

U.S. DEPARTMENT OF COMMERCE

National Telecommunications and Information Administration

FY 2022 Budget as Presented to Congress



May 2021

DEPARTMENT OF COMMERCE
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION
Budget Estimates, Fiscal Year 2022
Congressional Submission
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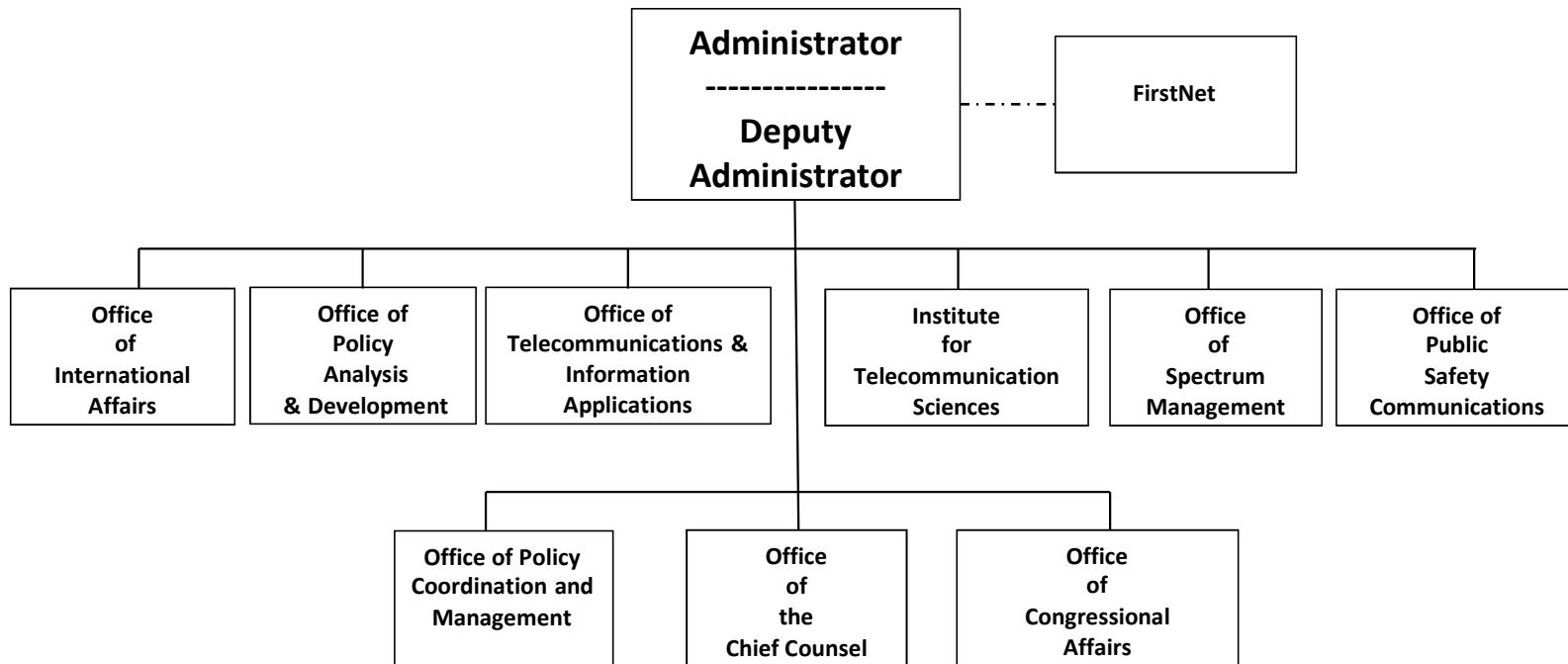
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**Department of Commerce
National Telecommunications and Information Administration**



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Department of Commerce
National Telecommunications and Information Administration
Budget Estimate, Fiscal Year 2022
Executive Summary

The National Telecommunications and Information Administration's (NTIA) FY 2022 Budget Request totals \$89.5 million and 189 positions. The budget request supports NTIA's critical role of advising the President on communications and information policy issues. NTIA's programs and policymaking focus on expanding the availability of spectrum for all users, managing core Federal spectrum programs effectively and efficiently, and identifying innovative approaches to increase spectrum access and spectrum sharing opportunities. This Budget provides the resources to ensure that the Internet remains an engine for continued economic growth, promotes a 21st century Internet economy in rural communities, and expands broadband Internet access and adoption in America.

Domestic and International Policies. NTIA's domestic and international policies program funding in FY 2022 totals \$15.6 million and 52 positions. NTIA's domestic and international policies work to preserve the Internet's openness and its cultural and economic potentials while advancing key U.S. interests. As the President's advisor on information and communications policy, NTIA is a critical interface between the private sector and government decision makers. In this role, NTIA helps ensure U.S. policies maximize national security objectives and resources and helps develop and drive adoption of market-based, risk-based cybersecurity guidelines to improve the private sector's cybersecurity resilience while advancing the policy goals of the U.S.

NTIA, through its domestic and international policies program, coordinates Executive Branch communications policy and represents the Administration's policy to independent agencies such as the Federal Communications Commission (FCC) and the Federal Trade Commission. NTIA must be positioned to meet the growing complexity of the Internet environment, as the world becomes more interconnected via rapid growth of the Internet, the globalization of information technology services and equipment, and as governance of the Internet becomes an increasingly complex geopolitical issue. Utilizing the multistakeholder process to reach general consensus on internet policy issues, NTIA is central to the Executive Branch's involvement in the Internet Governance Forum (IGF), and its support of mutual legal assistance treaty modernization efforts with key U.S. industries.

Spectrum Management. NTIA's spectrum management program direct funding for FY 2022 totals \$8.0 million and 38 positions. NTIA will continue to evolve its analysis capabilities to increase spectrum access available to commercial and Federal users. The budget will support the commercial sector's development of next generation wireless services by recommending reallocation of spectrum for commercial use and by promoting spectrum sharing between commercial and government users. The agency promotes the most efficient use of the limited spectrum resources across the Federal Government. Working with the FCC, NTIA coordinates international and domestic spectrum access requirements, identifies and reallocates spectrum bands for commercial use, updates spectrum policies, and develops long-range spectrum management plans. NTIA collaborates with the State Department to advance U.S. interests and positions related to international spectrum issues, conferences, and negotiations.

Advanced Communications Research. NTIA's advanced communications research program direct funding for FY 2022 totals \$12 million and 50 positions. Communications research will keep identifying innovative approaches to increase spectrum access and sharing opportunities. This FY 2022 request will both sustain and increase resources for NTIA's Institute for Telecommunication Sciences (ITS), which provides scientific research, development, and testing on spectrum capability, spectrum sharing approaches, and spectrum-enabled technology for both Federal agencies and private industry partners.¹ NTIA is also expanding collaborative research and development in advanced communications technologies to support commercial and government applications to enhance wireless efficiencies.

BroadbandUSA. NTIA's broadband program funding in FY 2022 totals \$26.8 million and 40 positions. Broadband has become integral in fueling a dynamic economy, driving commerce, enriching education, enhancing healthcare, and improving public safety. The 2020 COVID-19 crisis highlighted the digital divide across the country—leaving behind rural communities and economically disadvantaged neighborhoods. Communities without high-speed, affordable broadband fell farther behind as they were cut off from education and job opportunities and unable to participate in the digital economy. In FY 2022, NTIA will continue to support communities in their efforts to close the digital divide and to improve broadband services in unserved and underserved communities across the country.

Public Safety Communications. NTIA's public safety communications program funding in FY 2022 total \$400 thousand and 1 position. As communication technologies continue to evolve, our nation's 911 call centers are unable to keep pace with the technological advancements, threatening the integrity of our nation's emergency communications systems. NTIA's public safety communications program provides the technical expertise and coordination support necessary to enable our nation's 911 systems to upgrade from analog to Internet Protocol (IP)-based systems, commonly referred to as Next Generation 911 (NG911). With this program, NTIA continues to provide the necessary leadership and technical support for the NG911 efforts.

Federal Advanced Communications Test Site (FACTS). NTIA's budget contains a new program with one-time funding of \$26.7 million and 8 positions. U.S. leadership in advanced communications requires commercial operators to have access to a full array of spectrum bands to share with Federal agencies. In order to enter into spectrum-sharing arrangements, Federal agencies and commercial operators need to understand the characteristics of radar emissions from open-air testing of wireless technologies. FACTS will leverage NTIA's Table Mountain field site with its open-air transmission capability. The FACTS will provide the most accurate, over-the-air measurements, using precision test equipment and NTIA Spectrum Monitoring sensors that will capture test events and feed an artificial intelligence (AI) and machine learning (ML) analytics software tool.

Technical Transfer. The Department of Commerce is proposing to transfer two projects out of Working Capital Fund and Advances and Reimbursable account to the Department of Management Salaries and Expenses. NTIA's one-time portion of this technical transfer is \$5,000.

¹ Federal and Industry Partners - <https://www.its.bldrdoc.gov/publications/3181.aspx>

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct obligations amounts in thousands)

Activity: Domestic and International Policies

Subactivity: Domestic and International Policies Transfer To Department of Management Salaries and Expenses

Object Class		2021 Enacted	2022 Transfer	2022 Base
11.1	Full-time permanent (Compensation)	0		0
11.3	Other than full-time permanent			
11.5	Other personnel compensation	0		0
11.8	Special personnel services payments			
11.9	Total personnel compensation	0		0
12.1	Civilian personnel benefits	0		0
13	Benefits for former personnel			
21	Travel and transportation of persons	0		0
22	Transportation of things	0		0
23	Rent, communications and utilities			
23.1	Rental payments to GSA			
23.2	Rental payments to others	0		0
23.3	Commun., util., and misc. charges	0		0
24	Printing and reproduction	0		0
25	Other contractual services			
25.1	Advisory and assistance services			
25.2	Other services from non-Federal sources	0		0
25.3	Other goods and services from Federal sources	(25)	(1)	(1)
25.4	Operation and maintenance of facilities			
25.5	Research and development contracts			

Object Class		2021 Enacted	2022 Transfer	2022 Base
25.6	Medical care			
25.7	Operation & maintenance of equipment	0		0
25.8	Subsistence and support of persons			
26	Supplies and materials	0		0
31	Equipment	0		0
32	Lands and structures			
33	Investments and loans			
41	Grants, subsidies and contributions	0		0
42	Insurance claims and indemnities			
43	Interest and dividends			
44	Refunds			
99.9	Total Obligations	(25)	(1)	(1)

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct obligations amounts in thousands)

Activity: Spectrum Management

Subactivity: Spectrum Management Transfer To Department of Management Salaries and Expenses

Object Class	2021 Enacted	2022 Transfer	2022 Base
11.1 Full-time permanent (Compensation)	0		0
11.3 Other than full-time permanent			
11.5 Other personnel compensation	0		0
11.8 Special personnel services payments	—		
11.9 Total personnel compensation	0		0
12.1 Civilian personnel benefits	0		0
13 Benefits for former personnel			
21 Travel and transportation of persons	0		0
22 Transportation of things	0		0
23 Rent, communications and utilities			
23.1 Rental payments to GSA	0		0
23.2 Rental payments to others	0		0
23.3 Commun., util., and misc. charges	0		0
24 Printing and reproduction	0		0
25 Other contractual services			
25.1 Advisory and assistance services			
25.2 Other services from non-Federal sources	0		0
25.3 Other goods and services from Federal sources	(29)	(1)	(1)
25.4 Operation and maintenance of facilities			
25.5 Research and development contracts			
25.6 Medical care			
25.7 Operation & maintenance of equipment			

Object Class		2021 Enacted	2022 Transfer	2022 Base
25.8	Subsistence and support of persons			
26	Supplies and materials	0		0
31	Equipment	0		0
32	Lands and structures			
33	Investments and loans			
41	Grants, subsidies and contributions			
42	Insurance claims and indemnities			
43	Interest and dividends			
44	Refunds			
99.9	Total Obligations	(29)	(1)	(1)

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct obligations amounts in thousands)

Activity: Advanced Communications Research

Subactivity: Advanced Communications Research Transfer To Department of Management Salaries and Expenses

Object Class		2021 Enacted	2022 Transfer	2022 Base
11.1	Full-time permanent (Compensation)	0		0
11.3	Other than full-time permanent			
11.5	Other personnel compensation	0		0
11.8	Special personnel services payments			
11.9	Total personnel compensation	0		0
12.1	Civilian personnel benefits	0		0
13	Benefits for former personnel			
21	Travel and transportation of persons	0		0
22	Transportation of things	0		0
23	Rent, communications and utilities			
23.1	Rental payments to GSA	0		
23.2	Rental payments to others	0		0
23.3	Commun., util., and misc. charges	0		0
24	Printing and reproduction	0		0
25	Other contractual services			
25.1	Advisory and assistance services			
25.2	Other services from non-Federal sources	0		0
25.3	Other goods and services from Federal sources	(34)	(1)	(1)
25.4	Operation and maintenance of facilities			
25.5	Research and development contracts			

Object Class		2021 Enacted	2022 Transfer	2022 Base
25.6	Medical care			
25.7	Operation & maintenance of equipment	0		0
25.8	Subsistence and support of persons			
26	Supplies and materials	0		0
31	Equipment	0		0
32	Lands and structures			
33	Investments and loans			
41	Grants, subsidies and contributions			
42	Insurance claims and indemnities			
43	Interest and dividends			
44	Refunds			
99.9	Total Obligations	(34)	(1)	(1)

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct obligations amounts in thousands)

Activity: Broadband Programs

Subactivity: Broadband Programs Transfer To Department of Management Salaries and Expenses

Object Class		2021 Enacted	2022 Transfer	2022 Base
11.1	Full-time permanent (Compensation)	0		0
11.3	Other than full-time permanent			
11.5	Other personnel compensation	0		0
11.8	Special personnel services payments			
11.9	Total personnel compensation	0		0
12.1	Civilian personnel benefits	0		0
13	Benefits for former personnel			
21	Travel and transportation of persons	0		0
22	Transportation of things	0		0
23	Rent, communications and utilities			
23.1	Rental payments to GSA			
23.2	Rental payments to others	0		0
23.3	Commun., util., and misc. charges	0		0
24	Printing and reproduction	0		0
25	Other contractual services			
25.1	Advisory and assistance services			
25.2	Other services from non-Federal sources	0		0
25.3	Other goods and services from Federal sources	(23)	(1)	(1)
25.4	Operation and maintenance of facilities			
25.5	Research and development contracts			
25.6	Medical care			
25.7	Operation & maintenance of equipment			

Object Class		2021 Enacted	2022 Transfer	2022 Base
25.8	Subsistence and support of persons			
26	Supplies and materials	0		0
31	Equipment	0		0
32	Lands and structures			
33	Investments and loans			
41	Grants, subsidies and contributions			
42	Insurance claims and indemnities			
43	Interest and dividends			
44	Refunds			
99.9	Total Obligations	(23)	(1)	(1)

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
TRANSFER CHANGE DETAIL BY OBJECT CLASS
(Direct obligations amounts in thousands)

Activity: Public Safety Communications

Subactivity: Public Safety Communications Transfer To Department of Management Salaries and Expenses

Object Class		2021 Enacted	2022 Transfer	2022 Base
11.1	Full-time permanent (Compensation)	0		0
11.3	Other than full-time permanent			
11.5	Other personnel compensation	0		0
11.8	Special personnel services payments			
11.9	Total personnel compensation	0		0
12.1	Civilian personnel benefits	0		0
13	Benefits for former personnel			
21	Travel and transportation of persons	0		0
22	Transportation of things	0		0
23	Rent, communications and utilities			
23.1	Rental payments to GSA	0		
23.2	Rental payments to others	0		0
23.3	Commun., util., and misc. charges	0		0
24	Printing and reproduction	0		0
25	Other contractual services			
25.1	Advisory and assistance services			
25.2	Other services from non-Federal sources	0		0
25.3	Other goods and services from Federal sources	0	(1)	(1)
25.4	Operation and maintenance of facilities			
25.5	Research and development contracts			

25.6	Medical care		
25.7	Operation & maintenance of equipment	0	0
25.8	Subsistence and support of persons		
26	Supplies and materials	0	0
31	Equipment	0	0
32	Lands and structures		
33	Investments and loans		
41	Grants, subsidies and contributions		
42	Insurance claims and indemnities		
43	Interest and dividends		
44	Refunds		
99.9	Total Obligations	0	(1)

