

# U.S. DEPARTMENT OF COMMERCE

National Telecommunications and Information Administration

FY 2021 Budget as Presented to Congress



February 2020



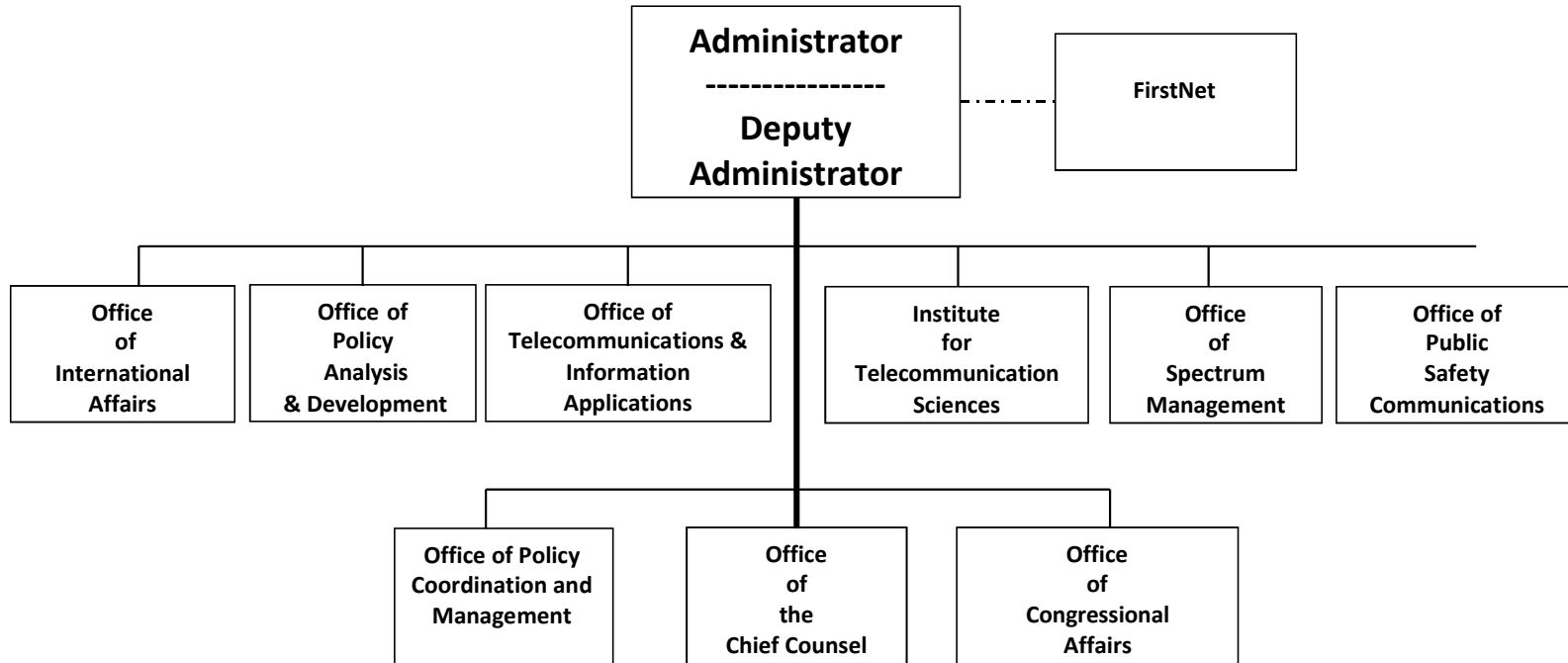
**DEPARTMENT OF COMMERCE  
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION  
Budget Estimates, Fiscal Year 2021  
Congressional Submission**

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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 2021**  
**Executive Summary**

The National Telecommunications and Information Administration's (NTIA) FY 2021 Budget Request totals \$72.2 million and 163 positions. The budget request supports the critical role 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 sharing opportunities. This Budget also provides the resources to ensure that the Internet remains an engine for continued economic growth, which promotes a 21st century Internet economy in rural communities and expands broadband Internet access and adoption in America.

**Domestic and International Policies.** NTIA's policy program funding in FY 2021 totals \$11.3 million and 39 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 uniquely situated to provide a critical interface between the private sector and government decision makers to ensure policies maximize national security objectives and resources in order to 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 United States.

NTIA 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 policy 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 geopolitical issue. 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 initiatives, NTIA supports online commerce, greater employment opportunities, and better quality of life for all Americans.

**Spectrum Management.** NTIA's spectrum management program direct funding for FY 2021 totals \$32.7 million and 44 positions. NTIA has been using the same basic tools and methodology for managing Federal spectrum for the past three decades. NTIA must evolve its core business to increase the spectrum access available to commercial and Federal users. With FY 2021 resources, NTIA will support the commercial sector's development of next generation wireless services by recommending reallocation of spectrum for commercial use and by promoting 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 2021 totals \$11.7 million and 50 positions. Communications research will keep identifying innovative approaches to increase spectrum access and sharing opportunities. This FY 2021 request will be used to both sustain and improve 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.<sup>1</sup> NTIA is 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 2021 totals \$16.2 million and 29 positions. Broadband has become integral in fueling a dynamic economy, driving commerce, enriching education, enhancing healthcare, and improving public safety. NTIA’s FY 2021 budget continues to address demand by state, local, and tribal governments for technical assistance and hands-on guidance in bringing broadband to American communities across the nation. NTIA will continue to respond to the demand for technical services and broadband leadership efforts by partnering with unserved and underserved communities, so that they can attract new business investments and spur economic growth. NTIA’s work will improve the nation’s understanding of broadband availability, particularly in rural areas, where previous data sources have not accurately reflected broadband availability. This critical work will help inform policymakers on where to more efficiently invest Federal dollars on broadband infrastructure.

**Public Safety Communications.** NTIA will fulfill its statutory responsibilities for public safety communications through this discretionary program. The program funding in FY 2021 totals \$0.3 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 program will provide 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 new program, NTIA will provide the necessary leadership and technical support for the NG911 efforts.

**Technical Transfer.** The Department of Commerce (DOC) is proposing to transfer nine projects and funding out of the Working Capital Fund and the Advances and Reimbursable account to the Departmental Management Salaries and Expenses account as part of its annual review to properly align and account programs and costs. This transfer executes the NTIA portion of the DOC transfer. For more information regarding the specific projects and funding transfers for the Department of Commerce please refer to Exhibit 3 of the Departmental Management FY 2021 Congressional Justification Budget.

