps, and fund statewide initiatives that plan for and improve states' abilities to compete in a digital economy. The National Broadband Map became available in February 2011, and is updated and maintained by NTIA per the requirements of the Broadband Data Improvement Act, P.L. 110-385 and the Recovery Act.

All BTOP and SBI grants under the Recovery Act were obligated prior to the end of FY10. In FY15, NTIA will continue to oversee the grants through their completion and federal-interest period in order to protect the Federal Government's investment in broadband infrastructure, public computer centers, and broadband adoption projects. Notwithstanding the fact that most grants will be closed or in the closeout phase, NTIA's oversight responsibilities will be significant, encompassing the 700 MHz public safety grants, the 56 SBI awards, the final data collection for the National Broadband

Map, and a small number of large-scale infrastructure projects extended due to compelling circumstances. In addition to administering the grants from NTIA's broadband programs, NTIA will conduct a final update to the national map of broadband availability and ensure an orderly transition of these responsibilities to the Federal Communications Commission (FCC). NTIA's primary FY15 activities will include the following:

- NTIA will continue to administer and closeout SBI awards during the year. These grants are collecting broadband availability data as well as adoption data for schools, libraries and other anchor institutions. In addition, they are building capacity within each state to increase broadband availability and adoption. NTIA will continue to update the broadband inventory map in the first half of FY15 and work with the FCC to transfer these responsibilities.
- NTIA will continue to provide oversight and monitoring of the BTOP 700 MHz public safety grants, which are expected to extend due to the passage of the Middle Class Tax Relief and Job Creation Act of 2012. The Act provides funding for a nationwide public safety broadband network that may impact the BTOP public safety recipients' ability to use the 700 MHz spectrum. Due to these unforeseen events, 700 MHz projects will likely extend into FY15. NTIA will ensure these projects are completed in a manner that supports FirstNet.
- NTIA will ensure an efficient closeout of the remaining BTOP and SBI grants. NTIA will ensure that recipients comply with all grant terms and conditions, including the appropriate filing of UCC-1 forms that document the Federal interest in grant-funded property. With over \$3 billion in investments in construction projects, grant recipients have deployed significant infrastructure across the Nation that needs to be inventoried and properly recorded so that NTIA can ensure over time that the BTOP-funded property continue to serve the public purpose for which it is intended. NTIA program staff will also oversee appropriate filing of closeout reports and ensure that program metrics are met. Throughout the closeout process, NTIA will review final reports to identify any unused grant funds. NTIA will expeditiously deobligate any funds not spent during the grant period of performance and ensure that those funds are returned to the Treasury. NTIA anticipates that recovered funds—either unspent or returned through rigorous oversight of projects—will total in the range of four to five percent of total committed funds, or \$168 to 200 million.
- The Agency will also review and resolve grant recipients' audit activities. For example, for an audit containing findings or questioned costs for which the agency needs additional information, NTIA will provide the recipient with technical assistance for the audit resolution. If the audit resolution process results in any disallowed costs, NTIA will work with the recipient on repayment of those costs and ensure that the funds are promptly returned to the Treasury.
- After closeout, NTIA will continue to protect the Federal interest in the BTOP grants. NTIA's oversight and management responsibilities do not end when the projects are closed. NTIA must ensure that projects remain in compliance with Federal requirements, including use of equipment for grant-related purposes and NTIA review of any sale or transfer of assets. NTIA's continuing responsibilities will extend throughout the estimated useful life of the BTOP property.

- NTIA will disseminate best practices and proven solutions from these projects to help other stakeholders further broadband deployment and adoption in the United States. Staff has identified projects that have shown strong results in broadband adoption and value-added applications in areas such as education and economic development. Federal investments in program design and the production of training curricula for workforce and digital literacy need to be documented and the resulting products disseminated, to ensure future programs are as efficient and cost-effective as possible. This work will build on NTIA's toolkits published to support broadband adoption and training programs, especially documentation analyzing infrastructure deployment and best practices for delivering broadband to K–12 schools in support of President Obama's ConnectED initiative.

PROGRAM CHANGES:

INFLATIONARY ADJUSTMENT:

The Broadband program has been reduced by \$513,000 to offset increased funding requirements for inflationary increases to core, cross-cutting Department fixed costs. This includes the 2015 estimated pay raise of 1 percent and service contracts with inflationary labor rates. Non-labor activities that require inflationary increases include areas such as rent, utilities and security. NTIA must manage this reduction through vacancy management and reductions to program contracts and training.

PROGRAM DECREASE FOR FY 2015:

Broadband Programs Administration (Base Funding: \$24,685,000 and 36 FTE; Program Change: -\$12,264,000 and -15 FTE): NTIA requests a decrease of \$12,264,000 and a reduction of 15 FTE for a total of \$12,421,000 and 21 FTE required to administer the BTOP and SBI grants. NTIA has determined that this funding level will be sufficient to prevent waste, fraud, and abuse of nearly \$4.2 billion in awarded broadband grants, ensure that the broadband recipients accomplish program goals, and oversee recipients' continued activities to fulfill the terms of their grants through the federal-interest period.

Proposed Action:

NTIA seeks a decrease of its administrative expenses for FY15. Because many of the grants will be in the closeout phase or closed by the end of FY14, NTIA will scale back staff, contractor resources, and general operating expenses to efficiently administer the BTOP and SBI grants. This decrease still provides NTIA with resources to effectively administer the broadband programs.

Statement of Need and Economic Benefits:

NTIA's \$3.5 billion investment in broadband infrastructure, \$450 million investment in public computer centers and adoption programs, and \$300 million investment in state broadband availability data and capacity building is essential for broadband policy and economic development. NTIA will be able to meet broadband and economic development goals while prudently reducing administrative resources as projects are completed and closed.

Total anticipated administrative expenses, including ARRA administrative expenses, base resources, and out year plans, represent less than 5 percent of the funds for the programs. Based on NTIA's experience, competitive Federal grant programs may require 10 percent of an

appropriation to manage grants comprehensively from application to closeout. For example, NTIA's Public Telecommunications Facilities Program regularly received 10 percent of its appropriation for administrative costs. With \$4.2 billion in awarded broadband grants at risk of potential waste, fraud, and abuse, this is a prudent investment to protect taxpayer funds.

Risk Assessment:

Insufficient funding in FY15 to oversee BTOP and SBI awards adequately will:

- increase the potential for waste, fraud, and abuse due to inadequate program oversight;
- prevent achieving program metrics and project benefits in communities;
- jeopardize final data collection and mapping of national broadband availability;
- detract from FirstNet's ability to leverage BTOP-funded assets within the framework of achieving its mission to build a nationwide network;
- compromise NTIA's ability to identify, recover, and return unused funds to the Treasury; and
- preclude the documentation and sharing of lessons learned and best practices in support of President Obama's ConnectED initiative and as a resources for States and communities to use in building out future broadband projects.

Base Resource Assessment:

FY14 broadband programs were funded at \$24,685,000. Because many of NTIA's broadband programs grants will in the closeout phase or closed by the end of FY14, NTIA will prudently reduce resources for grants administration. NTIA will efficiently execute critical grants oversight and program management functions with the decrease.