Department of Commerce
National Telecommunications and Information Administration
FY 2021 PROGRAM INCREASES / DECREASES / TERMINATIONS

(Dollar amounts in thousands)
 (By Appropriation, Largest to Smallest)

Increases

Page No. in CJ	Appropriation	Budget Program	Activity/Subactivity	Pos.	Budget Authority
NTIA - 67	Salaries and Expenses	Federal Advanced Communications Test Site (FACTS)		8	26,700
NTIA - 49	Salaries and Expenses	Broadband Programs		11	10,000
NTIA - 23	Salaries and Expenses	Domestic and International Policies		13	4,000
Subtotal, Increases				32	40,700

Decreases

Page No. in CJ	Appropriation	Budget Program	Activity/Subactivity	Pos.	Budget Authority
No Program Changes					
Subtotal, Decreases					

Terminations

Page No. in CJ	Appropriation	Budget Program	Activity/Subactivity	Pos.	Budget Authority
No Program Changes					
Subtotal, Terminations					

Department of Commerce
National Telecommunications and Information Administration
FY 2022 TRANSFER SUMMARY TABLE
(Dollar amounts in thousands)
(Grouped by Title of Transfer, Largest to Smallest)

Page No. in CJ	Budget Program	Appropriations	Title of Transfer	Positions	Budget Authority
NTIA – 23	Domestic and International Policies	Salaries and Expenses	Transfer to Department Management Salaries and Expenses	0	\$ (1)
NTIA – 33	Spectrum Management	Salaries and Expenses	Transfer to Department Management Salaries and Expenses	0	\$ (1)
NTIA – 41	Advanced Research Communications	Salaries and Expenses	Transfer to Department Management Salaries and Expenses	0	\$ (1)
NTIA – 49	Broadband Programs	Salaries and Expenses	Transfer to Department Management Salaries and Expenses	0	\$ (1)
NTIA – 59	Public Safety Communications	Salaries and Expenses	Transfer to Department Management Salaries and Expenses	0	\$ (1)
		Total, Transfer		0	\$ (5)

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

Enacted Budget, 2021
2022 Adjustments to base:
Plus: Inflationary adjustments to base
2022 Base
Plus: 2022 Program changes
2022 Estimate

Positions	FTE	Budget Authority	Direct Obligations
157	154	45,500	45,500
0	3	3,331	3,331
157	157	48,831	48,831
32	27	40,700	40,700
189	184	89,531	89,531

**Comparison by activity/subactivity:
with totals by activity**

2020
Actual

2021
Enacted

2022
Base

2022
Estimate

Increase/Decrease
from 2022 Base

			Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NTIA - 23	Domestic and International Policies	Pos./BA	27	8,823	39	10,574	39	11,626	52	15,626	13	4,000
		FTE/Obl.	30	7,607	37	12,175	39	11,626	49	15,626	10	4,000
NTIA - 33	Spectrum Management	Pos./BA	24	7,255	38	7,255	38	8,059	38	8,059	0	0
		FTE/Obl.	23	7,421	38	7,255	38	8,059	38	8,059	0	0
NTIA - 41	Advanced Communications Research	Pos./BA	44	8,180	50	11,180	50	12,006	50	12,006	0	0
		FTE/Obl.	42	7,692	49	11,984	50	12,006	50	12,006	0	0
NTIA - 49	Broadband Programs	Pos./BA	29	16,183	29	16,183	29	16,769	40	26,769	11	10,000
		FTE/Obl.	27	14,915	29	25,127	29	16,769	40	26,769	11	10,000
NTIA - 59	Public Safety Communications	Pos./BA	0	0	1	308	1	371	1	371	0	0
		FTE/Obl.	0	0	1	308	1	371	1	371	0	0
NTIA - 67	Federal Advanced Communications Test Site (FACTS)	Pos./BA	0	0	0	0	0	0	8	26,700	8	26,700
		FTE/Obl.	0	0	0	0	0	0	6	26,700	6	26,700
	Total	Pos./BA	124	40,441	157	45,500	157	48,831	189	89,531	32	40,700
		FTE/Obl.	122	37,635	154	56,849	157	48,831	184	89,531	27	40,700

Adjustments for:

Recoveries

(10)

Unobligated balance, start of year

(8,139)

(11,349)

Unobligated balance transferred

Unobligated balance, end of year

11,349

Unobligated balance expiring

Financing from transfers:

Transfer from other accounts (-)

Transfer to other accounts (+)

Appropriation

40,441

45,500

48,831

89,531

40,700

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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 activity	2020		2021		2022		2022		Increase/Decrease	
	Actual		Enacted		Base		Estimate		from 2022 Base	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
<u>Reimbursable Projects</u>										
Advanced Communications Research	Pos./BA	44	0	50	0	50	0	50	0	0
	FTE/Obl.	37	10,604	50	19,979	50	10,000	50	10,000	0
Other	Pos./BA	1	0	2	0	2	0	2	0	0
	FTE/Obl.	1	213	2	2,705	2	375	2	375	0
Total, Reimbursable Projects	Pos./BA	45	0	52	0	52	0	52	0	0
	FTE/Obl.	38	10,817	52	22,684	52	10,375	52	10,375	0
<u>Spectrum Fees</u>										
Spectrum Management	Pos./BA	94	0	107	0	107	0	107	0	0
	FTE/Obl.	99	36,371	107	51,415	107	45,225	107	45,225	0
Total, Spectrum Fees	Pos./BA	94	0	107	0	107	0	107	0	0
	FTE/Obl.	99	36,371	107	51,415	107	45,225	107	45,225	0
Total, Reimbursable Obligations	Pos./BA	139	0	159	0	159	0	159	0	0
	FTE/Obl.	137	47,188	159	74,099	159	55,600	159	55,600	0

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

	2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
Total Obligations	84,823	130,948	104,431	145,131	40,700
Offsetting collections from:					
Federal funds	(46,688)	(73,599)	(55,100)	(53,100)	2,000
Non-Federal sources	(500)	(500)	(500)	(500)	
Recoveries					
Unobligated balance, start of year	(8,139)	(11,349)			
Unobligated balance transferred					
Unobligated balance, end of year	11,349				
Unobligated balance expiring					
Budget Authority	40,441	45,500	48,831	91,531	42,700
Financing:					
Transfer from other accounts (-)					
Transfer to other accounts (+)					
Appropriation	40,441	45,500	48,831	91,531	42,700

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
ADJUSTMENTS TO BASE
(Dollar amounts in thousands)

	<u>Positions</u>	<u>Amount</u>
Transfers of Estimates		(5)
Adjustment		0
Financing		0
		(5)
Other Changes:		
2021 Pay raise		44
2022 Pay raise		427
Awards		0
Full-year cost in 2022 of positions financed for part-year in 2021 (3 FTEs)	0	477
Change in compensable days		0
Civil Service Retirement System (CSRS)		9
Federal Employees Retirement System (FERS)		162
Thrift Savings Plan		455
Federal Insurance Contribution Act (FICA) - OASDI		(10)
Health insurance		42
Employees Compensation Fund		8
Travel:		0
Mileage		0
Per diem		0
Rental payments to GSA		150
GSA Furniture and IT Program (FIT)		571
Working Capital Fund, Departmental Management		490
National Archives and Records Administration (NARA)		(1)
General Pricing Level Adjustment		396
Continuous Diagnostics and Mitigation Charges		38
Telecommunications Services - Enterprise Infrastructure Services		(12)
Enterprise Services Direct Billing		101
Commerce Business System (CBS)		0
Federal Protective Service		(11)
Other changes unique to certain bureaus (e.g., grants, ship and aircraft costs)		0
Subtotal, other changes	0	3,336
Total, adjustments to base	0	3,331

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

Activity: Domestic and International Policies

Line Item		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and International Policies	Pos./BA	27	8,823	39	10,574	39	11,626	52	15,626	13	4,000
	FTE/Obl	30	7,607	37	12,175	39	11,626	49	15,626	10	4,000
Total	Pos./BA	27	8,823	39	10,574	39	11,626	52	15,626	13	4,000
	FTE/Obl	30	7,607	37	12,175	39	11,626	49	15,626	10	4,000

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**Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Domestic and International Policies

Goal Statement

The goal of the Domestic and International Policies program is to strengthen U.S. commerce by advancing policies that protect and promote the Internet and digital commerce, foster innovation, create economic value, and enhance security both domestically and internationally.

Base Program

NTIA's strategic focus is to protect and promote an open, interoperable Internet; advocate for the free flow of information, goods, and services; promote policies that maximize national security objectives and lessen collateral consequences; reduce regulatory barriers; and strengthen the global marketplace for American digital products and services. The Internet is the greatest engine of communications and commerce the world has ever known and is vital to U.S. economic leadership, innovation, and prosperity. Through its programs, NTIA improves the domestic and international policy landscape for the Internet and digital economy, which accounts for \$1.2 trillion, or 6.5 percent, of the U.S. gross domestic product, and nearly six million jobs.² On behalf of the Administration, NTIA carries out its diverse programs and services, using and promoting multistakeholder approaches to lead U.S. policymakers, domestic industry, foreign governments, and international organizations in addressing Internet and digital economy policymaking, standards development, and governance issues. By advocating for market-driven policies and multistakeholder informed initiatives, NTIA supports online commerce, greater employment opportunities, and better quality of life for all Americans.

Statement of Operating Objectives

As the President's principal advisor on telecommunications and information policy issues, NTIA's FY 2022 operating objectives are guided by the Administration's National Security Strategy and the four vital, national interests of: 1) protecting the American people, the Homeland, and the American way of life; 2) promoting American prosperity; 3) preserving peace through strength; and 4) advancing American influence. To accomplish this in FY 2022, NTIA will support Presidential initiatives, the White House's National Security Strategy, and the Department of Commerce's Internet and digital commerce programs as they relate to the concerns of the

² Bureau of Economic Analysis – <https://www.bea.gov/digital-economy>

U.S. business community, the promotion of market-based solutions, and the preservation of U.S. technology. NTIA's objective is to establish domestic and international policy leadership on, such issues as consumer data privacy, supply chain risk management, cybersecurity, online platforms, 5G and next generation communications, the Internet of Things (IoT), and artificial intelligence (AI).

Domestically and internationally, U.S. industry and consumers rely significantly on the open Internet. Thus, in FY 2022, NTIA will lead the Department of Commerce's bureaus on Internet and digital commerce strategies by conducting research and providing analytical support. NTIA will advocate for its proposed approach to consumer privacy, which lays out a set of user-centric privacy outcomes that underpin the protections that is being produced by any Federal action on consumer-privacy policy. Further, NTIA is the Executive Branch expert on issues relating to the Domain Name System (DNS) and will support a multi-stakeholder approach to the coordination of the DNS to ensure the long-term viability of the Internet as a force for innovation and economic growth, including by providing a framework for the administration of the .edu and .us domains. In this capacity, NTIA has also worked to ensure that foreign data protection legislation does not unduly curtail access to information or freedom of speech, vital American priorities.

Because American businesses and governmental entities continue to be the target of cyber-attacks, in FY 2022, NTIA will convene industry to seek market-based, innovative solutions to cybersecurity challenges that require cross-sector collaboration. The goal of these activities is to improve industry-led adoption and awareness of cyber policy best practices and to examine where market incentives are imbalanced or insufficient. NTIA will accomplish the following cyber policy outcomes: (1) lead the federal government's coordination and implementation of the botnet actions, as described in the July 2020 Botnet Roadmap; (2) lead the recommendations on the Vulnerabilities Equities Process (VEP) on whether to disclose cybersecurity vulnerability information to the vendor so they will patch the vulnerability or temporarily restrict knowledge of the vulnerability so that it can be used for national security or law enforcement purposes; and (3) advise the Administration on security threats to the telecommunications infrastructure from foreign license applicants and coordinate processes related to supply chain risk management of the U.S. digital infrastructure.

In FY 2022, NTIA will represent the Administration's policies to independent agencies, including the Federal Communications Commission (FCC) and the Federal Trade Commission (FTC) with the goal of advocating for market-based, consensus-driven policies versus overly burdensome regulation. For the education and promotion of the importance of a free and open Internet, NTIA will provide training in coordination with foreign assistance efforts, such as the Telecommunications Leadership Program and the U.S. Telecommunications Training Institute.

Explanation and Justification

NTIA is the U.S. government leader in the strategic development, promotion, and execution of policies to support the domestic and global Internet and broader digital commerce. NTIA's Internet policy framework contributes to the efficient and equitable operation of the digital economy on a global scale and provides infrastructure for innovation and entrepreneurship to enhance American competitiveness. NTIA's domestic and international policy activities require it to maintain expertise and leadership on telecommunications and information policy issues and to identify the most important for Executive Branch attention. NTIA plays a

critical role in representing the United States in multiple treaty-based and technical standards setting fora in order to provide leadership and advance U.S. national economic and technology policies.

Line Item		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and International Policies	Pos./BA	27	8,823	39	10,574	39	11,626
	FTE/Obl	30	7,607	37	12,175	39	11,626
Total	Pos./BA	27	8,823	39	10,574	39	11,626
	FTE/Obl	30	7,607	37	12,175	39	11,626

With the FY 2022 base resources, NTIA's domestic and international policies program will focus their efforts on the following key areas, as outlined below.

Executive Branch Support. In its role as advisor to the President on telecommunications and Internet issues, NTIA coordinates Executive Branch communications and Internet policy, represents the Administration's policy to independent agencies, including the FCC and the FTC, and provides technical and policy expertise on Internet infrastructure to the Executive Branch and other stakeholders. NTIA coordinates United States government (USG) domestic and international policies and positions that impact the Internet and other communications. NTIA plays an integral role in supporting the interagency legislative coordination and clearance process by reviewing Internet and digital commerce policies.

Law Enforcement and National Security. NTIA provides advice focusing on innovation and economic growth in policy discussions related to the protection of Americans from cyber threats. As such, in FY 2022, NTIA will take action to continue to participate in interagency discussions on topics ranging from countering online violence and radical extremism to proposals to authorize companies to "hack back" against the perpetrators of cyber-attacks. NTIA is the lead for the Department in representing its equities in interagency deliberations related to cyber operations and policy, and thus continued program support will enable it to continue to convene stakeholders from across the ecosystem to address cybersecurity challenges in a proactive, collaborative manner, including in response to new and emerging risks posed by emerging technologies.

U.S. Telecommunications Infrastructure. 5G and Supply Chain Policy & Security. The security and resilience of the telecommunications supply chain is a priority focus for the Administration. The advancement of the Internet of Things has increased the nation's reliance on the communications infrastructure to support a vast array of daily functions. NTIA will drive and support the Administration's efforts to promote and protect our economic and national security in the fast approaching 5G

environment. The agency will accomplish this through a new programmatic function to assess and address supply chain risks to our national telecommunications infrastructure.

Digital Commerce Leadership. NTIA will support the Department's leadership team by providing analytical and technical expertise on cross-cutting issues and convening senior leaders for decision making and direction on Internet policy economic competitiveness and digital commerce issues. NTIA will continue to serve as the executive secretariat for the Department's Internet Policy Task Force (IPTF), a Cross-Department group that coordinates the efforts in communications and information policy, economic analysis, intellectual property, trade, and technical standards to address the most pressing issues in the digital commerce and Internet economy, including the areas of 5G and next generation communications.

Multistakeholder Engagements. To promote American prosperity, NTIA develops Internet policies designed to protect and expand Internet use and encourage further innovation and economic growth. Through its multistakeholder engagements, NTIA strengthens and expands Internet policy development to include economic and business/industry concerns and impacts.

International Representation. NTIA plays a critical role in developing strategy and representing the USG in international negotiations, standard setting, and diplomacy efforts. It is in these gatherings that governments and other stakeholders advance policy approaches that will determine how open the global digital economy will be to American products, services, and ideas. NTIA advocates for bilateral, multistakeholder, multilateral and regional adoption of policies that encourage an open Internet; promote market liberalization; and stimulate economic development and promotion of communications technology interests. NTIA participates in a wide variety of international fora to ensure that they maintain a central focus on innovation and economic growth and preserve the multistakeholder approach to Internet policymaking.

Trade Negotiations. NTIA provides policy and technical support to the Department, United States Trade Representative (USTR), and other federal agencies to ensure that any U.S. free trade agreement[s], existing or under development, supports the Administration's position regarding communications, digital commerce services, and the free flow of information across borders. NTIA's continued participation in these efforts will contribute to preserving and/or creating jobs for Americans and rejuvenating the domestic economy. NTIA will increase its participation in Department of Commerce-run bilateral commercial dialogues to improve understanding with counterpart trade and economics (not just communications) ministries.