From Bureau	Salaries and Expenses (S&E), Budget Activity	To Bureau	S&E, Budget Activity	Amount / FTE / Positions
NTIA	Advanced Communications Research	Departmental Management	Operations and Administration	\$34,000 / 0 FTE / 0 Positions
NTIA	Spectrum Management	Departmental Management	Operations and Administration	\$29,000 / 0 FTE / 0 Positions
NTIA	Domestic & International Policies	Departmental Management	Operations and Administration	\$25,000 / 0 FTE / 0 Positions
NTIA	Broadband Programs	Departmental Management	Operations and Administration	\$23,000 / 0 FTE / 0 Positions

<sup>1</sup> 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: Transfer From Domestic and International Policies

Subactivity: Domestic and International Policies Transfer To the Departmental Management Salary and Expenses Account

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
11.1 Full-time permanent (Compensation)	3,869		3,869
11.3 Other than full-time permanent			
11.5 Other personnel compensation	53		53
11.8 Special personnel services payments			
11.9 <b>Total personnel compensation</b>	3,922		3,922
12.1 Civilian personnel benefits	1,183		1,183
13 Benefits for former personnel			
21 Travel and transportation of persons	335		335
22 Transportation of things	1		1
23 Rent, communications and utilities			
23.1 Rental payments to GSA			
23.2 Rental payments to others	414		414
23.3 Commun., util., and misc. charges	96		96
24 Printing and reproduction	3		3
25 Other contractual services			
25.1 Advisory and assistance services			
25.2 Other services from non-Federal sources	821	(25)	796
25.3 Other goods and services from Federal sources	1,795		1,795
25.4 Operation and maintenance of facilities			
25.5 Research and development contracts			
25.6 Medical care			

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
25.7 Operation & maintenance of equipment	2		2
25.8 Subsistence and support of persons			
26 Supplies and materials	38		38
31 Equipment	78		78
32 Lands and structures			
33 Investments and loans			
41 Grants, subsidies and contributions	135		135
42 Insurance claims and indemnities			
43 Interest and dividends			
44 Refunds			
<b>99.9 Total Obligations</b>	<b>8,823</b>	<b>(25)</b>	<b>8,798</b>
Less prior year recoveries			
Less prior year unobligated balance			
<b>Total Budget Authority</b>	<b>8,823</b>	<b>(25)</b>	<b>8,798</b>
<b>Personnel Data</b>			
Full-Time equivalent Employment:			
Full-time permanent	33		33
Other than full-time permanent			
Total	33		33
<b>Authorized Positions:</b>			
Full-time permanent	33		33
Other than full-time permanent			
Total	33		33

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

**TRANSFER CHANGE DETAIL BY OBJECT CLASS**

(Direct obligations amounts in thousands)

Activity: Transfer From Spectrum Management

Subactivity: Spectrum Management Transfer To the Departmental Management

Salary and Expenses Account

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
11.1 Full-time permanent (Compensation)	2,513		2,513
11.3 Other than full-time permanent			
11.5 Other personnel compensation	29		29
11.8 Special personnel services payments			
11.9 <b>Total personnel compensation</b>	2,542		2,542
12.1 Civilian personnel benefits	802		802
13 Benefits for former personnel			
21 Travel and transportation of persons	93		93
22 Transportation of things	5		5
23 Rent, communications and utilities			
23.1 Rental payments to GSA	448		448
23.2 Rental payments to others	0		
23.3 Commun., util., and misc. charges	17		17
24 Printing and reproduction	15		15
25 Other contractual services			
25.1 Advisory and assistance services			
25.2 Other services from non-Federal sources	599		599
25.3 Other goods and services from Federal sources	2,440	(29)	2,411
25.4 Operation and maintenance of facilities			
25.5 Research and development contracts			
25.6 Medical care			
25.7 Operation & maintenance of equipment			
25.8 Subsistence and support of persons			
26 Supplies and materials	46		46

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
31 Equipment	248		248
32 Lands and structures			
33 Investments and loans			
41 Grants, subsidies and contributions			
42 Insurance claims and indemnities			
43 Interest and dividends			
44 Refunds			
<b>99.9 Total Obligations</b>	<b>7,255</b>	<b>(29)</b>	<b>7,226</b>
Less prior year recoveries			
Less prior year unobligated balance			
<b>Total Budget Authority</b>	<b>7,255</b>	<b>(29)</b>	<b>7,226</b>
<b>Personnel Data</b>			
Full-Time equivalent Employment:			
Full-time permanent	38		38
Other than full-time permanent			
<b>Total</b>	<b>38</b>		<b>38</b>
<b>Authorized Positions:</b>			
Full-time permanent	38		38
Other than full-time permanent			
<b>Total</b>	<b>38</b>		<b>38</b>

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

Activity: Transfer From Advanced Communications Research

Subactivity: Advanced Communications Research Transfer To the  
Departmental Management Salary and Expenses Account

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
11.1 Full-time permanent (Compensation)	3,375		3,375
11.3 Other than full-time permanent			
11.5 Other personnel compensation	24		24
11.8 Special personnel services payments			
11.9 <b>Total personnel compensation</b>	3,399		3,399
12.1 Civilian personnel benefits	1,088		1,088
13 Benefits for former personnel			
21 Travel and transportation of persons	114		114
22 Transportation of things	3		3
23 Rent, communications and utilities			
23.1 Rental payments to GSA	0		
23.2 Rental payments to others	62		62
23.3 Commun., util., and misc. charges	3		3
24 Printing and reproduction	8		8
25 Other contractual services			
25.1 Advisory and assistance services			
25.2 Other services from non-Federal sources	260		260
25.3 Other goods and services from Federal sources	1,939	(34)	1,905
25.4 Operation and maintenance of facilities			
25.5 Research and development contracts			
25.6 Medical care			

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
25.7 Operation & maintenance of equipment	59		59
25.8 Subsistence and support of persons			
26 Supplies and materials	30		30
31 Equipment	1,215		1,215
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 <b>Total Obligations</b>	8,180	(34)	8,146
Less prior year recoveries			
Less prior year unobligated balance			
Total Budget Authority	8,180	(34)	8,146
Personnel Data			
Full-Time equivalent Employment:			
Full-time permanent	45		45
Other than full-time permanent			
Total	45		45
Authorized Positions:			
Full-time permanent	45		45
Other than full-time permanent			
Total	45		45

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

Activity: Transfer From Broadband Programs  
Subactivity: Broadband programs Transfer To the Departmental Management  
Salary and Expenses Account

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
11.1 Full-time permanent (Compensation)	5,227		5,227
11.3 Other than full-time permanent			
11.5 Other personnel compensation	63		63
11.8 Special personnel services payments			
11.9 <b>Total personnel compensation</b>	5,290		5,290
12.1 Civilian personnel benefits	1,501		1,501
13 Benefits for former personnel			
21 Travel and transportation of persons	167		167
22 Transportation of things	6		6
23 Rent, communications and utilities			
23.1 Rental payments to GSA			
23.2 Rental payments to others	567		567
23.3 Commun., util., and misc. charges	21		21
24 Printing and reproduction	39		39
25 Other contractual services			
25.1 Advisory and assistance services			
25.2 Other services from non-Federal sources	7,198		7,198
25.3 Other goods and services from Federal sources	1,196	(23)	1,173
25.4 Operation and maintenance of facilities			
25.5 Research and development contracts			
25.6 Medical care			
25.7 Operation & maintenance of equipment			
25.8 Subsistence and support of persons			