Schedule & Milestones:

- 9/30/2013: Projects 85 Percent Complete and One-Third of Those Closed Out
- 9/30/2014: Independent Report on Economic and Social Impact of BTOP
- 9/30/2015: All BTOP and SBI Recovery Act Projects Complete

Deliverables:

- Quarterly Program Reports to Congress
- Broadband Availability Reports
- End of Program Reports

PERFORMANCE METRICS

Performance Goal:	FY 2011	FY	FY	FY	FY
Innovation and Entrepreneurship	Actual	2012	2013	2014	2015
		Target	Target	Target	Target
Projects Closed Out*					
With Decrease	-	-	23%	76%	100%
Without Decrease	-	-	23%	76%	100%

* **Description:** Broadband projects with a period of performance into FY15 include the State Broadband Initiative (SBI) grants, funded up to five years, and likely 700 MHz public safety projects impacted by the passage of the Middle Class Tax Relief and Job Creation Act of 2012. A small number of large-scale middle mile construction projects may also need to be extended into FY15 due to complications related to environmental regulations, contracts, or weather-related delays.

Performance Goal:	FY11	FY12	FY13	FY14	FY15
Innovation and Entrepreneurship	Actual	Target	Target	Target	Target
Broadband networks deployed					
With Decrease	10,000	50,000	100,000	109,000	110,000
Without Decrease	10,000	50,000	100,000	109,000	110,000

Performance Goal:	FY11	FY12	FY13	FY14	FY15
Innovation and Entrepreneurship	Actual	Target	Target	Target	Target
Community institutions connected					
With Decrease	3,000	10,000	18,000	23,000	24,000
Without Decrease	3,000	10,000	18,000	23,000	24,000

Performance Goal:	FY11	FY12	FY13	FY14	FY15
Innovation and Entrepreneurship	Actual	Target	Target	Target	Target
Public computer workstations					
With Decrease	10,000	35,000	37,500	40,000	40,000
Without Decrease	10,000	35,000	37,500	40,000	40,000

Performance Goal:	FY11	FY12	FY13	FY14	FY15
Innovation and Entrepreneurship	Actual	Target	Target	Target	Target
Broadband subscribers					
With Decrease	100,000	350,000	500,000	650,000	650,000
Without Decrease	100,000	350,000	500,000	650,000	650,000

PROGRAM CHANGE PERSONNEL DETAIL

Budget Program: Salaries and Expenses
 Sub-Program: Broadband Programs
 Program Change: Broadband Programs Administration

Title:	Location	Grade	Number of Positions	Annual Salary	Total Salaries
Comm. Program Specialist	Washington, DC	GS-15	(7)	140,259	(981,813)
Comm. Program Specialist	Washington, DC	GS-14	(4)	119,238	(476,952)
Telecom. Policy Analyst	Washington, DC	GS-15	(1)	140,259	(140,259)
Telecom. Policy Analyst	Washington, DC	GS-14	(1)	119,238	(119,238)
Management Analyst	Washington, DC	GS-15	(1)	140,259	(140,259)
Secretary	Washington, DC	GS-09	(1)	58,511	(58,511)
Total			<u>(15)</u>		<u>(1,917,032)</u>
Less Lapse		0%	<u>0</u>		<u>0</u>
Total full-time permanent (FTE)			(15)		(1,917,032)
2013 Pay Adjustment (0%)					0
2014 Pay Adjustment (1%)					0
TOTAL					<u>(1,917,032)</u>

Personnel Data

	<u>Number</u>
Full-Time Equivalent Employment	
Full-time permanent	(15)
Other than full-time permanent	<u>0</u>
Total	(15)
Authorized Positions:	
Full-time permanent	(15)
Other than full-time permanent	<u>0</u>
Total	(15)

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Budget Program: Salaries and Expenses
 Sub-Program: Broadband Programs
 Program Change: Broadband Programs Administration

Object Class	2015 Change
11 Personnel compensation	
11.1 Full-time permanent	(1,917)
11.3 Other than full-time permanent	0
11.5 Other personnel compensation	(19)
11.8 Special personnel services payments	0
11.9 Total personnel compensation	<u>(1,936)</u>
12 Civilian personnel benefits	(523)
13 Benefits for former personnel	0
21 Travel and transportation of persons	(155)
22 Transportation of things	(3)
23.1 Rental payments to GSA	(132)
23.2 Rental Payments to others	0
23.3 Communications, utilities and miscellaneous charges	(24)
24 Printing and reproduction	0
25.1 Advisory and assistance services	0
25.2 Other services	0
25.3 Purchases of goods & services from Gov't accounts	(9,472)
25.4 Operation and maintenance of facilities	0
25.5 Research and development contracts	0
25.6 Medical care	0
25.7 Operation and maintenance of equipment	0
25.8 Subsistence and support of persons	0
26 Supplies and materials	(12)
31 Equipment	(7)
32 Lands and structures	0
33 Investments and loans	0
41 Grants, subsidies and contributions	0
42 Insurance claims and indemnities	0
43 Interest and dividends	0
44 Refunds	0
99 Total obligations	<u>(12,264)</u>

PROGRAM INCREASE FOR FY 2015:

Broadband Programs- Expanding Community Broadband and the Digital Economy (Base Funding: \$24,685,000 and 36 FTE; Program Change: +\$3,427,000 and +15 FTE):

Proposed Action:

NTIA seeks to utilize \$3,427,000 of the reduced grant administration budget to continue the momentum generated by the successful implementation of its broadband and technology programs over the last two decades, with the goal of further increasing broadband adoption and utilization in communities across the country. NTIA will continue technical assistance to communities and leverage partnerships to support activities in communities that elevate their broadband preparedness and innovation readiness, resulting in significant strides in improving America's competitiveness through broadband and economic development goals.

Through decades of experience leading broadband and technology programs, NTIA has accumulated tremendous knowledge about effective mechanisms to increase broadband availability, adoption, and use across the country, and has developed strong partnerships with key stakeholders. This experience will enable NTIA to continue offering online and in-person technical assistance to stakeholder groups and individual communities in FY15, who routinely request assistance or information from NTIA's team.

NTIA will provide technical assistance to a diverse set of communities based on sharing replicable and scalable lessons learned to support a "right size" approach for each community. NTIA will also link communities with existing federal resources across the government (e.g. SmartGrid, economic development) to build their broadband capacity. During FY15, NTIA will provide technical assistance to at least 175 communities in implementing or expanding broadband availability and adoption programs. This is expected to result in an increase in broadband availability and adoption, as well as a long-term economic return in these communities.

The Agency has built enormous expertise in broadband deployment, capacity building, and adoption in communities across the nation. NTIA's broadband team possesses unique skills and deep experience in understanding the financial, technical and organizational factors that define successful broadband deployment and adoption initiatives. Having invested in and worked on projects in every state, in rural and urban settings, and among diverse populations, NTIA staff has a broad range of tools to apply to the challenges of various communities. Because our historical grant programs have also funded a variety of entities, including public, private and public-private partnerships, NTIA staff has a birds-eye view of strategies to bring stakeholders together to invest in successful community broadband solutions.

During FY15, NTIA will also continue our multi-stakeholder work that builds on the demonstrable outcomes and best practices of the recent public and private broadband investment that have together raised the levels of broadband availability and adoption across much of the country. This public-private engagement will help communities participate more effectively in the Internet-based economy. The work will build on NTIA's strong relationships with broadband providers, municipal organizations, innovation economy firms, non-profit organizations, foundations and other Federal stakeholders. This network has strengthened as a result of NTIA's broadband programs, but was built over decades as we provided the leading voice in the Administration on broadband and technology access and adoption. Through our partnerships, NTIA will lead an effort to identify broadband opportunities to incentivize a community's ability to support existing commerce and attract new business investments that will spur economic growth. NTIA will convene key stakeholders to

identify strategies to support communities as they seek to improve their broadband infrastructure and expand their digitally literate workforce.