Inter-Agency Work and Capacity Building. NTIA will continue to work with other agencies to develop implementation strategies for improved and continuous telecommunications and information development in key countries and regions (e.g., Africa, Central and Latin America, and the Middle East), through such foreign assistance efforts as the Telecommunications Leadership Program, and the U.S. Telecommunications Training Institute. We will work with the Office of the United States Trade Representative (USTR), other Commerce agencies, the State Department, and other federal agencies on policy approaches to telecommunications and information standards developments worldwide.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGES FOR 2022
(Dollar amounts in thousands)

		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and International Policies	Pos./BA	39	11,626	52	15,626	13	4,000
	FTE/Obl.	39	11,626	49	15,626	10	4,000

NTIA is seeking \$4 million and 13 positions to lead the implementation of Executive Order 13873, "Securing the Information and Communications Technology and Services Supply Chain (ICTS)". The ICTS supply chain is critical to every aspect to America's national security. U.S. business and governments at all levels rely heavily on ICTS, which underpin our economy; support critical infrastructure and emergency services; and facilitate the nation's ability to store, process, and transmit vast amounts of data. NTIA must design and implement a new programmatic function to oversee, mitigate, and manage risks to the national information and communications technology and services (ICTS) supply chain.

	2022	2023	2024	2025	2026
Performance Measures:					
# of assessments conducted	5	7	9	11	13
# of industry and interagency meetings to exchange sensitive information	4	6	8	10	12

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Domestic and International Policies

<u>Full-time permanent</u>					
Title		Grade	Number	Salary	Salaries
Program Manager		15	1	\$172,508	172,508
Attorney		15	1	\$172,508	172,508
Case Managers		14	2	\$159,286	318,572
Policy Specialist		14	1	\$159,286	159,286
Congressional and Public Affairs		14	1	\$159,286	159,286
Attorney		13	1	\$134,800	134,800
Compliance Specialist		12	2	\$113,362	226,724
Analysts		12	3	\$113,362	340,086
Program Coordinator		11	1	\$94,574	94,574
Total			13		1,778,344
Less lapse	25.00%		(3)		(444,586)
Total full-time permanent (FTE)			10		1,333,758
2022 Pay Adjustment (2.70%)	2.70%				36,011
Total					1,369,769
Personnel Data Summary					
Full-time Equivalent Employment					
Full-time permanent			10		
Other than full-time permanent			0		
Total FTE			10		
Authorized Positions:					
Full-time permanent			13		
Other than full-time permanent			0		
Total Positions			13		

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Domestic and International Policies
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Domestic and International Policies

		2020	2021	2022	2022	Increase/Decrease
	Object Class	Actuals	Enacted	Base	Estimate	from 2022 Base
11.1	Full-time permanent compensation	3,973	5,322	5,605	6,949	1,344
11.3	Other than full-time permanent					
11.5	Other personnel compensation	110	95	97	137	40
11.8	Special personnel services payments					
11.9	Total personnel compensation	4,083	5,417	5,702	7,086	1,384
12.1	Civilian personnel benefits	1,331	1,647	1,885	2,302	417
13	Benefits for former personnel					
21	Travel and transportation of persons	130	566	566	591	25
22	Transportation of things	0	6	6	7	1
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	479	854	1,104	1,317	213
23.3	Commun., util., and misc. charges	99	86	86	97	11
24	Printing and reproduction	8	12	12	19	7
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	149	1,886	326	368	42
25.3	Other goods and services from Federal sources	1,150	1,481	1,702	3,491	1,789
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					

		2020 Actuals	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
	Object Class					
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons					
26	Supplies and materials	18	40	40	47	7
31	Equipment	160	45	62	166	104
32	Lands and structures					0
33	Investments and loans					
41	Grants, subsidies and contributions	0	135	135	135	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	7,607	12,175	11,626	15,626	4,000

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

Activity: Spectrum Management

Line Item		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum Management	Pos./BA	24	7,255	38	7,255	38	8,059	38	8,059	0	0
	FTE/Obl	23	7,421	38	7,255	38	8,059	38	8,059	0	0
Total	Pos./BA	24	7,255	38	7,255	38	8,059	38	8,059	0	0
	FTE/Obl	23	7,421	38	7,255	38	8,059	38	8,059	0	0

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

Activity: Spectrum Management

Line Item		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum Management	Pos./BA	94	0	107	0	107	0	107	0	0	0
	FTE/Obl	99	36,371	107	51,415	107	45,225	107	45,225	0	0
Total	Pos./BA	94	0	107	0	107	0	107	0	0	0
	FTE/Obl	99	36,371	107	51,415	107	45,225	107	45,225	0	0

**Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Spectrum Management

Goal Statement

The Spectrum Management program ensures that electromagnetic spectrum is used efficiently and effectively to enable the Federal agencies to perform their missions, while supporting the commercial sector's development of next generation wireless services and encouraging American leadership in space commerce.

Base Program

NTIA carries out the President's authority to assign spectrum resources to radio stations belonging to and operated by the United States.³ The Federal agencies rely on the radio spectrum to execute their congressionally mandated missions, ranging from national defense, homeland security, and law enforcement to ensuring aeronautical and marine safety, conducting space travel and scientific research, and accurately forecasting the weather. The agencies could not provide these vital government services without radio frequency assignments, which NTIA is responsible for managing. NTIA is also charged with making more spectrum available for licensed commercial use, creating billions of dollars in spectrum auction proceeds for the U.S. Treasury and ensuring U.S. leadership and economic growth driven by next-generation technologies. To support these spectrum auctions, NTIA works closely with the Federal Communications Commission (FCC) to coordinate spectrum use, identify and reallocate spectrum bands to accommodate commercial wireless services, update spectrum policies, and develop long-range spectrum management plans. To execute these responsibilities and minimize costs, NTIA depends on significant collaboration with interested Federal agencies and key private-sector stakeholders.⁴

Statement of Operating Objectives

In FY 2021, NTIA will continue to help ensure sufficient spectrum is available for Federal and non-Federal entities and will prioritize the following four activities: 1) conduct mission essential functions to manage Federal spectrum resources; 2) support the growing

³ NTIA Organization Act, as amended (47 USC 901 et. seq.)

⁴ See links to Interdepartment Radio Advisory Committee (IRAC) at <https://www.ntia.doc.gov/page/interdepartment-radio-advisory-committee-irac> and Commerce Spectrum Management Advisory Committee (CSMAC) at <https://www.ntia.doc.gov/category/csmac>

demand for spectrum in the commercial wireless industry; 3) coordinate critical international spectrum issues that impact U.S. businesses, consumers, and government agencies; and 4) execute the Presidential Memorandum.

To accomplish its essential functions, NTIA will ensure that Federal agencies have sufficient access to spectrum resources needed to conduct their current and future mission-critical activities. NTIA will achieve these three key outcomes: 1) certify approximately 300 spectrum-dependent systems required to support national security, emergency communications, and important Federal scientific endeavors; 2) process over 100,000 radio frequency assignments to authorize Federal wireless systems to operate when and where they are needed; and 3) respond during disasters to ensure continuity of critical state, territorial, local, and Federal spectrum operations. In support of growing demand for commercial wireless spectrum, NTIA will lead the efforts to find additional spectrum to support the deployment of innovative technologies that contribute billions of dollars towards America's economic prosperity and global technology leadership. NTIA is continuing to take significant steps to identify and make available 255 megahertz for licensed services, per the *MOBILE Now Act*, including the mid-band spectrum critical for 5G deployments. Accordingly, NTIA will continue to 1) coordinate with DOD and industry to accommodate new commercial wireless services in the Citizens Broadband Radio Service (CBRS) from 3550 to 3700 MHz which is being auctioned off by the FCC this year and also additional 3 GHz mid-band spectrum; 2) develop a plan to incentivize Federal agencies to relinquish or share spectrum with commercial entities on a leased basis; and 3) evaluate Federal agency research and development plans for in order to free-up spectrum for auction.

Internationally, NTIA will lead the Federal agencies in preparations to advance U.S. policy positions slated for the next International Telecommunication Union's World Radiocommunication Conference (WRC) agenda, scheduled to be held in 2023. Concurrently, NTIA will lead the implementation of changes to the U.S. regulations resulting from the WRC, the treaty-status forum that establishes radiocommunication regulations for global and regional operations in space and on earth. In other international efforts, NTIA will coordinate critical spectrum issues along the Canadian and Mexican borders, with the goal of preventing harmful interference under applicable treaties, agreements, and arrangements. NTIA will also coordinate hundreds of satellite actions with foreign governments and domestic operators to bring these systems into use and to improve the global competitiveness of the U.S. space sector.

NTIA will also lead the execution of the Presidential Memorandum on the National Spectrum Strategy Implementation Plan by initiating actions, in collaboration with Federal agencies and the FCC, to improve the current spectrum access ecosystem to enable a forward-looking, flexible, and sustainable approach to managing spectrum. The initial efforts will establish a framework that enables increased access to spectrum through spectrum sharing, thereby facilitating innovation and economic growth, as well as augmentation of government mission capabilities.

Explanation and Justification

The Federal agencies could not provide their vital government services without radio frequency assignments and without NTIA's management of these scarce spectrum resources. At the same time, there is tremendous growth in demand for wireless spectrum by consumers, businesses and government agencies. According to the recent Cisco Annual Internet Report, there will be 29.3 billion

networked devices by 2023, up from 18.4 billion in 2018. Many of these will be wireless devices relying upon access to spectrum. Our nation's economic prosperity depends on innovative technologies and commercial wireless services gaining access to more spectrum.

Line Item		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum Management	Pos./BA	24	7,255	38	7,255	38	8,059
	FTE/Obl	23	7,421	38	7,255	38	8,059
Total	Pos./BA	24	7,255	38	7,255	38	8,059
	FTE/Obl	23	7,421	38	7,255	38	8,059

As part of its FY 2022 base resources, NTIA will accomplish the following activities, as outlined below.

NTIA conducts day-to-day spectrum management operations to authorize agency requests for radio frequency assignments and to certify agency spectrum-dependent equipment including those supporting national security and emergency communications. These assignment and certification actions require expert electromagnetic compatibility evaluations to ensure the equipment, when deployed, does not cause interference during operations. NTIA also conducts spectrum engineering studies and technical analyses to make decisions regarding frequency assignments, system certifications, spectrum sharing, interference resolution, and Federal technical standards.

NTIA conducts domestic spectrum activities that include developing, advocating, and implementing spectrum policies that expand spectrum access and improve efficiency across the Federal Government. This involves responding to proposed spectrum legislation, Congressional inquiries, and dozens of new and ongoing FCC proceedings. NTIA also provides outreach to public and private stakeholders, including spectrum training courses and seminars for U.S. and foreign spectrum managers. To inform policymaking, NTIA will conduct its annual symposium at which a wide range of subject matter experts will discuss innovations, ideas, and issues in Federal spectrum policy and management. NTIA will continue to administer and conduct the Technical Panel activities, which include the review and approval of agency transition plans and spectrum pipeline plans. NTIA will also continue to execute its responsibilities to ensure commercial licensees have timely access to Federal spectrum bands auctioned by the FCC and that agencies spend Spectrum Relocation Fund transfers in accordance with their approved transition plans.

NTIA conducts international spectrum policy activities to develop positions and promote U.S. interests in international bodies dealing with radio regulations and other spectrum issues. This includes representing Federal interests at international forums such as the WRC, regional meetings, and other specialized agencies of the United Nations (e.g., the International Civil Aviation Organization). NTIA is also responsible for leading all coordination and registration for Federal satellite systems to provide protection of global satellite services from harmful interference and safeguard orbital slots for U.S. satellite systems. In addition, NTIA coordinates Federal spectrum requirements along our national borders. NTIA's efforts on these international matters play a critical role in building confidence worldwide in U.S. spectrum management capabilities to win support for U.S. positions that augment the mission capabilities of Federal entities worldwide and in space, enable groundbreaking wireless and satellite technologies, and improve the global competitiveness of U.S. industries.

NTIA conducts Implementation Plan efforts in the execution of the Presidential Memorandum on the National Spectrum Strategy. Execution continues in FY 2022 with initial actions to update current spectrum use and future requirements; to revamp spectrum access policies to provide greater flexibility and incentivize efficiency; to enhance spectrum enforcement mechanisms; and to pursue workforce development initiatives that are critical to long-term success.

NTIA will continue to implement a twelve-year plan to support the Presidential Memorandum requirement to modernize and automate NTIA's Spectrum IT Systems. In FY 2022, NTIA will implement the first of four phases to modernize Spectrum IT Systems. It will enhance the security of Federal Spectrum IT systems to meet Federal Information Security Management Act (FISMA) security requirements. In later years NTIA will seek to implement phase 2-4, which includes Phase 2 to enable spectrum (i.e., radio frequency) efficiencies to promote economic growth, as directed by the October 25, 2018 Presidential Memorandum "Developing a Sustainable Spectrum Strategy for America's future." This effort targets a 5% or greater increase in spectrum efficiency of U.S. Federal spectrum use and a 50% improvement in processing timeliness. Phase 3 will ensure NTIA has the data and situational awareness needed to perform NTIA responsibilities in a Spectrum Sharing environment. Phase 4 will operate and maintain Federal Spectrum IT Systems with improved data quality and transparency to better inform spectrum efficiency.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Spectrum Management
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Spectrum Management

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
11.1	Full-time permanent compensation	2,910	3,201	3,299	3,299	0
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	351	58	60	60	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	3,261	3,259	3,359	3,359	0
12.1	Civilian personnel benefits	1,179	990	1,172	1,172	0
13	Benefits for former personnel					
21	Travel and transportation of persons	5	86	86	86	0
22	Transportation of things	0	2	2	2	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	376	386	643	643	0
23.3	Commun., util., and misc. charges	111	17	17	17	0
24	Printing and reproduction	5	6	6	6	0
25	Other contractual services					
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services from non-Federal sources	429	599	642	642	0
25.3	Other goods and services from Federal sources	1,754	1,881	2,086	2,086	0
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons					
26	Supplies and materials	27	23	23	23	0
31	Equipment	274	6	23	23	0
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	7,421	7,255	8,059	8,059	0

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

Activity: Advanced Communications Research

Line Item		2020		2021		2022		2022		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Advanced Communications Research	Pos./BA	44	8,180	50	11,180	50	12,006	50	12,006	0	0
	FTE/Obl	42	7,692	49	11,984	50	12,006	50	12,006	0	0
Total	Pos./BA	44	8,180	50	11,180	50	12,006	50	12,006	0	0
	FTE/Obl	42	7,692	49	11,984	50	12,006	50	12,006	0	0

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

Activity: Advanced Communications Research

Line Items		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Advanced Communications Research	Pos./BA	44	0	50	0	50	0	50	0	0	0
	FTE/Obl	37	10,604	50	19,979	50	10,000	50	10,000	0	0
Total	Pos./BA	44	0	50	0	50	0	50	0	0	0
	FTE/Obl	37	10,604	50	19,979	50	10,000	50	10,000	0	0

**Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Advanced Communications Research

Goal Statement

Through cutting-edge research and engineering, the Advanced Communications Research program advances the nation's goals to discover and deploy technologically advanced communication solutions to use and share spectrum more efficiently and effectively without harmful interference.

Base Programs

The Institute for Telecommunication Sciences (ITS), NTIA's research facility in Boulder, Colorado, is one of the world's leading telecommunications research laboratories. ITS research informs spectrum policy; proposes solutions to emerging telecommunications issues; and provides critical technical input regarding how spectrum-dependent systems, such as radars and cellphones, interact. ITS partners with other Federal agencies, industry, and academia to collaborate on solving critical telecommunications problems. Through its independent, unbiased technical analyses, ITS serves as a trusted agent, working to balance the goals of protecting mission critical Federal telecommunication systems from harmful interference while promoting commercial industries' ability to innovate and deploy advanced communication technologies. Towards these objectives, ITS researches new and innovative approaches to spectrum sharing, interference protection, and the interaction of communication equipment, systems, and services. ITS also provides key technical leadership for the U.S. Government on technology and spectrum issues in domestic and international telecommunications standards bodies.