<b>Object Class</b>	2020 Enacted	2021 Transfer	2021 Base
26 Supplies and materials	64		64
31 Equipment	134		134
32 Lands and structures			
33 Investments and loans			
41 Grants, subsidies and contributions			
42 Insurance claims and indemnities			
43 Interest and dividends			
44 Refunds			
<b>99.9 Total Obligations</b>	<b>16,183</b>	<b>(23)</b>	<b>16,160</b>
Less prior year recoveries			
Less prior year unobligated balance			
Total Budget Authority	16,183	(23)	16,160
Personnel Data			
Full-Time equivalent Employment:			
Full-time permanent	30		30
Other than full-time permanent			
Total	30		30
Authorized Positions:			
Full-time permanent	30		30
Other than full-time permanent			
Total	30		30



**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 - 31	Salaries and Expenses	Spectrum Management		6	25,000
NTIA - 41	Salaries and Expenses	Advanced Communications Research		5	3,000
NTIA - 21	Salaries and Expenses	Domestic and International Policies		6	2,100
NTIA - 59	Salaries and Expenses	Public Safety Communications		1	308
Subtotal, Increases				18	30,408

**Decreases**

Page No. in CJ	Appropriation	Budget Program	Activity/Subactivity	Pos.	Budget Authority
NTIA - 51	Salaries and Expenses	Broadband Programs		(1)	(331)
NTIA - 41	Salaries and Expenses	Advanced Communications Research			(34)
NTIA - 31	Salaries and Expenses	Spectrum Management			(29)
NTIA - 21	Salaries and Expenses	Domestic and International Policies			(25)
Subtotal, Decreases				(1)	(419)

**Terminations**

Page No. in CJ	Appropriation	Budget Program	Activity/Subactivity	Pos.	Budget Authority
No Program Changes Requested					

Subtotal, Terminations

**Department of Commerce**  
**National Telecommunications and Information Administration**  
**FY 2021 TRANSFER SUMMARY TABLE**  
(Dollar amounts in thousands)  
(Grouped by Title of Transfer, Largest to Smallest)

Page No. in CJ	Budget Program	Appropriation	Title of Transfer	Positions	Budget Authority
NTIA - 41	Advanced Communications Research	Salaries & Expenses	Transfer to Departmental Management Salaries and Expenses Account	0	(34)
NTIA - 31	Spectrum Management	Salaries & Expenses	Transfer to Departmental Management Salaries and Expenses Account	0	(29)
NTIA - 21	Domestic & International Policies	Salaries & Expenses	Transfer to Departmental Management Salaries and Expenses Account	0	(25)
NTIA - 51	Broadband Programs	Salaries & Expenses	Transfer to Departmental Management Salaries and Expenses Account	0	(23)
		Total, Transfers		0	(111)

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

	Positions	FTE	Budget Authority	Direct Obligations
President's Budget, 2020	146	146	40,441	48,580
2021 Adjustments to base:			1,773	1,773
2021 Base	146	146	42,214	50,353
Plus: 2021 Program changes	17	12	29,989	29,989
2021 Estimate	163	158	72,203	80,342

Comparison by activity/subactivity: with totals by activity		2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base		
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
NTIA - 21	Domestic and International Policies	Pos./BA	32	8,600	33	8,823	33	9,224	39	11,299	6	2,075
		FTE/Obl.	31	8,940	33	9,203	33	9,224	37	11,299	4	2,075
NTIA - 31	Spectrum Management	Pos./BA	24	7,300	38	7,255	38	7,728	44	32,699	6	24,971
		FTE/Obl.	21	7,302	38	7,255	38	7,728	42	32,699	4	24,971
NTIA - 41	Advanced Communications Research	Pos./BA	45	7,900	45	8,180	45	8,715	50	11,681	5	2,966
		FTE/Obl.	43	8,033	45	8,385	45	8,715	49	11,681	4	2,966
NTIA - 51	Broadband Programs	Pos./BA	26	15,700	30	16,183	30	16,547	29	16,216	(1)	(331)
		FTE/Obl.	27	16,444	30	23,737	30	16,547	29	16,216	(1)	(331)
NTIA - 59	Public Safety Communications	Pos./BA	0	0	0	0	0	0	1	308	1	308
		FTE/Obl.	0	0	0	0	0	0	1	308	1	308
Total		Pos./BA	127	39,500	146	40,441	146	42,214	163	72,203	17	29,989
		FTE/Obl.	122	40,719	146	48,580	146	42,214	158	72,203	12	29,989
Adjustments for:												
Recoveries			88									
Unobligated balance, start of year			(9,579)		(8,139)							
Unobligated balance transferred												
Unobligated balance, end of year			8,139									
Unobligated balance expiring			133									
Financing from transfers:												
Transfer from other accounts (-)												
Transfer to other accounts (+)												
Appropriation			39,500		40,441		42,214		72,203		29,989	

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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		2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
<u>Reimbursable Projects</u>											
Advanced Communications Research	Pos./BA	45	0	50	0	50	0	50	0	0	0
	FTE/Obl.	43	11,221	50	21,991	50	12,000	50	12,000	0	0
Other	Pos./BA	2	0	2	0	2	0	2	0	0	0
	FTE/Obl.	2	567	2	468	2	375	2	375	0	0
<b>Total, Reimbursable Projects</b>	Pos./BA	47	0	52	0	52	0	52	0	0	0
	FTE/Obl.	45	11,788	52	22,459	52	12,375	52	12,375	0	0
<u>Spectrum Fees</u>											
Spectrum Management	Pos./BA	85	0	107	0	107	0	107	0	0	0
	FTE/Obl.	83	40,111	107	43,623	107	40,679	107	40,679	0	0
<b>Total, Spectrum Fees</b>	Pos./BA	85	0	107	0	107	0	107	0	0	0
	FTE/Obl.	83	40,111	107	43,623	107	40,679	107	40,679	0	0
<b>Total, Reimbursable Obligations</b>	Pos./BA	132	0	159	0	159	0	159	0	0	0
	FTE/Obl.	128	51,899	159	66,082	159	53,054	159	53,054	0	0

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

	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
Total Obligations	92,618	114,662	95,268	125,257	29,989
Offsetting collections from:					
Federal funds	(51,399)	(65,582)	(52,554)	(52,554)	
Non-Federal sources	(500)	(500)	(500)	(500)	
Recoveries	88				
Unobligated balance, start of year	(9,579)	(8,139)			
Unobligated balance transferred					
Unobligated balance, end of year	8,139				
Unobligated balance expiring	133				
Budget Authority	39,500	40,441	42,214	72,203	29,989
Financing:					
Transfer from other accounts (-)					
Transfer to other accounts (+)					
Appropriation	39,500	40,441	42,214	72,203	29,989