Statement of Need and Economic Benefits:

NTIA's broadband work in FY15 will achieve benefits in three primary areas: (1) high-value activities undertaken in newly mobilized communities, including coordination, planning, research, and stakeholder engagement; (2) increased broadband development and adoption resulting from these activities; and (3) short- and long-term social and economic development, such as potential employment gains, outside private investment, and enhanced educational, health and civic outcomes.

Studies consistently show the transformative benefits of broadband, which is why the Administration has set ambitious targets for its deployment. To attract private investment, communities increasingly need ultra-fast broadband as much as they need rail, ports, roads and electricity. Communities that have adopted broadband early experience faster growth in employment, number of businesses, and businesses in IT-intensive sectors. A 2009 World Bank study¹ found that for every 10 percentage point increase in broadband adoption a high-income economy would enjoy a 1.21 percentage point increase in per capita GDP growth. A more recent study² by the Chalmers University of Technology found that in 33 OECD countries, doubling the broadband speed for an economy increases GDP by 0.3 percent.

Risk Assessment:

Today, communities across the country reach out to NTIA to ask questions, be referred to resources, and find new developments in the field. Without this level of funding, NTIA will be unable to support these communities as they seek to expand broadband availability and adoption. This is particularly critical for cities, towns and counties that have limited financial resources, but are in most need of leveraging the power of technology to strengthen their local economies. NTIA possesses a talented team of subject-matter experts who have unique know-how in navigating the financial, technical, and human-capital issues to promote broadband development in communities.

Base Resource Assessment:

Federal staffing includes personnel to lead and drive implementation, to develop and manage partnerships with private and non-profit stakeholders, and to apply technical, sectoral and financial knowledge based on NTIA's expertise.

Schedule & Milestones:

¹ World Bank. *Information and Communications for Development; Extending Reach and Increasing Impact*. Washington, D.C. 2009.

² Study available at <http://www.chalmers.se/en/news/Pages/New-study-quantifies-the-impact-of-broadband-speed-on-GDP.aspx>

- 10/2014–3/2015 Conduct outreach and continue to engage other federal agencies, philanthropic groups and broadband trade groups
- 10/2014 – 09/2015 Continue capturing and assessing replicable, scalable models from NTIA programs as well as other successful projects
- 10/2014 –9/2015 Provide technical assistance (webinars, workshops, training materials, one-on-one support) to communities seeking to expand broadband availability and adoption

Deliverables:

PERFORMANCE METRICS

Performance Goal:	FY15 Target	FY16 Target	FY17 Target
Increase in communities to which NTIA provides technical assistance			
With increase	175 communities	200 communities	200 communities
Without increase	None	None	None

PROGRAM CHANGE PERSONNEL DETAIL

Budget Program: Salaries and Expenses
Sub-Program: Broadband Programs
Program Change: Expanding Community Broadband and the Digital Economy

Title:	Location	Grade	Number of Positions	Annual Salary	Total Salaries
Comm. Program Specialist	Washington, DC	GS-15	7	140,259	981,813
Comm. Program Specialist	Washington, DC	GS-14	4	119,238	476,952
Telecom. Policy Analyst	Washington, DC	GS-15	2	140,259	280,518
Telecom. Policy Analyst	Washington, DC	GS-14	2	119,238	238,476
Mgt. & Program Analyst	Washington, DC	GS-15	1	140,259	140,259
Mgt. & Program Analyst	Washington, DC	GS-12	3	84,855	254,565
Secretary	Washington, DC	GS-09	1	58,511	58,511
Total			<u>20</u>		<u>2,431,094</u>
Less Lapse		25%	<u>5</u>		<u>607,774</u>
Total full-time permanent (FTE)			15		1,823,321
2014 Pay Adjustment (0%)					0
2015 Pay Adjustment (1%)					0
TOTAL					<u>1,823,321</u>
Personnel Data			<u>Number</u>		
Full-Time Equivalent Employment					
Full-time permanent			15		
Other than full-time permanent			0		
Total			<u>15</u>		
Authorized Positions:					
Full-time permanent			20		
Other than full-time permanent			0		
Total			<u>20</u>		

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Budget Program: Salaries and Expenses

Sub-Program: Broadband Programs

Program Change: Expanding Community Broadband and the Digital Economy

Object Class		2015 Change
11	Personnel compensation	
11.1	Full-time permanent	1,823
11.3	Other than full-time permanent	0
11.5	Other personnel compensation	14
11.8	Special personnel services payments	0
11.9	Total personnel compensation	<u>1,837</u>
12	Civilian personnel benefits	401
13	Benefits for former personnel	0
21	Travel and transportation of persons	100
22	Transportation of things	3
23.1	Rental payments to GSA	122
23.2	Rental Payments to others	0
23.3	Communications, utilities and miscellaneous charges	20
24	Printing and reproduction	25
25.1	Advisory and assistance services	0
25.2	Other services	150
25.3	Purchases of goods & services from Gov't accounts	744
25.4	Operation and maintenance of facilities	6
25.5	Research and Development contracts	0
25.6	Medical care	0
25.7	Operation and maintenance of equipment	0
25.8	Subsistence and support of persons	0
26	Supplies and materials	12
31	Equipment	7
32	Lands and structures	0
33	Investments and loans	0
41	Grants, subsidies and contributions	0
42	Insurance claims and indemnities	0
43	Interest and dividends	0
44	Refunds	0
99	Total obligations	<u>3,427</u>

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Budget Program: Salaries and expenses
 Sub-Program: Spectrum Monitoring Pilot Program

Comparison by sub-program	2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)		
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
Spectrum Monitoring Pilot Program.....	Pos/BA	0	\$0	5	\$1,500	5	\$1,537	11	\$7,500	6	\$5,963
	FTE/Obl.	0	0	5	1,500	5	1,537	8	\$7,500	3	5,963
Direct Obligations.....	Pos/BA	0	0	5	1,500	5	1,537	11	7,500	6	5,963
	FTE/Obl.	0	0	5	1,500	5	1,537	8	7,500	3	5,963

SUB-PROGRAM: SPECTRUM SHARING AND MONITORING (Center for Advanced Communications)

The National Telecommunications and Information Administration (NTIA) recently announced a cooperative effort with the National Institute for Standards and Technology (NIST) to align the world-class advanced communications capabilities of both organizations under a Center for Advanced Communications. The Center is expected to address current and long-term challenges related to spectrum sharing, public safety communications, standards coordination, electromagnetics, and quantum electronics. The Center is also expected to coordinate and tackle several national priorities recently outlined in the Presidential Memorandum – Expanding America’s Leadership in Wireless Communications, such as monitoring and supporting advances in spectrum sharing policies and technologies.

The Spectrum Monitoring Initiative (SMI) is the cornerstone of NTIA’s participation under the Center’s primary objective to better understand spectrum performance and usage issues for the development of policy and spectrum management practices regarding spectrum assignment, sharing, and innovation by both Federal and commercial stakeholders.

The objectives of the Spectrum Monitoring Initiative and the Center sub-activity are to:

- Promote a better understanding of how spectrum is currently used and explore opportunities for spectrum sharing to advance both Federal and commercial use of spectrum;
- Coordinate information and share data on spectrum-related research and applied technology to support improved management of spectrum and the efficiency of technology;
- Facilitate access to monitoring data for spectrum policy makers, researchers, and other stakeholders to use the data to investigate the feasibility of new spectrum sharing approaches in key Federal and non-Federal bands;
- Continue and expand the spectrum monitoring pilot project covering 10 additional locations, bringing the total to 20 major metropolitan areas and making spectrum monitoring data publically available to facilitate research into new spectrum management approaches;
- Implement program changes recommended to the spectrum monitoring pilot based on preliminary results in FY 2014;
- Pursue private sector participation in the spectrum monitoring effort and in efforts to develop approaches for spectrum sharing;
- Assess spectrum sharing opportunities in key bands of interest; and
- Prepare an annual status report based on monitoring data and spectrum-related technology developments including an assessment of the data collected, its potential uses, and recommendations for Center management.