Statement of Operating Objectives

ITS has identified three core technical research and engineering priority areas in FY 2022 that (1) promote efficient spectrum access and spectrum sharing; (2) inform policy development to stimulate US industry success in 5G and beyond communications by informing NTIA's policy making role through standards development and test and evaluation; and (3) modernize and maintain research facilities and equipment.⁵

⁵ More detailed information on ITS's research can be found on the website at <https://www.its.bldrdoc.gov/>

Promote efficient spectrum access and spectrum sharing. In an accelerating wireless world, spectrum is a critically important, scarce resource. Different communication systems are now required to share spectrum, meaning that they must operate using the same radio frequencies. These sharing arrangements must take place without the systems interfering with each other's operations. ITS conducts the critically important research into reliable spectrum access and dynamic, interference-free spectrum sharing. The ITS research portfolio is designed to enable and improve spectrum access and sharing by continuously improving our understanding of radio frequency signals: how radio waves behave in different environments; how bandwidth and coverage vary with frequency; how much usage is really occurring at different frequencies; and how different spectrum-dependent systems can co-exist near each other. To this end, in FY 2022, ITS will establish a real-world, city-scale testbed to continuously monitor spectrum usage and compliance with spectrum sharing agreements. ITS will develop a baseline spectrum characterization and an anomaly detection capability for 1–6 GHz in Boulder, CO. This will be based on information on known spectrum licenses and assignments and data acquired continuously from ten sensor locations. This research supports dynamic spectrum sharing by providing both industry and government with key insights into usage patterns, and thereby helps to identify frequencies that are good candidates for sharing.

Inform policy development to stimulate U.S. industry success in 5G. In FY 2022, ITS will conduct research that supports the deployment of new and innovative telecommunications technologies to inform NTIA's policy making role as it relates to next generation information and communications technologies such as 5G. ITS will continue to provide unbiased research in support of improved spectrum efficiency and increased spectrum sharing among continuously evolving technologies, promoting balanced consideration of commercial and Federal needs. Additionally, ITS will continue to represent emerging U.S. interests through targeted technical expertise and contributions to influence development and negotiation of national and international standards that support an open and globally competitive telecommunications marketplace.

Modernize and maintain research facilities and equipment. In FY 2022, ITS will maintain the ITS research facility in Boulder, Colorado and upgrade research equipment to solve complex spectrum sharing problems as they evolve in response to new technologies. ITS owns and maintains the Table Mountain Field Site and Radio Quiet Zone, which is an 1,800-acre, open-air test location, that is the only Radio Quiet Zone available for research and development of new spectrum-dependent technologies. Table Mountain is protected by Federal and state law to prevent the transmissions of powerful signals over the site. The site is used by multiple Federal agencies and industry partners to perform fundamental research into the nature, interaction, and performance of spectrum-dependent devices, systems, and services. Other Federal agencies leverage ITS's research facilities and expert staff for advanced research to resolve their telecommunications issues.

Explanation and Justification

Line Item		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Advanced Communications Research	Pos./BA	44	8,180	50	11,180	50	12,006
	FTE/Obl	42	7,692	49	11,984	50	12,006
Total	Pos./BA	44	8,180	50	11,180	50	12,006
	FTE/Obl	42	7,692	49	11,984	50	12,006

NTIA will conduct research in areas of efficient spectrum access and spectrum sharing and other critical spectrum activities. The critical radio frequency measurement data NTIA gathers will provide ITS, private partners, and the public sectors with data modeling tools that will be used to deploy new telecommunication networks and services and increase commercial access to new shared radio bands. The spectrum monitoring testbed will be expanded to monitor more radio frequencies and will provide the FCC, DoD, and other Federal agencies more insight into the occupancy of the spectrum to inform planning and enforcement. To keep pace with 5G research and development, which is one of the fastest growing and most impactful communications technologies now and into the future, NTIA will focus on the buildout of a next-generation communications laboratory; the development and maintenance of direct subject matter expertise on future information and communications technologies; and give the US a powerful voice in the global development and standardization of the further evolution of information and communications technologies. These efforts will help ensure NTIA has sufficient engineering expertise to inform its policy making role in working to ensure US industry success in the global 5G and beyond information and communications technologies market.

NTIA will conduct upgrades on the modernization and maintenance of research facilities and equipment. For the Table Mountain Field Site and Radio Quiet Zone, NTIA will continue to manage, operate, and maintain this critical, telecommunication research site. ITS has a multi-year agreement with the US Army Corps of Engineers to renovate the buildings at the site and by FY2022 five buildings will be upgraded in addition to several dish antennas. Telecommunications is one of the most rapidly evolving sectors of the economy with new generations of equipment being released annually or more frequently. To keep pace with each new generation of technology, NTIA must continually invest in new measurement equipment to meet the needs of greater sensitivity, increased resolution, higher frequencies and wider bandwidths.

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Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
ADVANCED COMMUNICATIONS RESEARCH
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Advanced Communications Research

	Object Class	2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
11.1	Full-time permanent compensation	4,199	4,630	4,897	4,897	0
11.3	Other than full-time permanent					
11.5	Other personnel compensation	154	199	202	202	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	4,353	4,829	5,099	5,099	0
12.1	Civilian personnel benefits	1,364	1,433	1,709	1,709	0
13	Benefits for former personnel					
21	Travel and transportation of persons	33	179	179	179	0
22	Transportation of things	0	4	4	4	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	83	734	734	734	0
23.3	Commun., util., and misc. charges	60	6	7	7	0
24	Printing and reproduction	2	11	12	12	0
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	287	140	197	197	0
25.3	Other goods and services from Federal sources	1,095	1,963	1,152	1,152	0
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
25.6	Medical care					
25.7	Operation and maintenance of equipment	29	0	0	0	0
25.8	Subsistence and support of persons					
26	Supplies and materials	56	28	29	29	0
31	Equipment	330	2,657	2,884	2,884	0
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions					
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	7,692	11,984	12,006	12,006	0

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

Activity: Broadband Programs

Line Item		2020		2021		2022		2022		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Programs	Pos./BA	29	16,183	29	16,183	29	16,769	40	26,769	11	10,000
	FTE/Obl	27	14,915	29	25,127	29	16,769	40	26,769	11	10,000
Total	Pos./BA	29	16,183	29	16,183	29	16,769	40	26,769	11	10,000
	FTE/Obl	27	14,915	29	25,127	29	16,769	40	26,769	11	10,000

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**Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Broadband Program

Goal Statement

The Broadband Program promotes the expansion of broadband access and use across America by facilitating investments in critical infrastructure deployment and digital inclusion that will help attract new jobs, promote economic growth, and encourage increased innovation.

Base Program

According to the Federal Communications Commission's (FCC) 2020 Broadband Deployment Report, 18 million Americans still lack access to affordable, reliable, modern high-speed broadband capability, of which 14 million, or 79%, live in rural areas. NTIA's BroadbandUSA program is spearheading the Administration's efforts to use all available tools to educate, convene, and assist broadband stakeholders to improve connectivity in America, including rural homes, farms, small businesses, manufacturing sites, tribal communities, transportation systems, healthcare facilities, and educational institutions.

Without BroadbandUSA's technical resources, smaller, rural, and/or less affluent communities will fall further behind, losing industries, jobs, and population. BroadbandUSA serves communities, industry, and non-profits that want to expand broadband infrastructure and promote digital workforce skills. The needs and interests of state and local broadband leaders drive BroadbandUSA's services, which focus on supporting public-private partnerships that improve connectivity to their communities. NTIA also partners with industry, Federal agencies, state and local governments, and tribal governments to reduce barriers to capital investment, to remove obstacles to broadband deployment and digital inclusion, and to employ government resources more efficiently. Through these efforts, NTIA is working towards the goals of increasing economic prosperity, attracting new businesses, enhancing job growth, and improving healthcare outcomes in rural areas of America. BroadbandUSA also leads the efforts to augment the nation's understanding of broadband availability through mapping the current state of broadband access nationwide, including identification of existing infrastructure and gaps.

This mapping effort supports U.S. policymakers and government agencies through the collection, visualization, and comparison of Federal and non-Federal data sets to identify regions with insufficient service, compare multiple data-sets to identify discrepancies in broadband availability (e.g. served vs. underserved or unserved), and produce reports and analyses that could be used for investment and decision-making purposes. The combination of Federal, state, and commercially available data sources such as crowd sourced speed test data provides a layered view that supports cooperative policymaking.

BroadbandUSA will also lead national connectivity efforts in partnership with Federal, state and local governments, including co-leading the American Broadband Initiative (ABI), which is the Administration's signature strategy to stimulate increased private investment in broadband infrastructure to fill connectivity gaps in America. BroadbandUSA serves on the ABI's Executive Leadership Team, along with the Executive Office of the President and the U.S. Department of Agriculture, and actively participates in the ABI's three key workstreams: Streamlining Federal Permitting; Leveraging Federal Assets; and Maximizing the Impact of Federal Broadband Funding.

Statement of Operating Objectives

NTIA's BroadbandUSA program has reached more than 1,700 communities from all 50 states, two territories, and the District of Columbia since 2016. Our work at the state, local, and Federal level has built the foundation for more effective investments in broadband and digital skills by building state and local capacity, coordinating Federal resources, as well as providing leadership on the American Broadband Initiative (ABI).

In FY 2022, BroadbandUSA will execute a number of strategies to expand broadband and will accomplish the following: 1) provide technical assistance to 145 communities; 2) support the collaboration with state broadband leaders; 3) hold workshops and webinars with combined attendance of 2,000 individuals; and 4) update its one-stop shop of Federal broadband and permitting resources and state broadband programs. These activities will provide the foundation for state and local governments to attract broadband infrastructure investments.

In FY 2022, BroadbandUSA will accomplish the following objectives related to the ABI workstream efforts to reduce regulatory burdens to siting broadband infrastructure on Federal lands, lower costs of broadband buildouts by leveraging Federal assets, and improve the effectiveness of Federal funding. Specifically, BroadbandUSA will: 1) promote greater coordination and consistency across Federal programs to better target broadband investments to unserved areas; 2) monitor the implementation and effectiveness, in coordination with the Department of Interior, Department of Defense, Department of Transportation, Office of Management and Budget, and General Services Administration, of actions to streamline the application process for broadband facilities deployment as mandated under the *MOBILE NOW Act of 2018*; and 3) prepare a report to Congress, due by March 2022, on the status of their implementation and process improvements resulting from these actions.

BroadbandUSA will use \$7.5 million of the total base amount to improve the nation's understanding of broadband availability through its broadband availability data mapping initiative. In FY 2022, NTIA will accomplish the following items: 1) update geographic information systems (GIS) and geo-analytical systems, necessary to support the base program; 2) integrate, visualize, and analyze broadband availability data from participating states; 3) integrate, visualize, and analyze broadband availability data from broadband providers; 4) integrate the most recent FCC Form 477 data; and 5) integrate updated broadband planning data from other Federal agencies. These important improvements will enhance BroadbandUSA's data collection and analytic capabilities to better support policymaking and investment decisions. Without these improvements, the U.S. will lack the ability to compare updated Federal and non-Federal data sets to identify regions with insufficient service, better validate broadband availability data, and produce reports and analyses that could be used for investment and decision-making.

		<u>Explanation and Justification</u>					
Line Item		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Programs	Pos./BA	29	16,183	29	16,183	29	16,769
	FTE/Obl	27	14,915	29	25,127	29	16,769
Total	Pos./BA	29	16,183	29	16,183	29	16,769
	FTE/Obl	27	14,915	29	25,127	29	16,769

NTIA will continue to provide BroadbandUSA's technical assistance that supports the expansion of broadband access and will assist stakeholders seeking to expand connectivity through technical assistance, convening and educating to meet their goals. BroadbandUSA's work will prepare stakeholders with technical, solution-neutral guidance and tools that help them engage in more effective and persuasive discussions with broadband partners and providers. BroadbandUSA staff will continue to lead workshops and events for state and local governments to facilitate new public-private partnerships, explore a variety of infrastructure and digital inclusion funding opportunities, provide fresh perspectives for digital inclusion, and foster innovation for connectivity and use. NTIA experienced significant increase in demand for technical assistance services in FY 2020 and 2021 with a particular focus on remote learning and telehealth solutions.

NTIA will engage with stakeholders within industry, state, regional, and local entities to further common goals of increasing broadband access, particularly in rural areas. BroadbandUSA will work closely with the organizations at all levels of government to assist in removing barriers to deployment, facilitating and developing information, and increasing knowledge on broadband. For example, BroadbandUSA has significantly expanded our impact through relationships with state broadband experts through the State Broadband Leaders Network (SBLN), organizing a forum for collaboration and partnership on broadband policy and best practices. Since FY 2017, BroadbandUSA has facilitated this cohort to collaborate on best practices and to coordinate programs with Federal agencies. These activities have resulted in all 50 states, U.S. Virgin Island, Puerto Rico, and the District of Columbia actively participating in the collaboration. NTIA's role is vital as it is the only Federal agency bringing a diverse set of state broadband policymakers together. It is also important for BroadbandUSA to continue its co-leadership of the ABI to ensure continued coordination across the Federal government on broadband connectivity and use challenges. Finally, NTIA will continue to pursue its work, begun late FY 2019, to increase and expand NTIA's minority stakeholder engagement, principally by leveraging NTIA's good work with Historically Black Colleges and Universities (HBCUs) and Tribal Colleges and Universities (TCUs). In particular and in line with the Administration's imperative to promote rural broadband deployment, 5G deployment, economic competitiveness, and digital inclusion, NTIA seeks to increase HBCU/TCU

leadership participation in relevant broadband organizations, increase their outreach and participation in Federal agency broadband programs, and ensure their inclusion in the broadband deployment stakeholder ecosystems and grant opportunities.

NTIA will integrate new datasets, improve technical capabilities, and apply user feedback to improve the visualization, analytical, and other features of the map. As of fourth quarter of FY20, NTIA has: established a platform for broadband mapping, visualization, and analysis, integrated FCC Form 477 broadband availability data and other Federal data sets; made agreements with twenty states and the U.S. Department of Agriculture's Rural Utilities Service (RUS). During FY2021, BroadbandUSA collected feedback to inform enhancements and improvements to the map in later fiscal years. BroadbandUSA must keep its mapping system up to date in order to ensure that it meets users' performance expectations, complies with Federal information security requirements, maintains the accuracy and integrity of the data, and scales to handle additional data sets and user requirements. In order for the map to provide input to planning and funding decisions, BroadbandUSA must ensure that the system incorporates the latest FCC Form 477 datasets (released twice per year), most recent broadband availability data made available by the states and participating service providers, and the most up-to-date demographic and economic data from other Federal agencies that is incorporated into the tool.

NTIA will continue to expand the map to include additional data on broadband availability from additional and participating states and service providers. New data sets will ensure that the map offers a granular and comprehensive understanding of broadband availability, in the areas where data is available. NTIA will also work to integrate its existing broadband technical assistance program with the map, by implementing tools that support reporting, broadband planning, and broadband analysis. Collectively, these activities will provide the information necessary to inform and better coordinate Federal programs that fund broadband infrastructure and expand rural broadband deployments. In addition, BroadbandUSA will leverage this funding to incorporate additional analyses and data visualizations into the map, based on feedback from users. BroadbandUSA also plans to license third-party data sets that inform broadband planning and the analysis of broadband availability and incorporate that data into the platform.

NTIA will incorporate broadband availability data from additional states. The outcomes of such data will improve the understanding of broadband gaps at the state level. This new data will serve as a resource to leverage that improved understanding to inform state policy and investments as an opportunity to improve collaboration between states and NTIA, as part of NTIA's effort to augment the national broadband availability map.

These important updates will provide necessary data to inform U.S. policies. Without these improvements to the map, the U.S. will lack the ability to compare updated Federal and non-Federal data sets to identify regions with insufficient service, better validate broadband availability data, and produce reports and analysis to be used for investment decision-making. Moreover, the map's analytical tools will allow policymakers to evaluate the changes in broadband service availability funded by the FCC's Rural Digital Opportunity Fund (RDOF) and RUS' ReConnect programs, such that future funding continues to be directed to areas of need.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGES FOR 2022
(Dollar amounts in thousands)

		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Programs	Pos./BA	29	16,769	40	26,769	11	10,000
	FTE/Obl.	29	16,769	40	26,769	11	10,000

NTIA is seeking an increase of \$10 million and 11 positions for Broadband programs, as a key priority at NTIA. This increase will allow NTIA to build capacity to support the President's goal of expanding broadband access, including the establishment of the Office of Internet Connectivity and Growth. This additional funding will support the added responsibilities of the new office, including connecting with states, communities, and minority organizations that need broadband and digital inclusion support and developing targeted training. This funding will allow NTIA to consult with and lead the efforts with other Federal agencies on a streamlined and standardized application process for financial assistance and grants in the area of broadband programs. This funding will help continue the monitoring and support of NTIA broadband grants.