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

	<u>FTE</u>	<u>Amount</u>
Transfer to the Departmental Management Salaries and Expenses Account	0	(111)
Account Adjustment	0	0
Financing		0
<hr/>		
<b>Other Changes:</b>		
2020 Pay raise		538
2021 Pay raise	0	134
Award Increase		150
Full-year cost in 2021 of positions financed for part-year in 2020	0	0
Change in compensable days		(74)
Civil Service Retirement System (CSRS)		(8)
Federal Employees Retirement System (FERS)		213
Thrift Savings Plan		2
Federal Insurance Contribution Act (FICA) - OASDI		18
Health insurance		37
Employees Compensation Fund		0
Travel:		
Mileage		0
Per diem		6
Rental payments to GSA		3
Postage		1
Printing and reproduction		1
NARA Storage & Maintenance		(11)
Working Capital Fund		220
General Pricing Level Adjustment		309
Continuous Diagnostics and Mitigation Charges		49
Enterprise Services		185
Subtotal, other changes	0	1,773
<b>Total, adjustments to base</b>	<hr/> <b>0</b>	<hr/> <b>1,773</b>



**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	2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base		
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
Domestic and International Policies	Pos./BA	32	8,600	33	8,823	33	9,224	39	11,299	6	2,075
	FTE/Obl	31	8,940	33	9,203	33	9,224	37	11,299	4	2,075
<b>Total</b>	Pos./BA	32	8,600	33	8,823	33	9,224	39	11,299	6	2,075
	FTE/Obl	31	8,940	33	9,203	33	9,224	37	11,299	4	2,075

**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%, of the U.S. gross domestic product, and nearly six million jobs.<sup>2</sup> 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 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 2021 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 2021, 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

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<sup>2</sup> 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 2021, 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 2021, 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 2018 Botnet Report; (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 2021, 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 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		2019		2020		2021	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and International Policies	Pos./BA	32	8,600	33	8,823	33	9,224
	FTE/Obl	31	8,940	33	9,203	33	9,224
<b>Total</b>	Pos./BA	32	8,600	33	8,823	33	9,224
	FTE/Obl	31	8,940	33	9,203	33	9,224

*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 2021, 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 fora that governments and other stakeholders advance policy approaches determining how open the global digital economy – and in turn the modern global economy – will be to American products, services, and ideas. We advocate for bilateral, multistakeholder, multilateral and regional adoption of policies that encourage an open Internet; promote market liberalization; and stimulate democratization, economic development, and promotion of communications technology interests. NTIA participates in a wide variety of international fora (some treaty-based, others producing policy guidelines and research) 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 2021**  
(Dollar amounts in thousands)

		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Domestic and International Policies	Pos./BA	33	9,224	39	11,299	6	2,075
	FTE/Obl.	33	9,224	37	11,299	4	2,075

The Budget includes a program increase of \$2,075,000 and 6 positions in the Domestic and International Policies program. This increase will enable the agency to defend and support the growing efforts to oversee, mitigate, and manage supply chain risks to our nation’s telecommunications infrastructure. The advancement of the Internet of Things has increased the reliance on the communications infrastructure to support a vast array of daily functions. NTIA will drive and support the nation’s efforts to promote and protect our economic and national security in the fast approaching 5G environment.

	2021	2022	2023	2024	2025
Performance Measures:					
Launch best practices processes with international coordination	3	3	4	4	5
Build and roll-out processes to quickly collect and share information from industry and civil society on cyberattacks, threats, and national response activities.	2	2	3	3	4

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

Activity: Domestic and International Policies  
Program Change: U.S. Telecommunications Infrastructure

Title		Grade	Number	Annual Salary	Total Salaries
Telecommunications Policy Specialist		15	6	152,760	916,560
Total			6		916,560
Less lapse	25.00%		(2)		(229,140)
Total full-time permanent (FTE)			4		687,420
2021 Pay Adjustment (1.0%)			0		5,156
<b>Total</b>			4		692,576

**Personnel Data Summary**

Full-time Equivalent Employment					
Full-time permanent			4		
Other than full-time permanent			0		
<b>Total</b>			4		
Authorized Positions:					
Full-time permanent			6		
Other than full-time permanent			0		
<b>Total</b>			6		

**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2020 Base
11.1 Full-time permanent compensation	4,359	3,869	3,986	4,679	693
11.3 Other than full-time permanent					
11.5 Other personnel compensation	106	53	87	87	0
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	4,465	3,922	4,073	4,766	693
12.1 Civilian personnel benefits	1,357	1,183	1,258	1,471	213
13 Benefits for former personnel					
21 Travel and transportation of persons	274	335	336	555	219
22 Transportation of things	0	1	1	6	5
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	517	414	414	471	57
23.3 Commun., util., and misc. charges	103	96	96	102	6
24 Printing and reproduction	2	3	3	11	8
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	244	821	876	1,411	535
25.3 Other goods and services from Federal sources	1,697	1,795	1,905	2,179	274
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					
25.6 Medical care					



<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2020 Base
25.7 Operation and maintenance of equipment	8	2	2	2	0
25.8 Subsistence and support of persons					
26 Supplies and materials	17	38	39	63	24
31 Equipment	121	78	86	127	41
32 Lands and structures					0
33 Investments and loans					
41 Grants, subsidies and contributions	135	135	135	135	0
42 Insurance claims and indemnities					
43 Interest and dividends					
44 Refunds					
99.9 <b>Total Obligations</b>	8,940	8,823	9,224	11,299	2,075

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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: Spectrum Management

Line Item		2019		2020		2021		2021		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum Management	Pos./BA	24	7,300	38	7,255	38	7,728	44	32,699	6	24,971
	FTE/Obl	21	7,302	38	7,255	38	7,728	42	32,699	4	24,971
<b>Total</b>	Pos./BA	24	7,300	38	7,255	38	7,728	44	32,699	6	24,971
	FTE/Obl	21	7,302	38	7,255	38	7,728	42	32,699	4	24,971

**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	2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base		
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
Spectrum Management	Pos./BA	85	0	107	0	107	0	107	0	0	0
	FTE/Obl	83	40,111	107	43,623	107	40,679	107	40,679	0	0
<b>Total</b>	Pos./BA	85	0	107	0	107	0	107	0	0	0
	FTE/Obl	83	40,111	107	43,623	107	40,679	107	40,679	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.<sup>3</sup> 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 predicting the weather. The agencies could not provide these vital government services without radio frequency assignments, which NTIA is responsible for managing. NTIA has the added pressure to make 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.<sup>4</sup>

Statement of Operating Objectives

In FY 2021, NTIA will 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 demand for spectrum in the commercial wireless industry; and 3) coordinate critical international spectrum issues that impact U.S. businesses, consumers, and government agencies.