These activities fall within the Department of Commerce Strategic Goal – Innovation and Entrepreneurship: Develop the tools, systems, policies, and technologies critical to transforming our economy, fostering U.S. competitiveness, and driving the development of new businesses.

In April 2011, the General Accounting Office issued a report that was highly critical of the existing systems to provide accurate data on the usage of spectrum and questioned the reliability of the system data for making spectrum sharing decisions and supporting other spectrum innovations. It underscored the need for a coordinated approach to provide research, analysis, and coordination for spectrum related data. This is the guiding principle for the Center and the spectrum monitoring initiative. There are many benefits associated with improving the accuracy of spectrum usage data.

From an economic standpoint, greater data accuracy would permit agencies that incur relocation or sharing costs to develop more accurate cost estimates prior to an auction or spectrum transition. Commercial enterprises, which are currently working with Federal agencies, would use the data to assess the feasibility of spectrum sharing by evaluating spectrum availability and developing commercially viable spectrum sharing technologies and approaches.

Additionally, NTIA's laboratory functionality, located in Boulder, Co., provides the applied engineering and measurement expertise that is essential to effective management of spectrum has a long history of conducting spectrum occupancy measurements for NTIA, the Department of Defense, other agencies, and private companies. However, these measurement projects are limited in scope and funded by reimbursable clients through interagency agreements and Cooperative Research and Development Agreements.

A lack of funding in the FY 2015 Budget for the Spectrum Measurement Pilot program would:

- Delay production of new spectrum management models and techniques;
- Prevent the expansion of the number of major metropolitan areas monitored;
- Postpone the availability of the spectrum use data to be shared with spectrum managers around the country;
- Limit monitoring in support of new technology development;
- Prevent evaluation and validation that monitoring units and data provided meet data needs of spectrum managers;
- Delay implementation of spectrum monitoring techniques in support of spectrum policy-making, and spectrum management process development for spectrum sharing; and
- Hinder or prevent NTIA from being able to reach conclusions and make recommendations regarding spectrum access and sharing.

PROGRAM CHANGE(S):

INFLATIONARY ADJUSTMENT:

The Spectrum Sharing base program has been reduced by \$37,000 to offset increased funding requirements for inflationary increases to core, cross-cutting Department fixed costs. This includes the 2015 estimated pay raise of 1 percent and service contracts with inflationary labor rates. Non-labor activities that require inflationary increases include areas such as rent, utilities and security. NTIA must manage this reduction through vacancy management and reductions to program contracts and training.

PROGRAM INCREASE FOR FY 2015:

Spectrum Sharing and Monitoring, Center for Advanced Communications (Base Funding: \$1,537,000 and 8 FTE; Program Change: \$6,000,000 +3 FTE):

NTIA Leadership and Collaboration Tools for Advanced Communications

Rapid advances in communications technology have fundamentally changed the way we as a Nation work and live. With these advances have come significant challenges that, unless addressed, will adversely impact our Nation's ability to reap the benefits from these technologies while ensuring our national security needs are met. Examples of these challenges include: the exponential growth of

wireless data usage – scarce spectrum must be more efficiently used to meet the demand; the evolution of broadband access in the home – this has moved from a luxury to a necessity with increasing needs for ever-higher bandwidth; and the vulnerability of all Internet-capable devices to various security threats. To address these challenges, NTIA, in partnership with NIST, through the Center for Advanced Communications, will provide support for near and long-range research, testing, and standards development efforts required by Government and industry to address the technical barriers to the implementation and adoption of new communications technologies. Through the Center, NTIA will leverage key research and engineering expertise and capabilities and build upon capabilities that are currently available at NTIA's Institute for Telecommunication Sciences and the NIST Boulder Laboratories to provide opportunities for collaborative research and development.

The Center will also provide access to a variety of test-bed resources and the infrastructure necessary to catalyze accelerated development, testing, and deployment of advanced communications technologies in support of both commercial and government applications. The need for these activities was highlighted by the 2013 Presidential Memorandum entitled "Expanding America's Leadership in Wireless Innovation," which directs the Secretary of Commerce, through NTIA and NIST, to publish an inventory and description of Federal test facilities available to commercial and other stakeholders engaged in research, development, testing, and evaluation of technologies to enhance spectrum sharing and other wireless related efficiencies. NTIA requests funds in FY 2015 and beyond to support the Center's activities. The Center provides a common process, framework, and environment whereby NTIA, NIST, other Federal labs, universities, and the private sector can collaborate and invest resources in the most valuable communications projects and technologies.

The Center will bring together key research and engineering expertise and capabilities to establish and maintain a Federally operated national "Center of Excellence" providing opportunities for collaborative research and development and access to a variety of test-bed resources in order to provide the infrastructure necessary to support the accelerated development, testing, and deployment of advanced communications technologies in support of both commercial and government applications.

NTIA's Institute for Telecommunication Sciences (ITS), located in Boulder, CO, already provides significant applied engineering and measurement expertise essential to support Federal management of the radio frequency spectrum. It has a long history of conducting spectrum occupancy measurements for NTIA, the Department of Defense, other agencies, and the private sector. However, these measurement projects are limited in scope and funded by reimbursable clients through interagency agreements and Cooperative Research and Development Agreements. NTIA seeks a modest increase to ensure that its research programs are appropriately coordinated with NIST and other Federal partners and to leverage Federal investments in spectrum research and technology development effectively. The focused approach is expected to accelerate the economic development and growth associated with spectrum sharing and other innovations, and it also should provide Federal agencies with a clear alternative for spectrum-related development work, lowering technology costs of Federal agencies.

This request focuses on establishing the NTIA CAC program leadership and oversight and funding to stand up new collaboration technologies and tools. These elements will become the NTIA backbone for planning and communicating on advanced communication technologies with NIST and outside organizations. In order for the CAC to work effectively, it must put into place effective and efficient collaboration strategies and tools, including a shared knowledge base, a project development platform, and an incubator advisory service.

Innovative staffing for the Center will ensure a dynamic environment for the best and brightest personnel from both the private and public sector. NTIA will recruit eminently qualified subject matter experts to focus on key research and analytical projects through joint projects, temporary appointments, and Interagency Personnel Act agreements. The Center will also design mechanisms for advancing knowledge and technology transfer among all stakeholder groups on spectrum related issues. Building on existing NTIA resources, the Center offers unique laboratory assets and will make the use of Table Mountain available to a larger set of engineers and scientists. Finally, specialized equipment and technology will need to be purchased to support spectrum-related projects and research activities, specifically related to supporting the development and testing of spectrum sharing approaches.

NTIA will use proven collaboration technology and social networking tools as the basis for communications between Federal agencies and between Federal and non-government organizations. NTIA will establish and manage a repository for research results on specified focus areas and technologies. This clearinghouse will create a common base of knowledge and socialize the exchange of technical information and ideas, using web-based technology, organized forums, and meetings. This clearinghouse also will highlight promising technologies and technical approaches and target this information directly at those institutions interested in collaborating on advanced communication technologies. The knowledge base will allow rapid dissemination of both positive and negative outcomes, allowing researchers to leverage each organization's experiences to avoid duplication of effort.