	2022	2023	2024	2025	2026
Performance Measures:					
New Technical Assistance					
engagements offered to rural and tribal					
broadband stakeholders	350	500	521	550	600

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Broadband Programs

<u>Full-time permanent</u>				Annual	Total
Title		Grade	Number	Salary	Salaries
Communications Program Specialist		15	4	144,128	576,512
Communications Program Specialist		14	3	122,530	367,590
Communications Program Specialist		13	4	103,690	414,760
Total			11		1,358,862
Less lapse	25.00%		0		0
Total full-time permanent (FTE)			11		1,358,862
2022 Pay Adjustment (2.70%)	2.70%				36,689
Total					1,395,551
Personnel Data Summary					
Full-time Equivalent Employment					
Full-time permanent			11		
Other than full-time permanent			0		
Total			11		
Authorized Positions:					
Full-time permanent			11		
Other than full-time permanent			0		
Total			11		

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
BROADBAND PROGRAMS
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Broadband Programs

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
11.1	Full-time permanent compensation	3,965	4,471	4,546	5,942	1,396
11.3	Other than full-time permanent					
11.5	Other personnel compensation	121	92	94	94	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	4,086	4,563	4,640	6,036	1,396
12.1	Civilian personnel benefits	1,349	1,384	1,520	1,953	433
13	Benefits for former personnel					
21	Travel and transportation of persons	66	212	212	412	200
22	Transportation of things	2	6	6	6	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	445	472	668	774	106
23.3	Commun., util., and misc. charges	88	21	21	31	10
24	Printing and reproduction	22	59	60	104	44
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	5,756	16,650	7,739	14,773	7,034
25.3	Other goods and services from Federal sources	1,221	1,196	1,325	2,014	689
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons					
26	Supplies and materials	20	13	14	27	13
31	Equipment	1,860	551	564	639	75
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions					
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	14,915	25,127	16,769	26,769	10,000

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

Activity: Public Safety Communications

Line Item		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Communications	Pos./BA	0	0	1	308	1	371	1	371	0	0
	FTE/Obl	0	0	1	308	1	371	1	371	0	0
Total	Pos./BA	0	0	1	308	1	371	1	371	0	0
	FTE/Obl	0	0	1	308	1	371	1	371	0	0

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**Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Public Safety Communications

Goal Statement

NTIA's public safety communications program provides the critical leadership and support for the coordination, interoperability, transition, and technical resources for our nation's public safety agencies in their adoption and implementation of advanced communications technologies.

Base Program

NTIA's public safety communications program will continue to serve the nation's emergency communications needs that are not funded through NTIA's mandatory accounts and that meet NTIA's statutory responsibilities.⁶ NTIA is uniquely situated to support public safety agencies in their efforts to adopt and implement advanced communication technologies given NTIA's technical spectrum and public safety expertise through continued support for NG911 activities and T-Band relocation grant program.

Statement of Operating Objectives

NTIA supports the communication needs of public safety personnel at all levels of government with their Next Generation 911 (NG911) activities. NTIA serves as a key Federal-level coordinator for public safety communications and works closely with other Federal agencies, states, territories and local governments, public safety personnel at all levels of government, and equipment manufacturers to plan for and advance NG911 implementation. With this continued funding, NTIA will engage other Federal agencies to advance regulatory, financial, and policy priorities to advance nationwide NG911 deployment. NTIA's activities will support the efforts of Federal, state, local, and tribal public safety agencies to utilize cutting-edge NG911 technologies that can improve public safety responses and help save lives. In FY 2022, NTIA will continue to focus on three key policy areas in NG911 activities:

- Implementing the NG911 Roadmap: NTIA is a key Federal agency in the implementation of specific program goals and performance measures for NG911 implementation and will work to eliminate identified adoption barriers through technical assistance, policy development and grant program prioritization.

⁶ 47 U.S.C. § 902(b)(2), 47 U.S.C. § 942, 47 U.S.C. § 1413

- Performing Implementation Coordination Office (ICO) activities with the National Highway Traffic Safety Administration (NHTSA) such as providing technical assistance, sharing best practices, and other facilitation and coordination activities with 911 stakeholders.
- Responding to 911 community requests and inquiries.

As it relates to the T-Band Grant Program, NTIA will continue the necessary planning activities for execution of its T-Band grant responsibilities including receiving additional stakeholder input on the T-Band relocation and developing NTIA's grant program assuming that Congress does not repeal the relocation mandate, as outlined in the Middle Class Tax Relief and Job Creation Act of 2012. Defining NTIA's T-Band Relocation Grant Program operating objectives will enable NTIA to determine allowable relocation costs, engage stakeholders to identify key issues that the grant program will address, and develop its grant program in a way that targets the funds available in the most beneficial manner for first responder agencies licensed in the T-Band. In FY 2022, NTIA will focus on three key policy areas in T-Band relocation activities:

- T-Band Relocation Grant Program Stakeholder Input: NTIA will continue to hold additional informational programs to gather input from stakeholders on the planned T-Band grant program parameters, including allowable costs, grant award conditions, and the period of performance.
- T-Band Relocation Grant Program: Utilizing that stakeholder input, NTIA will finalize a Notice of Funding Opportunity (NOFO) for the T-Band Relocation Grant Program that will include program parameters.
- T-Band Relocation Cost Estimates: NTIA will further engage T-Band incumbents, technical experts, and vendors to refine and validate costs estimates associated with T-Band relocation.

Explanation and Justification

Line Item		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Communications	Pos./BA	0	0	1	308	1	371
	FTE/Obl	0	0	1	308	1	371
Total	Pos./BA	0	0	1	308	1	371
	FTE/Obl	0	0	1	308	1	371

NTIA will continue to allocate one (1) position within its existing FY 2022 Budget Request to support these NG911 and T-Band relocation issues. NTIA will update a strategic assessment of progress in nationwide NG911 deployment, implement a strategic NG911 roadmap for continued progress with program metrics for future years, respond to inquiries and requests for assistance from the 911 community, and help develop policy recommendations for the Executive branch and Congress on NG911 matters. The funding will continue the essential activities to develop the grant program for the T-Band relocation.

NG911: For more than 50 years, 911 systems have served the needs of the public in emergencies. As communication technologies have evolved to include wireless phones, text and picture messaging, video chat, social media, and Voice over Internet Protocol (VoIP) devices, the 911 systems have not kept pace and are unable to accept information from these new communication methods. The future success of 911 in serving the public's needs will only be possible when our 911 call centers have transitioned from analog to an Internet Protocol (IP)-based 911 systems, commonly referred to as Next Generation 911 or NG911. The GAO's January 2018 report to Congress, GAO-18-252, recommended that the Federal government could strength efforts to assist states.⁷

Title VI, Subtitle E, of the Middle Class Tax Relief and Job Creation Act of 2012, also referred to as the Next Generation 911 Advancement Act of 2012 (Act), re-established the 911 Implementation Coordination Office (ICO) between NTIA and NHTSA. The ICO is responsible with 1) facilitating coordination and communication on 911, E911 and NG911 services; 2) submitting, or consulting on, a number of reports to Congress; and 3) administering \$115 million in NG911 implementation grants. The Act, however, only provides funding for the grant program with a five percent cap on the administrative expenses of the agencies to administer the grants. Funding to cover its other statutory responsibilities required in the Act.

For public safety agencies, the transition to NG911 will be complex and challenging. In order to successfully make the transition to NG911, agencies at all levels will require information, training, planning, technical certainty, and advocacy to leverage NG911 for first responders and those they serve. These activities also directly address the GAO recommendations in GAO-18-252 on how Federal agencies, including NTIA, should be supporting the state and local NG911 efforts.⁸

T-Band Grant Program: NTIA is also responsible for providing financial assistance to the almost 1,000 public safety agencies that will be required to transition their mission-critical, land mobile communication operations to new spectrum bands. Specifically, section 6103 of the Middle Class Tax Relief and Job Creation Act, 47 U.S.C. § 1413, requires the Federal Communications Commission (FCC) to reallocate and auction the spectrum in the 470-512 megahertz band, referred to as T-Band spectrum, no later than February 21, 2021. NTIA is then required to make grants from spectrum auction proceeds to relocate these operations. The public

⁷ The GAO stated that “[w]hile deploying and operating 911 is the responsibility of entities at the state and local level, Federal agencies – including NHTSA (National Highway Transportation and Safety Administration), NTIA, FCC (the Federal Communications Commission), and DHS (U.S. Department of Homeland Security) – have responsibilities to support NG911 implementation, including through facilitating coordination activities among 911 stakeholders and administering Federal grants.”

⁸ 47 U.S.C. § 902(b)(2), 47 U.S.C. § 942, 47 U.S.C. § 1413

safety agencies located in the T-Band are responsible for providing emergency services to more than 90 million people in the United States and represent the 11 largest urban areas: Boston, Massachusetts; Chicago, Illinois; Dallas/Fort Worth, Texas; Houston, Texas; Los Angeles, California; Miami, Florida; New York City, New York/Northern New Jersey, New Jersey; Philadelphia, Pennsylvania; Pittsburgh, Pennsylvania; San Francisco/Oakland, California; and Washington, D.C./Virginia/Maryland. While grant and administrative costs for the grants will come from the spectrum auction proceeds, funding to perform activities necessary to plan for the new grant program.

The T-Band transition as required by Congress has created significant technical, financial, and policy concerns among the incumbent jurisdictions. As they embark upon a complex, challenging relocation process, NTIA will provide direct access to Federal data on the transition, reliable information about necessary funding, and an accessible procedural path to the T-Band relocation. This will help ensure that the T-Band relocation is accomplished in an efficient, effective manner so that the emergency services are not negatively impacted by the relocation process.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PUBLIC SAFETY COMMUNICATIONS
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Public Safety Communications

		2020	2021	2022	2022	Increase/Decrease
	Object Class	Actual	Enacted	Base	Estimate	from 2022 Base
11.1	Full-time permanent compensation	0	117	145	145	0
11.3	Other than full-time permanent					
11.5	Other personnel compensation	0	1	1	1	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	0	118	146	146	0
12.1	Civilian personnel benefits	0	35	48	48	0
13	Benefits for former personnel					
21	Travel and transportation of persons	0	5	5	5	0
22	Transportation of things	0	1	1	1	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	0	7	13	13	0
23.3	Commun., util., and misc. charges	0	2	2	2	0
24	Printing and reproduction	0	1	1	1	0
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	0	46	49	49	0
25.3	Other goods and services from Federal sources	0	85	98	98	0
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					

		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
	Object Class					
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons					
26	Supplies and materials	0	1	1	1	0
31	Equipment	0	7	7	7	0
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	0	308	371	371	0

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

Activity: Federal Advanced Communications Test Site (FACTS)

Line Item		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Federal Advanced Communications Test Site (FACTS)	Pos./BA	0	0	0	0	0	0	8	26,700	8	26,700
	FTE/Obl	0	0	0	0	0	0	6	26,700	6	26,700
Total	Pos./BA	0	0	0	0	0	0	8	26,700	8	26,700
	FTE/Obl	0	0	0	0	0	0	6	26,700	6	26,700

**Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Federal Advanced Communications Test Site (FACTS)

Goal Statement

NTIA's proposed Federal Advanced Communications Test Site will provide the most accurate, over-the-air measurements, using precision test equipment and NTIA Spectrum Monitoring sensors that will capture test events and feed an artificial intelligence (AI) and machine learning (ML) analytics software tool.

Base Program

Currently, NTIA does not have a base program for FACTS. This is a new applied research, program initiative that would initially focus on mid-band spectrum sharing and move to studying other spectrum-sharing band options.

Statement of Operating Objectives

Using NTIA's 1800-acre Table Mountain site will enable NTIA to: (1) measure radar and commercial wireless equipment emissions to support spectrum sharing modeling and analyses; (2) demonstrate the levels at which commercial wireless systems cause harmful interference to government radars and vice-versa; and (3) develop AI/ML tools to optimize dynamic spectrum sharing between government radar and next generation (e.g., 5G, 6G, and beyond) systems.

FACTS will have permanent facilities to characterize radar emissions of next generation commercial systems and demonstrate harmful interference between these systems. A successful national spectrum strategy and U.S. leadership in advanced communications (e.g., 5G, 6G, and beyond) require commercial operators to have access to full array of spectrum bands to share with Federal agencies. In order to enter into spectrum-sharing arrangements, Federal agencies and commercial operators will need information generated from a robust, open-air testing of wireless technologies to understand the characteristics of radar emissions in order to make objective-based decisions.

Newly deployed ITS Spectrum Monitoring sensors and state of the art test equipment will enrich the creation of a new spectrum optimization artificial intelligence and machine learning analytics tools that will curate, manage, and disseminate large spectrum measurement data sets for use by authorized government and non-government researchers. As a national test range, FACTS will be

staffed with NTIA subject matter experts and the AI/ML-based evolved spectrum sharing capabilities will increase commercial access to spectrum.

Federal Advanced Communications Test Site (FACTS) will be the only research site of its kind in the nation. FACTS will leverage NTIA's Table Mountain field site, which is the only radio quiet zone in the United States with an open-air transmission capability. By utilizing this unique asset, NTIA can develop FACTS and initially focus on mid-band spectrum sharing options. The FACTS will provide the most accurate, over-the-air measurements, using precision test equipment and NTIA Spectrum Monitoring sensors that will capture test events and feed an AI/ML analytics software tool.

		<u>Explanation and Justification</u>					
Line Item		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Federal Advanced Communications	Pos./BA	0	0	0	0	0	0
Test Site (FACTS)	FTE/Obl	0	0	0	0	0	0
Total	Pos./BA	0	0	0	0	0	0
	FTE/Obl	0	0	0	0	0	0

Funding this initiative will effectively allow commercial entities to be able to gain more access to the necessary spectrum to deploy 5G, which is estimated to have the potential for a positive economic impact somewhere between \$274 to \$500 billion in gross domestic product of the U.S. and 1.3 to 3 million growth in new jobs.⁹¹⁰¹¹ To achieve the higher levels of economic benefit, robust data will be required and FACTS will provide such data.

⁹ Cellular Telecommunications and Internet Association (CTIA), <https://www.ctia.org/news/report-5g-mid-band-spectrum-global-update>; The Analysis Group, https://www.analysisgroup.com/globalassets/uploadedfiles/content/news_and_events/news/sosa-rafert-economic-impacts-of-reallocating-mid-band-spectrum-to-5g-1.pdf

¹⁰ https://newsroom.accenture.com/content/1101/files/Accenture_5G-Municipalities-Become-Smart-Cities.pdf

¹¹ Reallocating spectrum from Department of Defense systems is probable to achieve the latter 5G economic impact and requires robust data.

On the Federal government side, an absence of highly-optimized, spectrum-sharing capabilities increases the risk of harmful interference of commercial systems with critical government systems, such as radar. From the commercial wireless operator perspective, there is a risk of degradation of commercial operations and services. Without open-air testing, NTIA will not be able to facilitate expedited and expanded entry of commercial systems into sharing spectrum in frequency bands previously reserved for Federal systems.

FACTS open-air data will inform decision making, detect opportunities for spectrum sharing, create a basis for economic impact, while ensuring protection of U.S. government systems. Failure to fund this effort will leave the U.S. without strong foundational data to inform and drive objective decision making in spectrum sharing, wireless security, and policy.

FACTS can serve as a catalyst to bringing more reimbursable funding through collaborative research with industry, academia, and Federal agencies. NTIA will partner with other Federal agencies through Inter-Agency Agreements to gain access to radar system(s) for testing. Federal agencies with radar systems slated for spectrum sharing with 5G systems will have access to world class expertise from NTIA to assist in hardening those systems to next generation transmissions. Likewise, resolving the unique U.S. challenge of sharing spectrum will position U.S. industry as the world leader in this critical capability. This will increase the capacity of U.S. wireless networks, which, according to CTIA, generates more than \$60 billion dollars in revenue per year.