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<sup>3</sup> NTIA Organization Act, as amended (47 USC 901 et. seq.)

<sup>4</sup> 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>

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. Driven by the mandates in the *Spectrum Pipeline Act of 2015* and the *MOBILE NOW Act of 2018*, NTIA will take significant steps to identify and make available an additional 255 megahertz for licensed services and unlicensed devices. Accordingly, NTIA will 1) coordinate with DoD and industry to accommodate new commercial wireless services within the 3100-3550 MHz band; 2) implement a plan to incentivize Federal agencies to relinquish or share spectrum with commercial entities on a leased or more permanent basis; and 3) evaluate Federal agency research and development plans for advancing spectrum efficiency in order to free-up spectrum for auction.

Internationally, NTIA will lead the implementation of changes to the U.S. regulations resulting from the International Telecommunication Union's World Radiocommunication Conference (WRC), the treaty-status forum that establishes radiocommunication regulations for global and regional operations in space and on earth. Concurrently, NTIA will lead the Federal agencies in preparations to advance U.S. policy positions slated for the next WRC agenda, scheduled to be held in 2023. 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 Developing a Sustainable Spectrum Strategy for America's Future* by initiating actions, in collaboration with the 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

There is tremendous growth in demand for wireless spectrum by consumers, businesses, and government agencies. 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, our nation's economic prosperity depends on innovative technologies and commercial wireless services gaining access to more spectrum. To address these pressures, NTIA needs to remake the spectrum access ecosystem to optimize the use of spectrum to satisfy increasing stakeholder needs, and to provide policy-makers the information they need to weigh and balance the competing demands of all users (e.g., 5G, space commerce, national security).

Line Item		2019 Actual		2020 Enacted		2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum Management	Pos./BA	24	7,300	38	7,255	38	7,728
	FTE/Obl	21	7,302	38	7,255	38	7,728
<b>Total</b>	Pos./BA	24	7,300	38	7,255	38	7,728
	FTE/Obl	21	7,302	38	7,255	38	7,728

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. These evaluations are labor-intensive, time-consuming, and overly restrictive due to antiquated information technology (IT) systems (including analytical tools) requiring excessive man-in-the-loop processes and use of overly conservative assumptions regarding equipment operations. The challenge is to prevent unmanageable delays in approving spectrum-dependent equipment to operate where and when needed, thus avoiding negative impacts on Federal agencies' missions.

NTIA conducts spectrum engineering studies and technical analyses to make decisions regarding frequency assignments, system certifications, spectrum sharing, interference resolution, and Federal technical standards. The challenge is that current spectrum analysis capabilities are inadequate to ensure efficient and effective use of spectrum needed to accommodate the increasing demand by next generation commercial wireless services and crucial Federal missions.

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 innovation, ideas, and issues in Federal spectrum policy and management. 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. The challenge is that the data NTIA uses to inform these policy decisions is no longer sufficient to accurately characterize the spectrum needs of the complex, high-tech new systems being deployed.

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.



**Department of Commerce**  
**National Telecommunications and Information Administration**  
**Salaries and Expenses**  
**PROGRAM CHANGES FOR 2021**  
(Dollar amounts in thousands)

		Personnel	Amount	Personnel	Amount	Personnel	Amount
Spectrum Management	Pos./BA	38	7,728	44	32,699	6	24,971
	FTE/Obl.	38	7,728	42	32,699	4	24,971

NTIA proposes a program increase of \$24,971,000 and 6 positions to begin the modernization of NTIA's antiquated spectrum management system built over 30 years ago. The current systems are inadequate to execute NTIA's spectrum functions in a timely manner and limits NTIA's ability to accommodate advanced technologies, such as deploying 5G, advancing space commerce, and securing government missions by investing in its spectrum management IT infrastructure. With these resources, NTIA will create a secure, flexible, and automated spectrum management with the key outcomes of an enterprise architecture; provide a secure system environment; improve the integrity and confidentiality of data; enable cross-domain capabilities; develop advanced analytical tools; reduce "white space" between spectrum assignments; reengineer business processes; and automate workflows.

	2021	2022	2023	2024	2025
Performance Measures:					
Meet Federal Information Security Management Act	75%	100%	100%	100%	100%
Requirements Reduction in frequency processing time.	0%	50%	50%	75%	75%

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

Activity: Spectrum Management  
Program Change: Modernization of Spectrum IT Systems

<b>Title</b>		Grade	Number	Annual Salary	Total Salaries
Senior Engineer & Information Systems Security Lead		14	2	117,191	234,382
Operations Manager & Technical Lead		13	2	99,172	198,344
Test Lead & Contracting Officer's Representative		12	2	83,398	166,796
<b>Total</b>			6		599,522
Less lapse	25.00%		(2)		(149,881)
Total full-time permanent (FTE)			4		449,642
2021 Pay Adjustment (1.0%)			0		3,372
<b>Total</b>			4		453,014
 <b>Personnel Data Summary</b>					
<hr/>					
Full-time Equivalent Employment					
Full-time permanent			4		
Other than full-time permanent			0		
<b>Total</b>			4		
 Authorized Positions:					
Full-time permanent			6		
Other than full-time permanent			0		
<b>Total</b>			6		

**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
11.1 Full-time permanent compensation	3,418	2,513	2,652	3,105	453
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	49	29	70	70	0
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	<b>3,467</b>	<b>2,542</b>	<b>2,722</b>	<b>3,175</b>	<b>453</b>
12.1 Civilian personnel benefits	1,088	802	891	1,030	139
13 Benefits for former personnel					
21 Travel and transportation of persons	25	93	95	132	37
22 Transportation of things	0	5	5	6	1
23 Rent, communications and utilities					
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	459	448	448	489	41
23.3 Commun., util., and misc. charges	108	17	19	23	4
24 Printing and reproduction	3	15	15	17	2
25 Other contractual services					
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	0	599	664	24,734	24,070
25.3 Other goods and services from Federal sources	1,870	2,440	2,565	2,743	178
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					
25.6 Medical care					

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
25.7 Operation and maintenance of equipment	17	0	0	0	0
25.8 Subsistence and support of persons					
26 Supplies and materials	29	46	47	52	5
31 Equipment	235	248	257	298	41
32 Lands and structures					0
33 Investments and loans					
41 Grants, subsidies and contributions	1	0	0	0	0
42 Insurance claims and indemnities					
43 Interest and dividends					
44 Refunds					
<b>99.9 Total Obligations</b>	<b>7,302</b>	<b>7,255</b>	<b>7,728</b>	<b>32,699</b>	<b>24,971</b>
Less prior year recoveries					
Less prior year unobligated balance	0				
<b>Total Budget Authority</b>	<b>7,302</b>	<b>7,255</b>	<b>7,728</b>	<b>32,699</b>	<b>24,971</b>