The purpose of the project development platform is to make available a central location where government, academia, and industry can share project ideas and propose projects of mutual interest. The design of this platform will be similar to the Kickstarter application, which has been used effectively by private start-up firms to advance creative ideas, projects, and technologies. Finally, the incubator advisory service will serve two purposes. First, it will provide descriptive profiles of Federal laboratories (facilities expertise, and equipment) that are accessible through cooperative agreements. Second, the advisory service will identify individuals within the NIST and NTIA laboratories who are able to respond to technical questions and/or assist with the process of developing collaborative research projects and agreements.

The CAC staff, clearinghouse, and collaboration tools will be crucial for effective collaborations. Without them, information about advanced communication technologies will not be fluidly shared. Effective communications is the central tenet of the Center for Advanced Communications through which NTIA, NIST, other Federal agencies, universities, and private organizations can work cooperatively toward common goals. A small investment in program leadership, expert staffing, and collaboration technology will not only promote collaboration, but it will allow NTIA and NIST to harvest the best ideas, and facilitate the exchange of ideas among agencies and project managers. The costs of standing up and maintaining collaboration technology and tools will result in a return on investment within a short period. It's expected that if the collaboration approaches are used effectively, it will bring into NIST and NTIA up to ten new projects per year.

Performance Goals and Measurement Data:

Schedule and Milestones:

- Additional NTIACAC staff established within 3 months
- Collaboration tools established within 6 months
- Priority equipment requisition plan established

Deliverables:

- Online and Automated Collaboration Tools
- Cooperative Research and Agreements with Industry
- Interagency Agreements with Other Federal Agencies

PROGRAM CHANGE PERSONNEL DETAIL

Budget Program: Salaries and Expenses
 Sub-Program: Spectrum Sharing and Monitoring
 Program Change: Spectrum Sharing and Monitoring

Title:	Location	Grade	Number of Positions	Annual Salary	Total Salaries
Senior Executive Service	Boulder Co	ES-1	1	150,000	150,000
Electronics Engineer	Boulder Co	ZPIV	2	145,000	290,000
IT Specialist	Boulder Co	ZPIII	2	84,855	169,710
Administrative Specialist	Boulder Co	ZAll	1	65,000	65,000
Total			<u>6</u>		<u>674,710</u>
Less Lapse		25%	<u>3</u>		<u>168,678</u>
Total full-time permanent (FTE)			3		506,032
2013 Pay Adjustment (0%)					0
2014 Pay Adjustment (1%)					5,060
TOTAL					<u>511,092</u>

Personnel Data

	<u>Number</u>
Full-Time Equivalent Employment	
Full-time permanent	3
Other than full-time permanent	0
Total	<u>3</u>
Authorized Positions:	
Full-time permanent	6
Other than full-time permanent	0
Total	<u>6</u>

PROGRAM CHANGE DETAIL BY OBJECT CLASS

(Dollar amounts in thousands)

Budget Program: Salaries and Expenses
 Sub-Program: Spectrum Sharing and Monitoring
 Program Change: Spectrum Sharing and Monitoring

Object Class	2015 Change
11 Personnel compensation	
11.1 Full-time permanent	511
11.3 Other than full-time permanent	0
11.5 Other personnel compensation	0
11.8 Special personnel services payments	0
11.9 Total personnel compensation	511
12 Civilian personnel benefits	202
13 Benefits for former personnel	0
21 Travel and transportation of persons	50
22 Transportation of things	4
23.1 Rental payments to GSA	40
23.2 Rental Payments to others	0
23.3 Communications, utilities and miscellaneous charges	6
24 Printing and reproduction	2
25.1 Advisory and assistance services	0
25.2 Other services	794
25.3 Purchases of goods & services from Gov't accounts	905
25.4 Operation and maintenance of facilities	0
25.5 Research and development contracts	0
25.6 Medical care	0
25.7 Operation and maintenance of equipment	75
25.8 Subsistence and support of persons	0
26 Supplies and materials	5
31 Equipment	3,406
32 Lands and structures	0
33 Investments and loans	0
41 Grants, subsidies and contributions	0
42 Insurance claims and indemnities	0
43 Interest and dividends	0
44 Refunds	0
99 Total obligations	6,000

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/(Decrease)
11 Personnel compensation					
11.1 Full-time permanent	\$13,857	\$16,660	\$17,077	\$17,966	\$889
11.3 Other than full-time permanent	0	260	260	260	0
11.5 Other personnel compensation	37	20	20	20	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	13,894	16,940	17,357	18,246	889
12.1 Civilian personnel benefits	4,061	4,194	4,384	4,177	(207)
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	536	702	705	1,096	391
22 Transportation of things	4	39	40	43	3
23.1 Rental payments to GSA	1,410	2,010	2,042	2,205	163
23.2 Rental payments to others	0	0	0	0	0
23.3 Communications, utilities and miscellaneous charges	175	55	44	57	13
24 Printing and reproduction	14	111	113	150	37
25.1 Advisory and assistance services	183	410	410	410	0
25.2 Other services	311	1,904	1,904	1,904	0
25.3 Purchases of goods and services from Government accounts	19,197	18,567	19,087	17,917	(1,170)
25.7 Operation and maintenance of equipment	47	300	300	300	0
26 Supplies and materials	202	98	99	127	28
31 Equipment	782	670	679	4,369	3,690
41 Grants, subsidies and contributions	0	0	0	0	0
99 TOTAL OBLIGATIONS	\$40,816	\$46,000	\$47,164	\$51,000	\$3,836
Prior Year Recoveries/Refunds					
Unobligated balances from Prior Years					
Unobligated balance EOY	2,032				
Unobligated balance, expiring	(100)				
Total Budget Authority	\$42,748	\$46,000	\$47,164	\$51,000	\$3,836

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

Personnel Data	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/(Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	121	153	155	169	14
Other than full-time permanent	0	0	0	0	0
Total	121	153	155	169	14
Authorized Positions:					
Full-time permanent	159	153	155	176	21
Other than full-time permanent	0	0	0	0	0
Total	159	153	155	176	21

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 APPROPRIATIONS LANGUAGE AND CODE CITATIONS

For necessary expenses, as provided for by law, of the National Telecommunications and Information Administration (NTIA), \$[46,000,000]50,663,000 to remain available until September 30, [2015] 2016: Provided, That notwithstanding 31 U.S.C. 1535(d), the Secretary of Commerce shall charge Federal agencies for costs incurred in spectrum management, analysis and operations, and related services and such fees shall be retained and used as offsetting collections for costs of such spectrum services, to remain available until expended: Provided further, That the Secretary of Commerce is authorized to retain and use as offsetting collections all funds transferred, or previously transferred, from other Government agencies for all costs incurred in telecommunications research, engineering, and related activities by the Institute for Telecommunication Sciences of NTIA, in furtherance of its assigned functions under this paragraph, and such funds received from other Government agencies shall remain available until expended.

15 U.S.C. § 1512
 15 U.S.C. § 1532
 47 U.S.C. § 305
 47 U.S.C. § 606
 47 U.S.C. § 901, *et seq.*
 47 U.S.C. § 1304
 47 U.S.C. § 1305

15 U.S.C. § 1512 authorizes the Secretary of Commerce to foster, promote and develop foreign and domestic commerce.

15 U.S.C. § 1532 authorizes the Secretary of Commerce to conduct research and analysis in all telecommunications sciences; to investigate the transmission of radio waves and electromagnetic radiation; and to compile, evaluate, publish, and distribute related information.