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGES FOR 2022
(Dollar amounts in thousands)

		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Federal Advanced Communications Test Site (FACTS)	Pos./BA	0	0	8	26,700	8	26,700
	FTE/Obl.	0	0	6	26,700	6	26,700

This new initiative is a five-year investment totaling \$26.7 million that will cover the creation of the Federal Advanced Communications Test Site (FACTS) project. FACTS will be the only research site of its kind in the nation, an open-air testing of wireless technologies to understand characteristics of radar emissions. FACTS will leverage NTIA's Table Mountain field site and initially will focus on mid-band spectrum sharing options. The FACTS will provide the most accurate, over-the-air measurements, using precision test equipment and NTIA Spectrum Monitoring sensors that will capture test events and feed an artificial intelligence (AI) and machine learning (ML) analytics software tool.

	2022	2023	2024	2025	2026
Performance Measures:					
% of program established, including purchasing the necessary equipment and software, hiring and training new staff	80	15	5	0	0

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
PROGRAM CHANGE PERSONNEL DETAIL

Activity: Federal Advanced Communications Test Site (FACTS)

Full-time permanent				Annual	Total
Title		Grade	Number	Salary	Salaries
Electronics Engineer		ZP-V	1	172,508	172,508
Electronics Engineer		ZP-IV	2	143,159	286,318
Computer Scientist		ZP-IV	1	143,159	143,159
Electronics Engineer		ZP-III	2	88,470	176,940
Computer Scientist		XP-III	1	88,470	88,470
Electronics Technician		ZT-IV	1	101,660	101,660
Total			8		969,055
Less lapse	25.00%		(2)		(242,264)
Total full-time permanent (FTE)			6		726,791
2022 Pay Adjustment (2.70%)	2.70%				19,623
Total					746,415
Personnel Data Summary					
Full-time Equivalent Employment					
Full-time permanent			6		
Other than full-time permanent			0		
Total			6		
Authorized Positions:					
Full-time permanent			8		
Other than full-time permanent			0		
Total			8		

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
FEDERAL ADVANCED COMMUNICATIONS TEST SITE (FACTS)
PROGRAM CHANGE DETAIL BY OBJECT CLASS
(Direct Obligations amounts in thousands)

Activity: Federal Advanced Communications Test Site (FACTS)

Object Class	2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
11.1 Full-time permanent compensation	0	0	0	4,786	4,786
11.3 Other than full-time permanent					
11.5 Other personnel compensation	0	0	0	0	0
11.8 Special personnel services payments					
11.9 Total personnel compensation	0	0	0	4,786	4,786
12.1 Civilian personnel benefits	0	0	0	1,481	1,481
13 Benefits for former personnel					
21 Travel and transportation of persons	0	0	0	52	52
22 Transportation of things	0	0	0	109	109
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	0	0	0	481	481
23.3 Commun., util., and misc. charges	0	0	0	25	25
24 Printing and reproduction	0	0	0	15	15
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	0	0	0	8,150	8,150
25.3 Other goods and services from Federal sources	0	0	0	9,544	9,544
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					
25.6 Medical care					

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons					
26	Supplies and materials	0	0	0	167	167
31	Equipment	0	0	0	1,890	1,890
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	0	0	0	26,700	26,700

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

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
11.1	Full-time permanent compensation	15,047	17,741	18,492	26,018	7,526
11.3	Other than full-time permanent					
11.5	Other personnel compensation	736	445	454	494	40
11.8	Special personnel services payments					
11.9	Total personnel compensation	15,783	18,186	18,946	26,512	7,566
12.1	Civilian personnel benefits	5,223	5,489	6,334	8,665	2,331
13	Benefits for former personnel					
21	Travel and transportation of persons	234	1,048	1,048	1,325	277
22	Transportation of things	2	19	19	129	110
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	1,383	2,453	3,162	3,962	800
23.3	Commun., util., and misc. charges	358	132	133	179	46
24	Printing and reproduction	37	89	91	157	66
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	6,621	19,321	8,953	24,179	15,226
25.3	Other goods and services from Federal sources	5,220	6,606	6,363	18,385	12,022
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					
25.7	Operation and maintenance of equipment	29	0	0	0	0
25.8	Subsistence and support of persons					

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
26	Supplies and materials	121	105	107	294	187
31	Equipment	2,624	3,266	3,540	5,609	2,069
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	135	135	135	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	37,635	56,849	48,831	89,531	40,700
	Less prior year recoveries					
	Less prior year unobligated balance	0	(11,349)			
	Total Budget Authority	37,635	45,500	48,831	89,531	40,700
	Personnel Data					
	Full-Time equivalent Employment:					
	Full-time permanent	122	154	157	184	27
	Other than full-time permanent					
	Total	122	154	157	184	27
	Authorized Positions:					
	Full-time permanent	124	157	157	189	32
	Other than full-time permanent					
	Total	124	157	157	189	32

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Spectrum Management
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Spectrum Management

		2020	2021	2022	2022	Increase/Decrease
	Object Class	Actual	President's Budget	Base	Estimate	from 2022 Base
11.1	Full-time permanent compensation	2,910	3,201	3,299	3,299	0
11.3	Other than full-time permanent					
11.5	Other personnel compensation	351	58	60	60	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	3,261	3,259	3,359	3,359	0
12.1	Civilian personnel benefits	1,179	990	1,172	1,172	0
13	Benefits for former personnel					
21	Travel and transportation of persons	5	86	86	86	0
22	Transportation of things	0	2	2	2	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	376	386	643	643	0
23.3	Commun., util., and misc. charges	111	17	17	17	0
24	Printing and reproduction	5	6	6	6	0
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	429	599	642	642	0
25.3	Other goods and services from Federal sources	1,754	1,881	2,086	2,086	0
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					
25.7	Operation and maintenance of equipment	0	0	0	0	0

Object Class		2020 Actual	2021 President's Budget	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
25.8	Subsistence and support of persons					
26	Supplies and materials	27	23	23	23	0
31	Equipment	274	6	23	23	0
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	7,421	7,255	8,059	8,059	0
	Less prior year recoveries					
	Less prior year unobligated balance	0				
	Total Budget Authority	7,421	7,255	8,059	8,059	0
	Personnel Data					
	Full-Time equivalent Employment:					
	Full-time permanent	23	38	38	38	0
	Other than full-time permanent					
	Total	23	38	38	38	0
	Authorized Positions:					
	Full-time permanent	24	38	38	38	0
	Other than full-time permanent					
	Total	24	38	38	38	0

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Advanced Communications Research
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Advanced Communications Research

		2020	2021	2022	2022	Increase/Decrease
	Object Class	Actual	Enacted	Base	Estimate	from 2022 Base
11.1	Full-time permanent compensation	4,199	4,630	4,897	4,897	0
11.3	Other than full-time permanent					
11.5	Other personnel compensation	154	199	202	202	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	4,353	4,829	5,099	5,099	0
12.1	Civilian personnel benefits	1,364	1,433	1,709	1,709	0
13	Benefits for former personnel					
21	Travel and transportation of persons	33	179	179	179	0
22	Transportation of things	0	4	4	4	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	83	734	734	734	0
23.3	Commun., util., and misc. charges	60	6	7	7	0
24	Printing and reproduction	2	11	12	12	0
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	287	140	197	197	0
25.3	Other goods and services from Federal sources	1,095	1,963	1,152	1,152	0
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					
25.7	Operation and maintenance of equipment	29	0	0	0	0

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
25.8	Subsistence and support of persons					
26	Supplies and materials	56	28	29	29	0
31	Equipment	330	2,657	2,884	2,884	0
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions					
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	7,692	11,984	12,006	12,006	0
	Less prior year recoveries					
	Less prior year unobligated balance	0				
	Total Budget Authority	7,692	11,984	12,006	12,006	0
	Personnel Data					
	Full-Time equivalent Employment:					
	Full-time permanent	42	49	50	56	6
	Other than full-time permanent					
	Total	42	49	50	56	6
	Authorized Positions:					
	Full-time permanent	44	50	50	58	8
	Other than full-time permanent					
	Total	44	50	50	58	8

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
Broadband Programs
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Broadband Programs

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
11.1	Full-time permanent compensation	3,965	4,471	4,546	5,942	1,396
11.3	Other than full-time permanent	0	0	0	0	0
11.5	Other personnel compensation	121	92	94	94	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	4,086	4,563	4,640	6,036	1,396
12.1	Civilian personnel benefits	1,349	1,384	1,520	1,953	433
13	Benefits for former personnel					
21	Travel and transportation of persons	66	212	212	412	200
22	Transportation of things	2	6	6	6	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA	0	0	0	0	0
23.2	Rental payments to others	445	472	668	774	106
23.3	Commun., util., and misc. charges	88	21	21	31	10
24	Printing and reproduction	22	59	60	104	44
25	Other contractual services					
25.1	Advisory and assistance services	0	0	0	0	0
25.2	Other services from non-Federal sources	5,756	16,650	7,739	14,773	7,034
25.3	Other goods and services from Federal sources	1,221	1,196	1,325	2,014	689
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					
25.7	Operation and maintenance of equipment	0	0	0	0	0

Object Class		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
25.8	Subsistence and support of persons					
26	Supplies and materials	20	13	14	27	13
31	Equipment	1,860	551	564	639	75
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	0	0	0	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	14,915	25,127	16,769	26,769	10,000
	Less prior year recoveries					
	Less prior year unobligated balance	0				
	Total Budget Authority	14,915	25,127	16,769	26,769	10,000
	Personnel Data					
	Full-Time equivalent Employment:					
	Full-time permanent	27	29	29	40	11
	Other than full-time permanent					
	Total	27	29	29	40	11
	Authorized Positions:					
	Full-time permanent	29	29	29	40	11
	Other than full-time permanent					
	Total	29	29	29	40	11

Department of Commerce
National Telecommunications and Information Administration
Salaries and Expenses
APPROPRIATION LANGUAGE AND CODE CITATION

FY 2022

For necessary expenses, as provided for by law, of the National Telecommunications and Information Administration (NTIA), \$89,531,000, to remain available until September 30, 2023; of which \$26,700,000 shall remain available until expended for the purposes of an advanced communications research test site: *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
47 U.S.C. § 1413

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, among other things.

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

	2020 Actual	2021 Enacted	2022 Estimate
Consulting services	0	0	0
Management and professional services	0	0	0
Special studies and analyses	0	0	0
Management and support services for research and development	0	0	0
Total	0	0	0

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

	2020 Actual	2021 Enacted	2022 Estimate
Periodicals	0	0	0
Pamphlets	0	0	0
Audiovisuals	0	0	0
Total	0	0	0

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

	2020 Actual	2021 Enacted	2022 Estimate
Average ES Salary	184,039	185,879	190,898
Average GS/GM Grade	13	13	13
Average GS/GM Salary	134,508	135,853	139,521

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**Department of Commerce
National Telecommunication and Information Administration
Operating Unit of Commerce
Salaries and Expenses
IMPLEMENTATION STATUS OF GAO AND OIG RECOMMENDATIONS**

31 U.S.C. 720, as amended January 3, 2019, requires the head of a Federal agency to submit a written statement of the actions planned or taken on Government Accountability Office (GAO) recommendations to the House and Senate on Appropriations with the agency's first request for appropriations made more than 180 calendar days after the date of the report.

The Good Accounting Obligation in Government Act (GAO-IG Act), passed on January 3, 2019, (P.L. 115-414) requires each agency to include, in its annual budget justification, a report that identifies each recommendation issued by GAO and the agency's office of the inspector general (OIG) which has remained unimplemented for one year or more from the annual budget justification submission date. In addition, the Act requires a reconciliation between the agency records and the IGs' Semiannual Report to Congress (SAR).

Section 1. Recommendations for which action plans were finalized since the last appropriation request.

Nothing to report.

Section 2. Implementation of GAO public recommendation issued no less than one year ago that designated by GAO as 'Open' or 'Closed-Unimplemented.'

Open Recommendations(s) the Department has decided not to implement.

Include information on all open recommendations made one year or more ago that the Department/bureau do not plan to implement. GAO recommendations are open until officially closed by GAO.

Nothing to report.

Open Recommendations(s) the Department has plans to implement.

Include information on all open recommendations made one year or more ago that the Department / bureau plans to implement. GAO recommendations are open until officially closed by GAO.

Nothing to report.

Recommendations designed by GAO as “Closed –Unimplemented for the past 5 years (2015-2019).” Future reports will cover a one-year period.

Nothing to report.

Section 3. Implementation of OIG public recommendations issued no less than one year for which Final Action has not been Taken or Action Note Recommended has been Taken

Nothing to report.

Section 4. Discrepancies between this report and the semiannual reported submitted by Commerce Office of Inspector General or reports submitted by the GAO

Nothing to report.

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
Appropriation Available, 2021	0	0	0	1,215
2022 Adjustments to base:	0	0	0	0
2022 Base	0	0	0	0
plus: 2022 Program changes	0	0	0	0
2022 Estimate	0	0	0	0

Comparison by activity/subactivity:
with totals by activity

2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
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		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
Public Telecommunications Facilities, Planning, and Construction, Program Management	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	5	0	1,215	0	0	0	0	0	0
Total	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	5	0	1,215	0	0	0	0	0	0

Adjustments for:

Recoveries	(111)	
Unobligated balance, start of year	(1,109)	(1,215)
Unobligated balance transferred		
Unobligated balance, end of year	1,215	
Unobligated balance expiring		

Financing from transfers:

Transfer from other accounts (-)	
Transfer to other accounts (+)	

Appropriation	0	0	0	0	0
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Department of Commerce
National Telecommunications and Information Administration
Public Telecommunications Facilities, Planning, and Construction
JUSTIFICATION OF PROGRAM AND PERFORMANCE
(Dollar amounts in thousands)

Activity: 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
APPROPRIATION LANGUAGE AND CODE CITATION**

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. (Public Law 115-31)

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) assigned to NTIA the administration of the Public Telecommunications Facilities Program.

Department of Commerce
National Telecommunications and Information Administration
Broadband Connectivity Fund
SUMMARY OF RESOURCE REQUIREMENTS- Mandatory
Appropriation
(Dollar amounts in thousands)

Enacted Budget, 2021
2022 Adjustments to base:
Plus: Inflationary adjustments to base
2022 Base
Plus: 2022 Program changes
2022 Estimate

Positions	FTE	Budget Authority	Direct Obligations
16	7	1,300,000	8,000
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

**Comparison by activity/subactivity:
with totals by activity**

2020 Actual 2021 Enacted 2022 Base 2022 Estimate Increase/Decrease from 2022 Base

			Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NTIA - 97	Tribal Broadband - Grants	Pos./BA	0	0	0	980,000	0	0	0	0	0	0
		FTE/Obl.	0	0	0	0	0	980,000	0	980,000	0	0
NTIA - 98	Tribal Broadband - Program Administration	Pos./BA	0	0	11	20,000	17	0	17	0	0	0
		FTE/Obl.	0	0	5	4,000	17	16,000	17	16,000	0	0
NTIA - 99	Broadband Infrastructure - Grants	Pos./BA	0	0	0	288,000	0	0	0	0	0	0
		FTE/Obl.	0	0	0	0	0	288,000	0	288,000	0	0
NTIA - 100	Broadband Infrastructure - Program Administration	Pos./BA	0	0	5	12,000	8	0	8	0	0	0
		FTE/Obl.	0	0	2	4,000	8	8,000	8	8,000	0	0
	Total	Pos./BA	0	0	16	1,300,000	25	0	25	0	0	0
		FTE/Obl.	0	0	7	8,000	25	1,292,000	25	1,292,000	0	0

Adjustments for:

Recoveries

Unobligated balance, start of year

Unobligated balance transferred

Unobligated balance, end of year

Unobligated balance expiring

0

(1,292,000)

1,292,000

Financing from transfers:

Transfer from other accounts (-)

Transfer to other accounts (+)

Appropriation

0

1,300,000

0

0

0

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

Activity: Tribal Broadband - Grants

Line Item	2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Tribal Broadband - Grants	Pos./BA	0	0	0	980,000	0	0	0	0	0
	FTE/Obl	0	0	0	0	0	980,000	0	980,000	0
Total	Pos./BA	0	0	0	980,000	0	0	0	0	0
	FTE/Obl	0	0	0	0	0	980,000	0	980,000	0

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

Activity: Tribal Broadband - Program Administration

Line Item		2020		2021		2022		2022		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Tribal Broadband - Program Administration	Pos./BA	0	0	11	20,000	17	0	17	0	0	0
	FTE/Obl	0	0	5	4,000	17	16,000	17	16,000	0	0
Total	Pos./BA	0	0	11	20,000	17	0	17	0	0	0
	FTE/Obl	0	0	5	4,000	17	16,000	17	16,000	0	0

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

Activity: Broadband Infrastructure - Grants

Line Item		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Infrastructure - Grants	Pos./BA	0	0	0	288,000	0	0	0	0	0	0
	FTE/Obl	0	0	0	0	0	288,000	0	288,000	0	0
Total	Pos./BA	0	0	0	288,000	0	0	0	0	0	0
	FTE/Obl	0	0	0	0	0	288,000	0	288,000	0	0

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

Activity: Broadband Infrastructure - Program Administration

Line Item		2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Infrastructure - Program Administration	Pos./BA	0	0	5	12,000	8	0	8	0	0	0
	FTE/Obl	0	0	2	4,000	8	8,000	8	8,000	0	0
Total	Pos./BA	0	0	5	12,000	8	0	8	0	0	0
	FTE/Obl	0	0	2	4,000	8	8,000	8	8,000	0	0

**Department of Commerce
National Telecommunications and Information Administration
Broadband Connectivity Fund
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Broadband Connectivity

Goal Statement

The Broadband Connectivity Grants will expand access to and adoption of broadband service to unserved and underserved areas of the United States, including Tribal lands.