**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	2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base		
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
Advanced Communications Research	Pos./BA	45	7,900	45	8,180	45	8,715	50	11,681	5	2,966
	FTE/Obl	43	8,033	45	8,385	45	8,715	49	11,681	4	2,966
<b>Total</b>	Pos./BA	45	7,900	45	8,180	45	8,715	50	11,681	5	2,966
	FTE/Obl	43	8,033	45	8,385	45	8,715	49	11,681	4	2,966

**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		2019		2020		2021		2021		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Advanced Communications Research	Pos./BA	45	0	50	0	50	0	50	0	0	0
	FTE/Obl	43	11,221	50	21,991	50	12,000	50	12,000	0	0
<b>Total</b>	Pos./BA	45	0	50	0	50	0	50	0	0	0
	FTE/Obl	43	11,221	50	21,991	50	12,000	50	12,000	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 performs advanced communications research to inform spectrum policy and develop solutions for emerging telecommunications. ITS also partners with 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 research provides critical technical input regarding how spectrum-dependent systems, such as radars and cellphones, interact. ITS's research informs policymakers and promotes the development of advanced communications and information technology. 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

As part of ITS' core technical research and engineering activities, ITS has identified three priority areas in FY 2021 that (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.<sup>5</sup> 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

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

critically important research into reliable spectrum access and dynamic, interference-free spectrum sharing. The research portfolio of ITS 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 2021, ITS will establish a real-world, neighborhood-scale testbeds will be set up to experiment with basic tools and technology to continuously monitor spectrum usage and compliance with spectrum sharing agreements. 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.

In FY 2021, ITS will conduct research that supports the deployment of new and innovative telecommunications technologies to guide the development of smart cities, smart agriculture, smart highways, and other applications, such as the evolution of the Internet of Things (IoT). ITS is known for its development of unbiased research that is fundamental for advancing new technologies in a shared spectrum environment and globally competitive marketplace, enabling the continuing evolution of more capable, interoperable, efficient, and cost-effective communication services. Additionally, ITS’ research provides the technical expertise necessary for development and negotiation of national and international standards.

Finally, maintaining the ITS research facility in Boulder, Colorado and upgrading research equipment is critical to keep up with advancing technologies and to solve complex spectrum sharing problems. ITS owns and maintains the Table Mountain Field Site and Radio Quiet Zone, which is an 1,800-acre, open-air test location, regulated by Federal and state law to prevent the transmissions of powerful signals over the site. Table Mountain is one of two Radio Quiet Zone in the nation, and Table Mountain is the only site performing research and development of new spectrum-dependent technologies. . 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’ research facilities and expert staff for advanced research to resolve their telecommunications issues.

Explanation and Justification

Line Item		2019		2020		2021	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Advanced Communications Research	Pos./BA	45	7,900	45	8,180	45	8,715
	FTE/Obl	43	8,033	45	8,385	45	8,715
<b>Total</b>	Pos./BA	45	7,900	45	8,180	45	8,715
	FTE/Obl	43	8,033	45	8,385	45	8,715



NTIA will conduct research in areas of efficient spectrum access and spectrum sharing and other critical spectrum activities. By gathering critical radio frequency measurements, the data 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 work will expand the testbed to 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.

NTIA will conduct research that facilitates deployment of new and innovative telecommunications technology. This includes research into the following activities: (1) domestic and international standards development; (2) quality of experience assessment and enhancement; and (3) future cellular technology. ITS technical contributions and leadership activities in standards bodies will ensure that international standards meet the needs of U.S. industry and government, including public safety agencies. The quality of experience focus will develop software tools that can be used to maximize performance and efficiency of communications systems.

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, upgrade the existing collection of dish antennas, and improve internet connectivity which will be enhanced to support larger data sets. This is a five-year effort to upgrade our research facilities that is being incrementally funded. Additionally, funds will be used for telecommunications equipment. 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.

**Department of Commerce**  
**National Telecommunications and Information Administration**  
**Salaries and Expenses**  
**PROGRAM CHANGES FOR 2021**  
(Dollar amounts in thousands)

		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Advanced Communications Research	Pos./BA	45	8,715	50	11,681	5	2,966
	FTE/Obl.	45	8,715	49	11,681	4	2,966

The Budget includes a program increase of \$2,966,000 and 5 positions in the Advanced Communications Research program. This program increase will cover the upgrade and maintenance of the current LTE network that is not equipped with 5G capabilities or other next generation communication technologies. Upgrades, replacements, and procurement of cutting-edge research equipment are required to position the lab for research and testing of the next generation of technologies for 5G and beyond. This request includes new, replaced, or upgraded equipment, such as network emulators, end-user devices, measurement equipment, and mmWave hardware. This investment builds out the next generation communications laboratory environment that will efficiently and effectively transition the U.S. from 4G LTE and WiFi to 5G and beyond.

Performance Measures:	2021	2022	2023	2024	2025
Number of new Bring in new reimbursable business partners related to 5G and other advanced technologies	0	2	2	3	5

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

Activity: Advanced Communications Research  
Program Change: Spectrum Research for 5G and Beyond

Title	Grade	Number	Annual Salary	Total Salaries
Senior Electronic Engineer	ZP-5	2	157,023	314,046
Electronic Engineer	ZP-4	2	137,155	274,310
Telecommunications Policy Specialist	ZP-3	1	97,996	97,996
Total		5		686,352
Less lapse		(1)		(171,588)
Total full-time permanent (FTE)		4		514,764
2021 Pay Adjustment (1.0%)		0		3,861
<b>Total</b>		4		518,625

**Personnel Data Summary**

Full-time Equivalent Employment				
Full-time permanent		4		
Other than full-time permanent		0		
<b>Total</b>		4		
Authorized				
Positions: Full-time permanent		5		
Other than full-time permanent		0		
<b>Total</b>		5		

**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/ Decrease from 2021 Base
11.1 Full-time permanent compensation	4,132	3,375	3,536	4,055	519
11.3 Other than full-time permanent					
11.5 Other personnel compensation	112	24	70	70	0
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	4,244	3,399	3,606	4,125	519
12.1 Civilian personnel benefits	1,300	1,088	1,191	1,351	160
13 Benefits for former personnel					
21 Travel and transportation of persons	98	114	116	147	31
22 Transportation of things	2	3	3	4	1
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	84	62	62	62	0
23.3 Commun., util., and misc. charges	13	3	4	7	3
24 Printing and reproduction	1	8	8	10	2
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	488	260	335	375	40
25.3 Other goods and services from Federal sources	1,038	1,939	2,075	2,234	159
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					
25.6 Medical care					