47 U.S.C. § 305 authorizes the President to assign frequencies to radio stations or classes of radio stations belonging to and operated by the United States. Originally delegated to the Department of Commerce by Executive Order 12046, as later codified in the National Telecommunications and Information Administration Organization Act, 47 U.S.C. § 901, *et seq.*

47 U.S.C. § 606 and associated Executive Orders authorize the President to perform certain telecommunications emergency functions essential to security and the national defense.

47 U.S.C. § 901, *et seq.* authorizes NTIA to perform the Secretary's communications and information functions.

47 U.S.C. § 1304 authorizes the Secretary of Commerce to establish and administer a grant program for the development and implementation of statewide initiatives to identify and track the availability and adoption of broadband services within each State.

47 U.S.C. § 1305 authorizes the Assistant Secretary of Commerce for Communications and Information to establish and administer a national broadband service development and expansion grant program and to develop and maintain a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States.

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 ADVISORY AND ASSISTANCE SERVICES

	<u>2013 Actual</u>	<u>2014 Estimate</u>	<u>2015 Estimate</u>
Management and Professional Support Services	\$254	\$250	\$250
Studies, Analysis & Evaluations	0	0	0
Engineering & Technical Services	<u>0</u>	<u>50</u>	<u>50</u>
Total	<u>\$254</u>	<u>\$300</u>	<u>\$300</u>

NTIA utilizes consultants throughout its programs to provide scientific or technical expertise in specialized areas.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PERIODICALS, PAMPHLETS AND AUDIOVISUAL PRODUCTS

	<u>2013 Actual</u>	<u>2014 Estimate</u>	<u>2015 Estimate</u>
Periodicals	\$0	\$0	\$0
Pamphlets	0	20	15
Audiovisual Products	<u>0</u>	<u>0</u>	<u>0</u>
Total	\$0	\$20	\$15

NTIA utilizes pamphlets to provide an overview of NTIA programs and services to the public.

Department of Commerce
National Telecommunications and Information Administration
 Salaries and Expenses
 AVERAGE GRADE AND SALARIES

	2013 Actual	2014 Estimate	2015 Estimate
Direct:			
Average ES Salary.....	\$168,225	\$168,225	\$168,225
Average Career Path Salary.....	109,443	\$109,443	\$110,537
Average GS Grade.....	13.9	13.9	13.9
Average GS Salary.....	\$114,559	\$114,559	\$115,705

Department of Commerce
National Telecommunications and Information Administration
 Public Telecommunications Facilities, Planning and Construction
 SUMMARY OF RESOURCE REQUIREMENTS
 (Dollar amounts in thousands)

							Positions	FTE	Budget Authority	Direct Obligations	
FY 2014 President's Budget							0	0	\$0	\$0	
less: Obligations from prior years							0	0	0	0	
plus: 2015 adjustments to base							0	0	0	0	
2015 Base							0	0	0	0	
plus: 2015 program changes							0	0	0	0	
2015 Estimate							0	0	0	0	
Comparison by budget program/sub-program		2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Telecommunications Facilities, Planning and Construction											
Grants.....	Pos/BA	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Program management.....	Pos/BA	0	9,802	0	776	0	0	0	0	0	0
	FTE/Obl.	2	526	1	776	0	0	0	0	0	0
TOTALS.....	Pos/BA	0	9,802	0	776	0	0	0	0	0	0
	FTE/Obl.	2	526	1	776	0	0	0	0	0	0
Adjustments to Obligations											
Recoveries/Refunds.....			(1,712)		0		0		0		0
Unobligated Balance, start of year.....			(8,090)		(9,276)		0		0		0
Unobligated Balance, end of year.....			9,276		0		0		0		0
Unobligated Balance, rescinded.....			0		8,500		0		0		0
Financing from transfers:											
Transfer from other accounts (-).....			0		0		0		0		0
Transfer to other accounts (+).....			0		0		0		0		0
Appropriation.....			0		0		0		0		0

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Department of Commerce
National Telecommunications and Information Administration
 Public Telecommunications Facilities, Planning and Construction
 SUMMARY OF FINANCING
 (Dollar amounts in thousands)

Comparison by budget program	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/(Decrease)
Total Obligations.....	\$526	\$776	\$0	\$0	\$0
Offsetting collections from:					
Federal funds.....	0	0	0	0	0
Non-Federal sources.....	0	0	0	0	0
Recoveries/Refunds.....	(1,712)	0	0	0	0
Unobligated balance, start of year.....	(8,090)	(9,276)	0	0	0
Unobligated balance, end of year.....	9,276	0	0	0	0
Unobligated balance, rescinded.....	0	8,500	0	0	0
Budget Authority.....	0	0	0	0	0
Restoration of unobligated balance, rescission.....	0	0	0	0	0
Financing:					
Transferred from other accounts (-).....	0	0	0	0	0
Transferred to other accounts (+).....	0	0	0	0	0
Appropriation.....	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
 Public Telecommunications Facilities, Planning and Construction
 PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Budget Program: Public telecommunications, facilities, planning and construction
 Sub-Program: Grants and program management

Comparison by sub-program	2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)		
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
Grants.....	Pos/BA	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Program management.....	Pos/BA	0	8,090	0	776	0	0	0	0	0	0
	FTE/Obl.	2	526	1	776	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	0	8,090	0	776	0	0	0	0	0	0
	FTE/Obl.	2	526	1	776	0	0	0	0	0	0

**APPROPRIATION ACCOUNT: PUBLIC TELECOMMUNICATIONS FACILITIES, PLANNING
AND CONSTRUCTION**

**BUDGET PROGRAM: PUBLIC TELECOMMUNICATIONS FACILITIES, PLANNING AND
CONSTRUCTION**

The Public Telecommunications Facilities, Planning and Construction program was discontinued in FY 2011.

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
11 Personnel compensation					
11.1 Full-time permanent	\$255	\$200	\$0	\$0	\$0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	1	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	256	200	0	0	0
12.1 Civilian personnel benefits	127	52	0	0	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	1	1	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	47	47	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Communications, utilities and miscellaneous charges	5	5	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	3	0	0	0	0
25.2 Other services	1	0	0	0	0
25.3 Purchases of goods and services from Government accounts	74	470	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	1	1	0	0	0
31 Equipment	11	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
99 TOTAL OBLIGATIONS	\$526	\$776	\$0	\$0	\$0
Recoveries/Refunds	(1,712)				
Unobligated Balance, start of year	(8,090)	(9,276)			
Unobligated Balance, end of year	9,276	0			
Unobligated Balance, rescinded	0	8,500			
Total Budget Authority	\$0	\$0	\$0	\$0	\$0

Department of Commerce
National Telecommunications and Information Administration
 Public Telecommunications Facilities, Planning and Construction
 SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

Personnel Data	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	2	1	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	2	1	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning and Construction
APPROPRIATIONS LANGUAGE AND CODE CITATIONS:

For the administration of prior-year grants, recoveries and unobligated balances of funds previously appropriated are available for the administration of all open grants until their expiration. [(Commerce, Justice, Science, and Related Agencies Appropriations Act, 2014)]

47 U.S.C. § 391 authorizes the Secretary of Commerce to provide grant funds for the planning and construction of public telecommunications facilities by eligible entities.

47 U.S.C. § 392 sets forth the application requirements to be submitted to the Secretary of Commerce by eligible entities to request funds for the construction of public telecommunications facilities.