Base Program

The National Telecommunications and Information Administration will award up to \$1.27 billion in Broadband Connectivity Grants to expand access to and adoption of broadband service to underserved areas of the United States.

The Tribal Broadband Connectivity Program will award up to \$980 million in grants to eligible entities, which include a Tribal Government, a Tribal College or University, the Department of Hawaiian Home Lands on behalf of the Native Hawaiian Community, including Native Hawaiian Education Programs, a Tribal organization, or a Native Corporation. These funds will be used for the deployment and adoption of broadband service on Tribal land and for programs that promote the use of broadband to access remote learning, telework, or telehealth resources during the COVID–19 pandemic.

The Broadband Infrastructure Program will award up to \$288 million in grants to covered partnerships for covered broadband projects. The term “covered partnership” means a partnership between a State or political subdivision of a state and a provider of fixed broadband service. The term “covered broadband project” means a competitively and technologically neutral project for the deployment of fixed broadband service that provides qualifying broadband service in an eligible service area. The term “qualifying broadband service” means broadband service with— (A) a download speed of not less than 25 megabits per second; (B) an upload speed of not less than 3 megabits per second; and (C) a latency sufficient to support real time, interactive applications.

Service area is defined as a census block in which broadband service is not available at 1 or more households or businesses in the census block, as determined by NTIA on the basis of— (A) the maps created under section 802(c)(1) of the Communications Act of 1934 (47 U.S.C. 642(c)(1)); or (B) if the maps described in subparagraph (A) are not available, the most recent information available to NTIA, including information provided by the Federal Communications Commission.

Statement of Operating Objectives

The Consolidated Appropriations Act, 2021, established NTIA's Broadband Connectivity Programs and provided \$1 billion to implement Tribal Broadband Connectivity grants and \$300 million to implement Broadband Infrastructure grants. In FY22, NTIA will carry out the mandate to award these grants and initiate oversight responsibilities to ensure that recipients of these grants manage the projects in accordance with statutory and federal grants management requirements.

Explanation and Justification

Line Items		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Tribal Broadband - Grants	Pos./BA	0	0	0	980,000	0	0
	FTE/Obl.	0	0	0	0	0	980,000
Tribal Broadband - Program Administration	Pos./BA	0	0	11	20,000	17	0
	FTE/Obl.	0	0	5	4,000	17	16,000
Broadband Infrastructure - Grants	Pos./BA	0	0	0	288,000	0	0
	FTE/Obl.	0	0	0	0	0	288,000
Broadband Infrastructure - Program Administration	Pos./BA	0	0	5	12,000	8	0
	FTE/Obl.	0	0	2	4,000	8	8,000
Total	Pos./BA	0	0	16	1,300,000	25	0
	FTE/Obl.	0	0	7	8,000	25	1,292,000

Efforts to implement these programs in FY21 include the release of the Notice of Funding Opportunity and application guidance, stakeholder engagement and pre-award technical assistance for prospective applicants, the filing deadline for applicants, and the review of applications. NTIA also has been securing the necessary staff and contractor resources to carry out these responsibilities. In FY 22, NTIA will complete the award of approximately \$980 million in Tribal Broadband Connectivity grants and \$288 million in Broadband Infrastructure grants, and NTIA will begin post-award oversight responsibilities. The remainder of the funds authorized by Congress will be used to implement and administer the programs. The Tribal Broadband Connectivity Program has a statutory limitation of administrative expenses of not more than 2 percent or \$20 million.

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Department of Commerce
National Telecommunications and Information Administration
Broadband Connectivity Fund
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Broadband Connectivity

		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
	Object Class					
11.1	Full-time permanent compensation	0	3,081	3,081	3,081	0
11.3	Other than full-time permanent					
11.5	Other personnel compensation	0	77	77	77	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	0	3,158	3,158	3,158	0
12.1	Civilian personnel benefits	0	955	955	955	0
13	Benefits for former personnel					
21	Travel and transportation of persons	0	112	112	112	0
22	Transportation of things	0	0	0	0	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	0	216	216	216	0
23.3	Commun., util., and misc. charges	0	0	0	0	0
24	Printing and reproduction	0	45	45	45	0
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	0	385	9,792	9,792	0
25.3	Other goods and services from Federal sources	0	3,099	9,692	9,692	0
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					
25.7	Operation and maintenance of equipment	0	0	0	0	0
25.8	Subsistence and support of persons					

26	Supplies and materials	0	30	30	30	0
31	Equipment	0	0	0	0	0
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	0	1,268,000	1,268,000	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	0	8,000	1,292,000	1,292,000	0
	Less prior year recoveries					
	Less prior year unobligated balance	0				
	Total Budget Authority	0	8,000	1,292,000	1,292,000	0
	Personnel Data					
	Full-Time equivalent Employment:					
	Full-time permanent	0	7	25	25	0
	Other than full-time permanent					
	Total	0	7	25	25	0
	Authorized Positions:					
	Full-time permanent	0	16	25	25	0
	Other than full-time permanent					
	Total	0	16	25	25	0

Department of Commerce
National Telecommunications and Information Administration
Connecting Minority Communities Fund
SUMMARY OF RESOURCE REQUIREMENTS - Mandatory
Appropriation
(Dollar amounts in thousands)

Enacted Budget, 2021
2022 Adjustments to base:
Plus: Inflationary adjustments to base
2022 Base
Plus: 2022 Program changes
2022 Estimate

Positions	FTE	Budget Authority	Direct Obligations
10	7	285,000	8,000
0	0	0	0
0	0	0	0
0	0	0	0
0	0	0	0

**Comparison by activity/subactivity:
with totals by activity**

2020 Actual 2021 Enacted 2022 Base 2022 Estimate Increase/Decrease from 2022 Base

			Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
NTIA - 109	Grants	Pos./BA	0	0	0	267,900	0	0	0	0	0	0
		FTE/Obl.	0	0	0	0	0	267,900	0	267,900	0	0
NTIA - 110	Program Administration	Pos./BA	0	0	10	17,100	10	0	10	0	0	0
		FTE/Obl.	0	0	7	8,000	10	3,000	10	3,000	0	0
	Total	Pos./BA	0	0	10	285,000	10	0	10	0	0	0
		FTE/Obl.	0	0	7	8,000	10	270,900	10	270,900	0	0

Adjustments for:

Recoveries

Unobligated balance, start of year

0

(277,000)

Unobligated balance transferred

Unobligated balance, end of year

277,000

6,100

Unobligated balance expiring

Financing from transfers:

Transfer from other accounts (-)

Transfer to other accounts (+)

Appropriation

0

285,000

0

0

0

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Department of Commerce
National Telecommunications and Information Administration
Connecting Minority Communities Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Grants

Line Item	2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Grants										
Pos./BA	0	0	0	267,900	0	0	0	0	0	0
FTE/Obl	0	0	0	0	0	267,900	0	267,900	0	0
Total										
Pos./BA	0	0	0	267,900	0	0	0	0	0	0
FTE/Obl	0	0	0	0	0	267,900	0	267,900	0	0

Department of Commerce
National Telecommunications and Information Administration
Connecting Minority Communities Fund
PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS
(Dollar amounts in thousands)

Activity: Program Administration

Line Item	2020 Actual		2021 Enacted		2022 Base		2022 Estimate		Increase/Decrease from 2022 Base	
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Program Administration	Pos./BA	0	0	10	17,100	10	0	10	0	0
	FTE/Obl	0	0	7	8,000	10	3,000	10	3,000	0
Total	Pos./BA	0	0	10	17,100	10	0	10	0	0
	FTE/Obl	0	0	7	8,000	10	3,000	10	3,000	0

**Department of Commerce
National Telecommunications and Information Administration
Connecting Minority Communities Fund - Mandatory Account
JUSTIFICATION OF PROGRAM AND PERFORMANCE**

Activity: Connecting Minority Communities

Goal Statement

The Connecting Minority Communities Pilot Grants will expand access to and adoption of broadband Internet service, as well as provide other digital opportunities, in anchor communities that serve minority populations.

Base Program

The National Telecommunications and Information Administration will award up to \$268 million in grants under the Connecting Minority Communities Pilot Program. These funds will be awarded to minority serving institutions and related eligible entities for the purchase of broadband internet access service, equipment, training, and information technology to facilitate education and remote learning, as well as for the operations of these institutions and minority enterprises within their anchor communities.

Statement of Operating Objectives

The Consolidated Appropriations Act, 2021, established NTIA's Connecting Minority Communities Pilot Program and provided \$285 million to implement the program. In FY22, NTIA will carry out the mandate to award these grants and initiate oversight responsibilities to ensure that recipients of these grants manage the projects in accordance with statutory and federal grants management requirements.

Explanation and Justification

Line Item		2020		2021		2022	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Grants	Pos./BA	0	0	0	267,900	0	0
	FTE/Obl.	0	0	0	0	0	267,900
Program Administration	Pos./BA	0	0	10	17,100	10	0
	FTE/Obl.	0	0	7	8,000	10	3,000
Total	Pos./BA	0	0	10	285,000	10	0
	FTE/Obl.	0	0	7	8,000	10	270,900

Efforts to implement the program in FY21 include the promulgating of program rules, the release of the Notice of Funding Opportunity and application guidance, stakeholder engagement and pre-award technical assistance for prospective applicants, the filing deadline for applicants, and the review of applications. NTIA also has been securing the necessary staff and contractor resources to carry out these responsibilities. In FY 22, NTIA will complete the award of approximately \$268 million in Connecting Minority Communities Pilot grants, and NTIA will begin post-award oversight responsibilities. The remainder of the funds authorized by Congress will be used to implement and administer the program.

Department of Commerce
National Telecommunications and Information Administration
Connecting Minority Communities Fund
SELECT ACTIVITIES BY OBJECT CLASS
(Dollar amounts in thousands)

Activity: Connecting Minority Communities

		2020 Actual	2021 Enacted	2022 Base	2022 Estimate	Increase/Decrease from 2022 Base
	Object Class					
11.1	Full-time permanent compensation	0	1,364	1,364	1,364	0
11.3	Other than full-time permanent					
11.5	Other personnel compensation	0	34	34	34	0
11.8	Special personnel services payments					
11.9	Total personnel compensation	0	1,398	1,398	1,398	0
12.1	Civilian personnel benefits	0	423	423	423	0
13	Benefits for former personnel					
21	Travel and transportation of persons	0	48	48	48	0
22	Transportation of things	0	0	0	0	0
23	Rent, communications and utilities					
23.1	Rental payments to GSA					
23.2	Rental payments to others	0	94	94	94	0
23.3	Commun., util., and misc. charges	0	0	0	0	0
24	Printing and reproduction	0	27	27	27	0
25	Other contractual services					
25.1	Advisory and assistance services					
25.2	Other services from non-Federal sources	0	3,764	724	724	0
25.3	Other goods and services from Federal sources	0	2,236	286	286	0
25.4	Operations and maintenance of facilities					
25.5	Research and development contracts					
25.6	Medical care					
25.7	Operation and maintenance of equipment	0	0	0	0	0

25.8	Subsistence and support of persons					
26	Supplies and materials	0	10	0	0	0
31	Equipment	0	0	0	0	0
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	0	0	267,900	267,900	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	Total Obligations	0	8,000	270,900	270,900	0
	Less prior year recoveries					
	Less prior year unobligated balance	0				
	Total Budget Authority	0	8,000	270,900	270,900	0
	Personnel Data					
	Full-Time equivalent Employment:					
	Full-time permanent	0	7	10	10	0
	Other than full-time permanent					
	Total	0	7	10	10	0
	Authorized Positions:					
	Full-time permanent	0	10	10	10	0
	Other than full-time permanent					
	Total	0	10	10	10	0

Department of Commerce
National Telecommunications and Information Administration
FY 2022 ANNUAL PERFORMANCE PLAN / REPORT (APPR) BACKUP

Overview of Bureau Accomplishments

SO 2.3: Domestic and International Policies.

- Convened cross-sector stakeholders from around the world and published documents on the development of a Software Bill of Materials, which is a critical step in securing the global software supply chain in a 5G and Internet of Things environment.
- Published the Botnet Road Map Status update, documenting more than 50 success stories in the drive to counter botnet threats.
- NTIA commissioned the 15th edition of its Internet Use Survey in November, in partnership with the U.S. Census Bureau, and solicited public input into the content of future surveys to ensure the ability to compare the state of Internet use in America before and after the COVID-19 pandemic.

SO 1.2: Spectrum Management.

- Automated spectrum management processes to increase security, transparency, and access to accurate and authoritative data, for example through spectrum IT modernization.
- Implemented new methods and technology to support an enduring process and pipeline for spectrum access.
- Pursued spectrum management workforce development initiatives, such as the reviewed the human resources processes for classification of job recruitments, evaluated the process used to select potential candidates, considered how the organization could better train staff, developed options to show better staff recognition, and created initiatives for staff retention.

SO 1.2: Advanced Communications Research.

- NTIA's research laboratory in Boulder Colorado provided significant contributions in making the FCC's August 2020 spectrum auction, worth \$4.5 Billion, a huge success. This auction used the "whole of Nation" approach, which included data from decades of research work by NTIA's Boulder labs on propagation modeling and analysis; spectrum occupancy studies; and testing and evaluating the Spectrum Access System and Environmental Sensing Capability (SAS/ESC) sensor to assess and understand the viability and impacts for commercial providers. Without the detailed data and spectrum analyses, commercial providers would not have had the necessary information to bid billions of dollars for this valuable spectrum.
- NTIA's Boulder Laboratories applied Artificial Intelligence and Machine Learning (AI/ML) to develop a breakthrough solution for quantitative measurement of transmitting speech quality and intelligibility. Using software tools developed from this new, breakthrough solution, commercial and government users will be able to gain valuable, robust, real-time speech quality measurements of telecommunications systems to optimize user experience while conserving radio spectrum.

SO 2.3: BroadbandUSA.

- NTIA served as the co-chair of the American Broadband Initiative (ABI) and in April 2020 released the progress report on the 2019 agency actions outlined in the February 2019 ABI Milestones Report outlining the Administrations' vision for how the Federal government can encourage the expansion of broadband access and actions to increase private-sector investment in broadband.
- Supported state and local organizations on their broadband policies and programs including more than 100 technical assistance engagements.
- Increased participation in its State Broadband Leaders Network (SBLN) to 50 states, three territories and the District of Columbia.

SO 3.4: Public Safety – Mandatory.

- FirstNet has made significant strides in deploying nationwide public safety broadband coverage and capacity. In FY 20, FirstNet connected more than 2,200 public safety agency and organization subscribers and approximately 500,000 device connections, for a total of approximately 12,000 public safety agencies and more than 1.4 million FirstNet device connected since the launch in March 2017.
- In FY20, the FirstNet Authority Board approved the first set of investments for enhancing the FirstNet Network which includes initial network upgrades towards a path to 5G. By enabling 5G network capabilities on the FirstNet, the upgrade is expected to drive major increases in the quantity and types of connected devices for FirstNet users, including vehicles, unmanned aerial vehicles and sensors.
- The Board also approved the reinvestment to expand a dedicated fleet of deployable assets, which will enhance network coverage and capacity for public safety during emergencies and events.