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/ Decrease from 2021 Base
25.7 Operation and maintenance of equipment	14	59	59	59	0
25.8 Subsistence and support of persons					
26 Supplies and materials	53	30	31	36	5
31 Equipment	698	1,215	1,225	3,271	2,046
32 Lands and structures					
33 Investments and loans					
41 Grants, subsidies and contributions					
42 Insurance claims and indemnities					
43 Interest and dividends					
44 Refunds					
<b>99.9 Total Obligations</b>	<b>8,033</b>	<b>8,180</b>	<b>8,715</b>	<b>11,681</b>	<b>2,966</b>
Less prior year recoveries					
Less prior year unobligated balance					
Total Budget Authority	8,033	8,180	8,715	11,681	2,966
Personnel Data					

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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: Broadband Programs

Line Item	2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base		
	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	
Broadband Programs	Pos./BA	26	15,700	30	16,183	30	16,547	29	16,216	(1)	(331)
	FTE/Obl	27	16,444	30	23,737	30	16,547	29	16,216	(1)	(331)
<b>Total</b>	Pos./BA	26	15,700	30	16,183	30	16,547	29	16,216	(1)	(331)
	FTE/Obl	27	16,444	30	23,737	30	16,547	29	16,216	(1)	(331)

**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 infrastructure, access, and use across America by accelerating critical infrastructure that will help attract new jobs, promote economic growth, and encourage increased innovation.

Base Program

According to the Federal Communications Commission's 2019 Broadband Deployment Report, twenty-two million Americans still lack access to affordable, reliable, modern high-speed broadband capability, of which 15 million, or 73%, 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 services, 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. Additionally, 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 with more accurate, timely, and granular data to make better informed funding decisions and to more effectively determine the best opportunities for efficient deployment of broadband infrastructure in rural areas.

Statement of Operating Objectives

In FY 2021, BroadbandUSA will execute a number of strategies to expand broadband and will accomplish the following: 1) provide technical assistance to 145 communities; 2) hold four regional workshops with at least 250 attendees; and 3) host 10 monthly broadband



webinars with an average of 200 attendees. These activities will provide the foundation for state and local governments to attract broadband infrastructure investments, leading to new jobs, better service delivery, and creation of innovative technologies benefiting hospitals, schools, and students.

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. The ABI focuses on three key work streams:

- 1) *Streamline Federal permitting* - processes to make it easier for service providers to access Federal assets and rights-of-way, reducing the regulatory burden and expediting the commercial build out of broadband networks;
- 2) *Leverage Federal assets* - such as tower facilities, buildings and land to lower the cost of broadband buildouts and encourage private sector companies to expand communications infrastructure, especially in rural America; and
- 3) *Improve the effectiveness of Federal funding* - for broadband to better target areas of need, improve consistency, and provide incentives for state and local policies and programs to better leverage Federal dollars.

In FY 2021, BroadbandUSA will accomplish the following milestones as it relates to our ABI work: 1) 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 their recommended actions to streamline the application process for broadband facilities deployment as mandated under the *MOBILE NOW Act of 2018*; 2) begin to prepare a report to Congress, due by March 2022, on the status of the ABI members' implementation of the recommended actions and process improvements; and 3) update as processes changes are implemented regarding the one-stop for Federal permitting information on BroadbandUSA's website to improve transparency.

BroadbandUSA will improve the nation's understanding of broadband availability by implementing its broadband availability data mapping initiative. By FY 2021, BroadbandUSA will have operationalized the national broadband availability map and will transition to efforts to improve its capabilities and expand the data sets it may utilize. In FY 2021, NTIA will accomplish the following items: 1) update geographic information systems (GIS) and geo-analytical systems, deployed in FY 2019 and updated in FY 2020, necessary to support the base program; 2) integrate, visualize, and analyze broadband availability data from twelve (12) additional states, bringing the program total to approximately 30 states and territories; 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.

Finally, NTIA will ensure timely close-out of the three outstanding grants from the Broadband Technology Opportunities Program and the Warning, Alert and Response Network program and will complete remaining close out activities for these grants by fiscal year end.

Line Item		<u>Explanation and Justification</u>					
		2019		2020		2021	
		Actual		Enacted		Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Programs	Pos./BA	26	15,700	30	16,183	30	16,547
	FTE/Obl	27	16,444	30	23,737	30	16,547
<b>Total</b>	Pos./BA	26	15,700	30	16,183	30	16,547
	FTE/Obl	27	16,444	30	23,737	30	16,547

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 inclusion funding opportunities, provide fresh perspectives for digital inclusion, and foster innovation for connectivity and use. NTIA anticipates continued and increasing demand for engagement requests from communities for services in the future.

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 30 monthly meetings, three annual summits, a summer meeting and increased participation from 20 states to 46 states and territories with level funding. The challenge is that NTIA 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 American Broadband Initiative 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. To date, NTIA has: established a platform for broadband mapping, visualization, and analysis; integrated FCC Form 477 broadband availability data; made agreements with eight states and began data collection and integration work; identified and began the acquisition of additional datasets for integration with the map; and identified 18 states for inclusion in the map in FY20 and FY21. Additionally, BroadbandUSA will collect similar feedback during FY 2021 to inform future 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 also 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.

NTIA will continue to provide grant oversight to actively monitor broadband grants awarded in prior years and expedite their close out activities by the end of FY2021.

**Department of Commerce**  
**National Telecommunications and Information Administration**  
**Salaries and Expenses**  
**PROGRAM CHANGES FOR 2021**  
(Dollar amounts in thousands)

		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Broadband Programs	Pos./BA	30	16,547	29	16,216	(1)	(331)
	FTE/Obl.	30	16,547	29	16,216	(1)	(331)

The Budget includes a program decrease within Broadband Programs of \$331,000 and 1 position to support the new Public Safety Communications PPA. This program reduction also incorporates the one-time transfer of \$23,000 thousand to the Departmental Management Salaries and Expense Account

	2021	2022	2023	2024	2025
Performance Measures:					
No change in performance measures					

**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
11.1 Full-time permanent compensation	3,571	5,227	5,334	5,217	(117)
11.3 Other than full-time permanent					
11.5 Other personnel compensation	98	63	94	93	(1)
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	3,669	5,290	5,428	5,310	(118)
12.1 Civilian personnel benefits	1,112	1,501	1,570	1,535	(35)
13 Benefits for former personnel					
21 Travel and transportation of persons	121	167	168	163	(5)
22 Transportation of things	1	6	6	5	(1)
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	427	567	567	560	(7)
23.3 Commun., util., and misc. charges	88	21	21	19	(2)
24 Printing and reproduction	33	39	40	39	(1)
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	5,581	7,198	7,248	7,202	(46)
25.3 Other goods and services from Federal sources	1,191	1,196	1,293	1,194	(99)
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					
25.6 Medical care					
25.7 Operation and maintenance of equipment	8	0	0	(9)	(9)