47 U.S.C. § 902(b)(3) assigns to NTIA the administration of the Public Telecommunications Facilities Program.

**Department of Commerce
National Telecommunications and Information Administration**

Information Infrastructure Grants
SUMMARY OF RESOURCE REQUIREMENTS
(Dollar amounts in thousands)

				Positions	FTE	Budget Authority	Direct Obligations						
FY 2014 President's Budget				0	0	\$0	\$0						
less: Obligations from prior years				0	0	0	0						
plus: 2015 adjustments to base				0	0	0	0						
2015 Base				0	0	0	0						
plus: 2015 program changes				0	0	0	0						
2015 Estimate				0	0	0	0						
Comparison by budget program/sub-program				2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
				Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Technology Opportunities Program													
Grants.....	Pos/BA	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0	\$0	
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0	0	
Program management.....	Pos/BA	0	685	0	630	0	0	0	0	0	0	0	
	FTE/Obl.	0	55	0	630	0	0	0	0	0	0	0	
TOTALS.....	Pos/BA	0	685	0	630	0	0	0	0	0	0	0	
	FTE/Obl.	0	55	0	630	0	0	0	0	0	0	0	
Adjustments to Obligations													
Recoveries/Refunds.....			(1)		0		0		0		0	0	
Unobligated Balance, start of year.....			(684)		(630)		0		0		0	0	
Unobligated Balance, end of year.....			630		0		0		0		0	0	
Unobligated Balance, rescinded.....			0		0		0		0		0	0	
Financing from transfers:													
Transfer from other accounts (-).....			0		0		0		0		0	0	
Transfer to other accounts (+).....			0		0		0		0		0	0	
Appropriation.....			0		0		0		0		0	0	

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Department of Commerce
National Telecommunications and Information Administration
 Information Infrastructure Grants
 SUMMARY OF FINANCING
 (Dollar amounts in thousands)

Comparison by budget program	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
Total Obligations	\$55	\$630	\$0	\$0	\$0
Offsetting collections from:					
Federal funds.....	0	0	0	0	0
Non-Federal sources.....	0	0	0	0	0
Recoveries/Refunds.....	(1)	0	0	0	0
Unobligated balance, start of year.....	(684)	(630)	0	0	0
Unobligated balance, end of year.....	630	0	0	0	0
Unobligated balance, rescinded	0	0	0	0	0
Budget Authority	0	0	0	0	0
Financing:					
Transferred from other accounts (-).....	0	0	0	0	0
Transferred to other accounts (+).....	0	0	0	0	0
Appropriation	0	0	0	0	0

Department of Commerce
National Telecommunications and Information Administration
 Information Infrastructure Grants
 PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Budget Program: Information Infrastructure Grants
 Sub-Program: Grants and program management

Comparison by sub-program		2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Grants.....	Pos/BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
Program management.....	Pos/BA	0	684	0	630	0	0	0	0	0	0
	FTE/Obl.	0	55	0	630	0	0	0	0	0	0
Direct Obligations.....	Pos/BA	0	684	0	630	0	0	0	0	0	0
	FTE/Obl.	0	55	0	630	0	0	0	0	0	0

APPROPRIATION ACCOUNT: INFORMATION INFRASTRUCTURE GRANTS

BUDGET PROGRAM: INFORMATION INFRASTRUCTURE GRANTS

The Technology Opportunities Program was discontinued in FY 2005.

Department of Commerce
National Telecommunications and Information Administration
 Information Infrastructure Grants
 SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

Object Class	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
11 Personnel compensation					
11.1 Full-time permanent	\$0	\$0	\$0	\$0	\$0
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments	0	0	0	0	0
11.9 Total personnel compensation	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>
12.1 Civilian personnel benefits	0	0	0	0	0
13 Benefits for former personnel	55	60	0	0	0
21 Travel and transportation of persons	0	0	0	0	0
22 Transportation of things	0	0	0	0	0
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Communications, utilities and miscellaneous charges	0	0	0	0	0
24 Printing and reproduction	0	0	0	0	0
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services	0	0	0	0	0
25.3 Purchases of goods and services from Government accounts	0	570	0	0	0
25.7 Operation and maintenance of equipment	0	0	0	0	0
26 Supplies and materials	0	0	0	0	0
31 Equipment	0	0	0	0	0
41 Grants, subsidies and contributions	0	0	0	0	0
44 Refunds	0	0	0	0	0
99 TOTAL OBLIGATIONS	<u>55</u>	<u>630</u>	<u>0</u>	<u>0</u>	<u>0</u>
Recoveries/Refunds	(1)	0			
Unobligated Balance, start of year	(684)	(630)			
Unobligated Balance, end of year	0	0			
Unobligated Balance, rescinded	0	0			
Total Budget Authority	<u>(630)</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

Department of Commerce
National Telecommunications and Information Administration
 Information Infrastructure Grants
 SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

Personnel Data	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0
Authorized Positions:					
Full-time permanent	0	0	0	0	0
Other than full-time permanent	0	0	0	0	0
Total	0	0	0	0	0

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Department of Commerce
National Telecommunications and Information Administration
 Public Safety Trust Fund
 SUMMARY OF RESOURCE REQUIREMENTS
 (Dollar amounts in thousands)

								Positions	FTE	Budget Authority	Direct Obligations	
Estimate, FY 2014								14	14	\$1,970,000	\$2,072,232	
plus: Obligations from prior years								0	0	0	(1,221)	
plus: 2015 adjustments to base								0	0	0	0	
2015 Base								14	14	1,970,000	2,071,011	
plus: 2015 program changes								0	0	305,000	305,000	
2015 Estimate								14	14	2,275,000	2,376,011	
Comparison by budget program/sub-program			2013 Actual		2014 Enacted		2015 Base*		2015 Estimate*		2015 Increase/ (Decrease)	
			Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
First Responder Network Authority	Pos/BA	8	\$124,695	14	\$1,970,000	14	\$1,970,000	14	\$2,275,000	0	\$305,000	
	FTE/Obl.	8	23,683	14	2,072,232	14	1,970,000	14	2,275,000	0	\$305,000	
TOTALS.....	Pos/BA	8	124,695	14	1,970,000	14	1,970,000	14	2,275,000	0	305,000	
	FTE/Obl.	8	23,683	14	2,072,232	14	1,970,000	14	2,275,000	0	305,000	
Adjustments to Obligations:												
Recoveries/Refunds.....			0	0	0	0	0	0	0	0	0	
Unobligated Balance, start of year.....			(1,220)	(102,232)	0	0	0	0	0	0	0	
Unobligated Balance, end of year.....			102,232	0	0	0	0	0	0	0	0	
Unobligated Balance expiring.....			0	0	0	0	0	0	0	0	0	
Financing from transfers:												
Transfer from other accounts (+).....			0	0	0	0	0	0	0	0	0	
Transfer to other accounts (+).....			0	0	0	0	0	0	0	0	0	
Budget Authority			124,695	1,970,000	1,970,000	1,970,000	2,275,000					

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Department of Commerce
National Telecommunications and Information Administration
 Public Safety Trust Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Program: Public Safety Trust Fund

Comparison by sub-program		2013 Actual		2014 Enacted		2015 Base*		2015 Estimate*		2015 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Trust Fund	Pos/BA	8	\$124,695	14	\$1,970,000	14	\$1,970,000	14	\$2,275,000	0	\$305,000
	FTE/Obl.	8	23,683	14	2,072,232	14	1,970,000	14	2,275,000	0	305,000
Direct Obligations	Pos/BA	8	124,695	14	1,970,000	14	1,970,000	14	2,275,000	0	305,000
	FTE/Obl.	8	23,683	14	2,072,232	14	1,970,000	14	2,275,000	0	305,000