Planned Actions for FY 2022

- **Domestic and International Policies program.** NTIA will lead domestic and international policies on issues such as: consumer data privacy, supply chain risk management, cybersecurity, online platforms, 5G and next generation communications, the Internet of Things (IoT), and artificial intelligence (AI).
- **Spectrum Management.** NTIA will prioritize the following four activities: 1) conduct mission essential functions to manage Federal spectrum resources; (2) support the growing demand for spectrum in commercial wireless industry; (3) coordinate critical international spectrum issues that impact U.S. businesses, consumers, and government agencies; and (4) lead the execution of the National Spectrum Strategy.

- **Advanced Communications Research.** NTIA's Boulder laboratories will focus on three priority areas in: (1) research efficient spectrum access and spectrum sharing; (2) facilitate the deployment of new and innovative telecommunications technologies; and (3) modernize and maintain research facilities and equipment
- **BroadbandUSA.** The program will execute a number of strategies to expand broadband: 1) provide technical assistance to communities; 2) hold four regional workshops; and 3) host monthly broadband webinars. NTIA's work will expand the national mapping initiative to show broadband availability, particularly in rural areas, where previous data sources were not accurately reflected.
- **Public Safety – Mandatory.** Monitor the deployment and adoption of the NPSBN. Refine and enhance the FirstNet Authority's contract performance and oversight processes, strengthen contract controls and support transparent decision-making that is informed by data. Invest in network improvements guided by the Investment Roadmap that reflects public safety's input over a multi-year process.

Analysis of Performance Indicators

Explanation of Trends – Highlighting two longstanding performance measures:

- NTIA's domestic and international policy group plays a critical role in representing the United States in multiple treaty-based meetings to provide leadership and advance U.S. national economic and technology policies. The metric *"% of NTIA positions substantially adopted or successful at international meetings"* tracks those treaty-level positions that NTIA brings to the meeting and shows our success rate at getting them fully or substantially adopted. This trend has been exceeding targets for many years.
- NTIA's Institute for Telecommunication Sciences (ITS) is a world leader in research and engineering, specializing in telecommunications, next generation communication, and improved quality of service. Federal agencies, state and local government, and industry use ITS services through reimbursable agreements to conduct research. Other parties and researchers use ITS' published technical articles to learn about the newest communications technology. Two metrics, which are exceeding target, serve as a proxy for the value of ACR's work, *"Number of times research publications are downloaded annually"* and *"Successfully completed deliverables under reimbursable agreements (on time, on budget, and accepted)"*.

Explanation of Targets for FY21 and FY22 – In FY21 and FY22, NTIA has transitioned our performance measures to better align with the work being performed by the programs. If funding is approved, NTIA has set aggressive targets and will work to achieve those outcomes. If funding is not approved, NTIA might need to adjust target-levels but would not change outcomes that measure

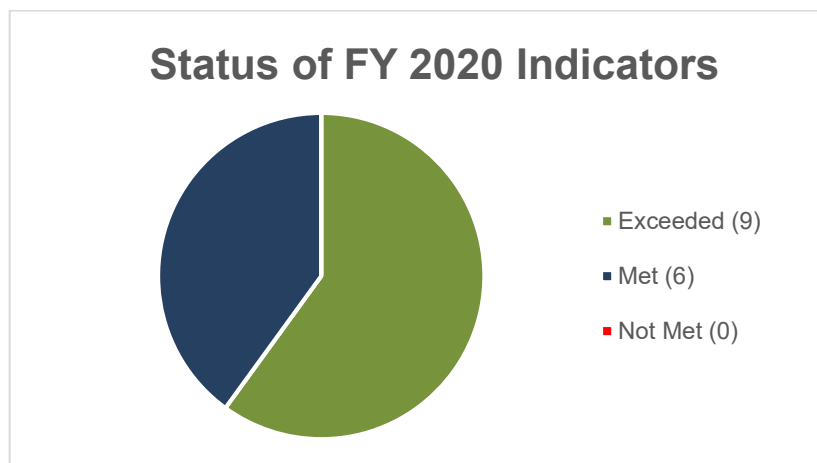
programs' success. As for NTIA's public safety program, annual operating funding levels for the FirstNet Authority continue to remain steady from year-to-year and its annual operating budget is made available through non-appropriated means.

Progression of the Performance Indicators – As our mission programs advance, NTIA has transitioned our performance measures to better align with this new requirements and to increase the utility of the measures for periodic review with senior leadership. In FY19, NTIA requested to discontinue several performance measures and proposed five (5) new performance measures that better measure the evolving mission of NTIA's programs, including new Congressional and Presidential mandates. Those five new performance measures are showing their actual outcomes for the first time in FY20, and so far, all measures are exceeding their proposed targets.

Performance Data Validation and Verification – NTIA and FirstNet track closely the performance of the program outcomes. NTIA holds regular briefings with senior leadership to ensure that deadlines are being attained and the public is being served by its work. FirstNet has quarterly briefings with the Deputy Secretary of Commerce to support the review and monitoring of the program goals and to ensure that the multi-billion initiative is achieving is on track to meets its vital public safety mission.

Summary of Performance Indicators

This pie chart and summary table should only include “reported” indicators (see Terms and Definitions below). Use the colors shown below to point out metrics that were **Exceeded** (over 100% of target); **Met** (90%-100% of target); **Not Met** (below 90% of target).



Strategic Objective	Indicator	FY 2020 Target	FY 2020 Actual	Status
1.2	Number of times research publications are downloaded annually	7,000	9,500	Exceeded
1.2	Successfully completed deliverables under reimbursable agreements	95%	98%	Exceeded
1.2	Percentage of timely implementation of the Presidential Memorandum within 5 years	50%	50%	Met
1.2	Percentage of Federal frequency assignments in AWS-3 bands that have vacated or shared spectrum, according to approved plan	60%	89%	Exceeded
2.3	In coordination with DOC operating units, conduct outreach activities with governments, industry, and multi-stakeholder groups to identify and address privacy and global free flow of information issues	6	11	Exceeded
2.3	Percentage of NTIA positions substantially adopted or successful at international meetings	75%	85%	Exceeded
2.3	Number of pilot states providing data to NTIA to population the Congressionally-mandated broadband map	8	14	Exceeded
2.3	Communities to which NTIA provides broadband Technical Assistance	193	240	Exceeded
2.3	Project impact on the number of community anchor institutions (CAIs) in areas where NTIA is providing broadband project support	7,700	7,700	Met
2.3	Project impact on the number of K-12 schools in areas where NTIA is providing broadband project support	3,400,000	3,400,000	Met
2.3	Project impact on the number of hospitals in areas where NTIA is providing broadband project support	1,350	1,350	Met
3.4	Percentage of planned adoption achieved for the nationwide public safety broadband network	50%	60%	Exceeded
3.4	Percentage of planned coverage achieved for the nationwide public safety broadband network	60%	60%	Met
3.4	Improve public safety by extending enhanced wireless broadband service to rural populations	55%	55%	Met
3.4	Percentage of States and Territories that will continue critical coordination activities regarding broadband and FirstNet beyond NTIA's availability of grants	33%	40%	Exceeded

All Performance Indicators

Indicator	Number of times research publications are downloaded annually						
Strategic Goal	Accelerate American Leadership (#1)						
Objective	Advance Innovation (#1.2)						
Program Activity Name	Advance Communication Research						
Indicator Class	Current/Recurring						
Type	Output						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Develop telecommunications engineering research publications, software programs and data sets that 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						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target	7500	8000	7000	7000	7000	9000	9500
Actual	8748	8089	7553	8046	9500		
Status*	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

*Status is defined as follows: Exceeded (over 100% of target); Met (90%-100% of target); Not Met (below 90% of target). Once actuals and targets are entered, the status cell should populate automatically.

Indicator	Successfully completed deliverables under reimbursable agreements (on time, on budget, and accepted)						
Strategic Goal	Accelerate American Leadership (#1)						
Objective	Advance Innovation (#1.2)						
Program Activity Name	Advanced Communication Research						
Indicator Class	Current/Recurring						
Type	Process						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Perform research on cost-reimbursable basis for other Federal agencies under IAAs and for private entities under CRADAs. As a proxy for customer satisfaction with research performed under an aggregate of unique agreements, the laboratory tracks three success parameters – on time, on budget, and accepted – for each deliverable under all agreements.						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target	95%	95%	95%	95%	95%	95%	95%
Actual	99%	99%	100%	100%	98%		
Status*	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Percentage of timely implementation of the Presidential Memorandum over 5 years						
Strategic Goal	Accelerate American Leadership (#1)						
Objective	Advance Innovation (#1.2)						
Program Activity Name	Spectrum Management						
Indicator Class	Current/Recurring						
Type	Process						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Pursuant to the Presidential Memorandum, NTIA will modernize the current spectrum access ecosystem through the following goals: (1) National Spectrum Strategy; (2) Review and quantification of Federal current spectrum usage and future requirements; (3) Annual Spectrum Repurposing Initiatives Report; and (4) Spectrum IT Modernization Program						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target					50%	60%	70%
Actual				New	50%		
Status*					Met		

Indicator	Percentage of Federal frequency assignments in AWS-3 bands that have vacated or shared spectrum, according to approved transitions plans						
Strategic Goal	Accelerate American Leadership (#1)						
Objective	Advance Innovation (#1.2)						
Program Activity Name	Spectrum Management						
Indicator Class	Current/Recurring						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	<p>Transition Federal users from the 1755-1780 band in a timely manner in order to facilitate access for commercial wireless services (e.g., 5G), which provide great benefit to our Nation's economy and quality of life. The auction of the 1755-1780 ASW-3 band produced 1404 frequency assignments required to transition.</p> <p>The 3550-3650 CBRS auction has recently completed and the 3450-3550 band has been identified for auction. These and future auctions will produce more frequency assignment transition requirements which will be monitored.</p>						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target					60%	60%	100%
Actual				New	89%		
Status*					Exceeded		

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						
Strategic Goal	Enhance Job Creation (#2)						
Objective	Strengthen Domestic Commerce and the U.S. Industrial Base (#2.3)						
Program Activity Name	Domestic and International Policy						
Indicator Class	Current/Recurring						
Type	Output						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Partner with stakeholders from industry, consumer groups, government, academia, and technical community to work towards 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 rather will ensure the process is open, transparent, and consensus-based						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target	6	6	6	6	6	6	6
Actual	10	7	11	10	11		
Status*	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Percentage of NTIA positions substantially adopted or successful at international meetings						
Strategic Goal	Enhance Job Creation (#2)						
Objective	Strengthen Domestic Commerce and the U.S. Industrial Base (# 2.3)						
Program Activity Name	Domestic and International Policy						
Indicator Class	Current/Recurring						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Promote acceptance of U.S. positions and proposals internationally by representing U.S. interests at treaty-making conferences, regional communications conferences and meetings, bilateral and multilateral meetings, and multi-stakeholder 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 multi-lateral meetings, multi-stakeholder meetings, and regional communications conferences and meetings.						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target	75%	75%	75%	75%	75%	75%	75%
Actual	95%	95%	91%	89%	85%		
Status*	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Number of pilot states providing data to NTIA to populate Congressionally-mandated broadband map						
Strategic Goal	Enhance Job Creation (#2)						
Objective	Strengthen Domestic Commerce and U.S. Industrial Base (#2.3)						
Program Activity Name	Broadband Programs						
Indicator Class	Current/Recurring						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	NTIA improves the nation's understanding of broadband availability by improving data collection and analytic capabilities. NTIA promotes more efficient Federal broadband investments, especially in critical rural areas where data does not always accurately reflect broadband availability.						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target				8	8	36	50
Actual			New	8	14		
Status*				Met	Exceeded		

Indicator	Communities to which NTIA provides broadband technical assistance						
Strategic Goal	Enhance Job Creation (#2)						
Objective	Strengthen Domestic Commerce and the U.S. Industrial Base (# 2.3)						
Program Activity Name	Broadband Programs						
Indicator Class	Current/Recurring						
Type	Output						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Provide broadband technical assistance to unserved and underserved communities to attract new business investments and spur economic growth. Various communities that were unable to receive NTIA assistance during the BTOP grant period can now take advantage of NTIA's technical expertise during NTIA's subsequent outreach program, thereby leveraging the expansion of broadband. This performance metric measures the additional communities that NTIA will assist.						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target	250	250	145	170	193	193	200
Actual	449	400	217	175	240		
Status*	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Projected impact on the number of hospitals, K-12 schools, and students in areas where NTIA is providing broadband project support						
Strategic Goal	Enhance Job Creation (#2)						
Objective	Strengthen Domestic Commerce and the U.S. Industrial Base (# 2.3)						
Program Activity Name	Broadband Programs						
Indicator Class	Current/Recurring						
Type	Output						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	By providing broadband technical assistance and support, NTIA will provide the foundation for state and local governments to attract broadband infrastructure investments. Broadband infrastructure leads to the delivery of new jobs, better service delivery, and creation of innovative technologies benefitting hospital, schools, and students.						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target (CAIs)				7,000	7,700	7,700	7,700
K-12				3,150,000	3,400,000	3,400,000	3,500,000
Hospitals				1,250	1,350	1,350	1,500
Actual (CAIs)			6300	7,000	7,700		
K-12			2,875,000	3,200,000	3,200,000		
Hospitals			1,150	1,500	1,500		
Status*			New	Exceeded	Met		

Indicator	Percentage of public safety adoption achieved for the nationwide public safety broadband network						
Strategic Goal	Strengthen U.S. Economic and National Security (#3)						
Objective	Deploy Public Safety Broadband (# 3.4)						
Program Activity Name	Unknown/Other (FirstNet)						
Indicator Class	Current/Recurring						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Deploy, maintain, and operate the Nationwide Public Safety Broadband Network (NPSBN) - a mission critical, prioritized, nationwide interoperable broadband network for first responders throughout the nation, with adoption by firefighters, paramedics, law enforcement officers, and other public safety personnel						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target					50% of 2023 target	60% of 2023 target	100% of 2023 target
Actual				New	59%		
Status*					Exceeded		

Indicator	Percentage of planned coverage achieved for the nationwide public safety broadband network						
Strategic Goal	Strengthen U.S. Economic and National Security (#3)						
Objective	Deploy Public Safety Broadband (# 3.4)						
Program Activity Name	Unknown/Other (FirstNet)						
Indicator Class	Current/Recurring						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	By providing a single interoperable platform, the NPSBN will meet the communication needs of first responders for day-to-day operations, disaster recovery, and securing large events. The advanced communications services will be offered to more than 60,000 independent public safety agencies that cover the geographic reach of the United States and territories, over a phased deployment						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target				20% of 2023 target	60% of 2023 target	80% of 2023 target	95% of 2023 target
Actual			New	20%	60%		
Status*				Met	Met		

Indicator	Improve public safety by extending enhanced wireless broadband service to rural populations						
Strategic Goal	Strengthen U.S. Economic and National Security (#3)						
Objective	Deploy Public Safety Broadband (#3.4)						
Program Activity Name	Unknown/Other (FirstNet)						
Indicator Class	Current						
Type	Annual Performance Goal						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Increase and improve wireless broadband coverage available to public safety users to support their ability to save lives and protect property in remote areas, as well as provides the general public access to wireless broadband coverage in rural areas						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target					55%	60%	Closed
Actual				New	55%		
Status*					Met		
Note	When the FY 2021 APPR was submitted, the Annual Performance Goal (APG) was in draft form. The targets have been updated to reflect the total targets approved by the Department and OMB.						

Indicator	Percentage of States and Territories that will continue critical coordination activities regarding wireless broadband and FirstNet beyond NTIA's availability of grant funds						
Strategic Goal	Strengthen U.S. Economic and National Security (#3)						
Objective	Deploy Public Safety Broadband (#3.4)						
Program Activity Name	State and Local Implementation Fund						
Indicator Class	Current						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a brief explanation of the data source						
Description	Show that critical activities funded through the State and Local Implementation Grant Program (SLIGP) spurred the critical coordination with FirstNet and the necessary activities to adopt wireless broadband in a public safety environment. Those activities will be continued by States and Territories after the SLIGP grant funds expire.						
	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021	FY 2022
Target					33%	50%	Close
Actual				New	40%		
Status*					Exceeded		