Department of Commerce
National Telecommunications and Information Administration
Public Safety Trust Fund - NTIA Oversight
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Object Class	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
11 Personnel compensation					
11.1 Full-time permanent	\$3,089	\$1,500	\$1,500	\$1,500	\$0
11.3 Other than full-time permanent	0	0	0	0	\$0
11.5 Other personnel compensation	5	0	0	\$0	\$0
11.8 Special personnel services payments	0	0	0	0	\$0
11.9 Total personnel compensation	3,094	1,500	1,500	1,500	0
12.1 Civilian personnel benefits	697	621	621	621	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	507	300	300	48	(252)
22 Transportation of things	1	2	2	2	0
23.1 Rental payments to GSA	353	151	151	151	0
23.2 Rental payments to others	0	35	35	35	0
23.3 Communications, utilities and miscellaneous charges	11	30	30	30	0
24 Printing and reproduction	5	10	10	10	0
25.1 Advisory and assistance services	19	500	500	500	0
25.2 Other services	13,568	1,965,000	1,965,000	2,270,000	305,000
25.3 Purchases of goods and services from Government accounts	5,099	2,097	2,097	2,097	0
25.7 Operation and maintenance of equipment	0	10	10	10	0
26 Supplies and materials	27	5	5	5	0
31 Equipment	302	5	5	5	0
41 Grants, subsidies and contributions	0	0	0	0	0
99 TOTAL OBLIGATIONS	\$23,683	\$1,970,266	\$1,970,266	\$2,275,014	304,748
Prior Year Recoveries/Refunds	0				
Unobligated balances from Prior Years	(1,221)				
Unobligated balance EOY	102,232				
Unobligated balance, expiring					
Total Mandatory Budget Authority	\$124,694	\$1,970,266	\$1,970,266	\$2,275,014	\$304,748

Department of Commerce
National Telecommunications and Information Administration
Public Safety Trust Fund - NTIA Oversight
SUMMARY OF REQUIREMENTS BY OBJECT CLASS
(Dollar amounts in thousands)

Personnel Data	2013 Enacted	2014 President's Budget	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	13	14	14	14	0
Other than full-time permanent	0	0	0	0	0
Total	13	14	14	14	0
Authorized Positions:					
Full-time permanent	13	14	14	14	0
Other than full-time permanent	0	0	0	0	0
Total	13	14	14	14	0

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Department of Commerce
National Telecommunications and Information Administration
 State and Local Implementation Fund
 SUMMARY OF RESOURCE REQUIREMENTS
 (Dollar amounts in thousands)

								Positions	FTE	Budget Authority	Direct Obligations
Estimate, FY 2014								7	7	\$3,330	\$5,960
plus: Obligations from prior years								0	0	0	0
plus: 2015 adjustments to base								0	0	0	0
2014 Base								7	7	3,330	5,960
plus: 2015 program changes								0	0	0	0
2015 Estimate								7	7	3,330	5,960
Comparison by budget program/sub-program		2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
State and Local Implementation Fund	Pos/BA	7	\$121,181	7	\$3,330	7	\$3,330	7	\$3,330	0	\$0
	FTE/Obl.	5	118,810	7	5,960	7	3,330	7	3,330	0	0
TOTALS.....		7	121,181	7	3,330	7	3,330	7	3,330	0	0
		5	118,810	7	5,960	7	3,330	7	3,330	0	0
Adjustments to Obligations:											
Recoveries/Refunds.....			0		0		0		0		0
Unobligated Balance, start of year.....			0		(2,630)		0		0		0
Unobligated Balance, end of year.....			2,630		0		0		0		0
Unobligated Balance expiring.....			0		0		0		0		0
Financing from transfers:											
Transfer from other accounts (-).....			0		0		0		0		0
Transfer to other accounts (+).....			0		0		0		0		0
Budget Authority			121,181		3,330		3,330		3,330		

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Department of Commerce
National Telecommunications and Information Administration
 State and Local Implementation Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
 (Dollar amounts in thousands)

Program: State and Local Implementation Fund
 Subprogram: State and Local Implementation Fund

Comparison by sub-program		2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/ (Decrease)	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
State and Local Implementation Fund	Pos/BA	7	\$121,181	7	\$3,330	7	\$3,330	7	\$3,330	0	\$0
	FTE/Obl.	5	118,810	7	5,960	7	3,330	7	3,330	0	\$0
Direct Obligations	Pos/BA	7	121,181	7	3,330	7	3,330	7	3,330	0	0
	FTE/Obl.	5	118,810	7	5,960	7	3,330	7	3,330	0	0

Department of Commerce
National Telecommunications and Information Administration
 State and Local Implementation
 SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

Object Class	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
11 Personnel compensation					
11.1 Full-time permanent	\$501	\$938	\$938	\$938	\$0
11.3 Other than full-time permanent	0	0	\$0	0	0
11.5 Other personnel compensation	1	12	\$12	12	0
11.8 Special personnel services payments	0	0	\$0	0	0
11.9 Total personnel compensation	502	950	950	950	0
12.1 Civilian personnel benefits	145	253	253	253	0
13 Benefits for former personnel	0	0	0	0	0
21 Travel and transportation of persons	12	65	65	65	0
22 Transportation of things	0	4	4	4	0
23.1 Rental payments to GSA	43	95	95	95	0
23.2 Rental payments to others	0	0	0	0	0
23.3 Communications, utilities and miscellaneous charges	2	5	5	5	0
24 Printing and reproduction	0	9	9	9	0
25.1 Advisory and assistance services	5	0	0	0	0
25.2 Other services	1,471	1,090	843	843	0
25.3 Purchases of goods and services from Government accounts	400	1,520	1,080	1,080	0
25.7 Operation and maintenance of equipment	2	2	2	2	0
26 Supplies and materials	2	10	10	10	0
31 Equipment	24	29	14	14	0
41 Grants, subsidies and contributions	116,202	1,928	0	0	0
99 TOTAL OBLIGATIONS	\$118,810	\$5,960	\$3,330	\$3,330	0
Prior Year Recoveries/Refunds					
Unobligated balances from Prior Years	0	(2,630)			
Unobligated balance EOY	2,630				
Unobligated balance, expiring					
Total Mandatory Budget Authority	\$121,440	\$3,330	\$3,330	\$3,330	0

Department of Commerce
National Telecommunications and Information Administration
 State and Local Implementation
 SUMMARY OF REQUIREMENTS BY OBJECT CLASS
 (Dollar amounts in thousands)

Personnel Data	2013 Actual	2014 Enacted	2015 Base	2015 Estimate	2015 Increase/ (Decrease)
Full-Time Equivalent Employment:					
Full-time permanent	5	7	7	7	0
Other than full-time permanent	0	0	0	0	0
Total	5	7	7	7	0
Authorized Positions:					
Full-time permanent	5	7	7	7	0
Other than full-time permanent	0	0	0	0	0
Total	5	7	7	7	0

Department of Commerce
National Telecommunications and Information Administration
 Network Construction Fund
 SUMMARY OF REIMBURSABLE OBLIGATIONS
 (Dollar amounts in thousands)

Comparison by sub-program	2013 Actual		2014 Enacted		2015 Base		2015 Estimate		2015 Increase/(Decrease)	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
<u>Reimbursable projects</u>										
Network Construction Fund										
Pos/BA	0	\$0	0	\$0	0	\$0	0	\$0	0	\$0
FTE/Obl.	0	0	132	195,000	132	195,000	200	670,000	0	475,000
Total, Reimbursable Obligations.....										
Pos/BA	0	0							0	0
FTE/Obl.	0	0	132	195,000	132	195,000	200	670,000	0	475,000