<b>Object Class</b>		2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
25.8	Subsistence and support of persons					
26	Supplies and materials	17	64	65	64	(1)
31	Equipment	4,196	134	141	134	(7)
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	<b>Total Obligations</b>	16,444	16,183	16,547	16,216	(331)
	Less prior year recoveries					
	Less prior year unobligated balance					
	<b>Total Budget Authority</b>	16,444	16,183	16,547	16,216	(331)
	<b>Personnel Data</b>					
	Full-Time equivalent Employment:					
	Full-time permanent	27	30	30	29	(1)
	Other than full-time permanent					
	<b>Total</b>	27	30	30	29	(1)
	<b>Authorized Positions:</b>					
	Full-time permanent	26	30	30	29	(1)
	Other than full-time permanent					
	<b>Total</b>	26	30	30	29	(1)

**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		2019		2020		2021		2021		Increase/Decrease	
		Actual		Enacted		Base		Estimate		from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Communications	Pos./BA	0	0	0	0	0	0	1	308	1	308
	FTE/Obl	0	0	0	0	0	0	1	308	1	308
<b>Total</b>	Pos./BA	0	0	0	0	0	0	1	308	1	308
	FTE/Obl	0	0	0	0	0	0	1	308	1	308

**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.<sup>6</sup> 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 activities. NTIA will serve as a Federal-level coordinator and clearinghouse on NG911 activities for other Federal agencies, states, territories and local governments, public safety personnel at all levels of government, and equipment manufacturers. Further, 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 help save lives. In FY 2021, NTIA will continue to focus on key policy areas in NG911 activities:

- NG911 Utilization Roadmap: NTIA will develop the Utilization Roadmap to eliminate identified adoption barriers through training and grant program prioritization.
- Perform 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.

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<sup>6</sup> 47 U.S.C. § 902(b)(2), 47 U.S.C. § 942, 47 U.S.C. § 1413



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 the development of NTIA’s grant program. By defining NTIA’s T-Band Relocation Grant Program operating objectives, it will enable NTIA to identify what will be allowable relocation costs, to engage stakeholders to identify key issues the grant program will address, and to develop its grant program in a way that targets the funds available in the most beneficial manner for first responder agencies licenses in the T-Band. In FY 2021, NTIA will focus on three key policy areas in T-Band relocation activities:

- T-Band Relocation Grant Program Stakeholder Input: NTIA will hold additional informational programs to gather input from stakeholders on the potential T-Band grant program parameters, including allowable costs, grant award conditions, and the period of performance.
- T-Band Relocation Grant Program: Utilizing stakeholder input, NTIA will develop a Notice of Funding Opportunity (NOFO) for the T-Band Relocation Grant Program that will include initial 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.

Line Item		<u>Explanation and Justification</u>					
		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Communications	Pos./BA	0	0	1	308	1	308
	FTE/Obl	0	0	1	308	1	308
<b>Total</b>	Pos./BA	0	0	1	308	1	308
	FTE/Obl	0	0	1	308	1	308

NTIA will continue to allocate one (1) position within its existing FY 2021 Budget Request to support these NG911 and T-Band relocation issues. NTIA will perform a strategic assessment of progress in nationwide NG911 deployment, implement a strategic 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 begin the essential activities to develop a new 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. Specifically, 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.”<sup>7</sup>

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 was first requested for FY 2020.

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.<sup>8</sup>

*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 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 were first requested in FY 2020.

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.

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<sup>7</sup> <https://www.gao.gov/assets/690/689855.pdf>

<sup>8</sup> Ibid.

**Department of Commerce  
National Telecommunications and Information Administration  
Salaries and Expenses  
PROGRAM CHANGES FOR 2021  
(Dollar amounts in thousands)**

		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Communications	Pos./BA	0	0	1	308	1	308
	FTE/Obl.	0	0	1	308	1	308

This Budget requests proposes that NTIA will allocate \$308,000 and 1 position to support NG911. NTIA's public safety communications program will provide 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. NTIA continues to have critical work to perform a strategic assessment of progress in nationwide NG911 deployment, develop a strategic 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.

	2021	2022	2023	2024	2025
Performance Measures:					
NG911 Stakeholder Engagements	2	2	2	2	2
NG911 Roadmap Development and Milestone	1	2	3	5	7

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

Activity: Public Safety Communications  
Program Change: New Program with 1 position

<b>Title</b>		<b>Grade</b>	<b>Number</b>	<b>Annual Salary</b>	<b>Total Salaries</b>
Communications Program Specialist		14	1	122,230	122,230
Total			1		122,230
Less lapse	25.00%		(0)		(30,558)
Total full-time permanent (FTE)			1		91,673
2021 Pay Adjustment (0.0%) <b>Total</b>			0		0
			1		91,673
<b>Personnel Data Summary</b>					
<hr/>					
Full-time Equivalent Employment					
Full-time permanent			1		
Other than full-time permanent			0		
<b>Total</b>			1		
Authorized Positions:					
Full-time permanent			1		
Other than full-time permanent			0		
<b>Total</b>			1		

**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2020 Base
11.1 Full-time permanent compensation	0	0	0	117	117
11.3 Other than full-time permanent					
11.5 Other personnel compensation	0	0	0	1	1
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	0	0	0	118	118
12.1 Civilian personnel benefits	0	0	0	35	35
13 Benefits for former personnel					
21 Travel and transportation of persons	0	0	0	5	5
22 Transportation of things	0	0	0	1	1
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	0	0	0	7	7
23.3 Commun., util., and misc. charges	0	0	0	2	2
24 Printing and reproduction	0	0	0	1	1
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	0	0	0	46	46
25.3 Other goods and services from Federal sources	0	0	0	76	76
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					
25.6 Medical care					

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2020 Base
25.7 Operation and maintenance of equipment	0	0	0	9	9
25.8 Subsistence and support of persons					
26 Supplies and materials	0	0	0	1	1
31 Equipment	0	0	0	7	7
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					
<b>99.9 Total Obligations</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>308</b>	<b>308</b>

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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
11.1 Full-time permanent compensation	15,480	14,984	15,508	17,173	1,665
11.3 Other than full-time permanent					
11.5 Other personnel compensation	365	169	321	321	0
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	<b>15,845</b>	<b>15,153</b>	<b>15,829</b>	<b>17,494</b>	<b>1,665</b>
12.1 Civilian personnel benefits	4,857	4,574	4,910	5,422	512
13 Benefits for former personnel					
21 Travel and transportation of persons	518	709	715	1,002	287
22 Transportation of things	3	15	15	22	7
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	1,487	1,491	1,491	1,589	98
23.3 Commun., util., and misc. charges	312	137	140	153	13
24 Printing and reproduction	39	65	66	78	12
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	6,313	8,878	9,123	33,768	24,645
25.3 Other goods and services from Federal sources	5,796	7,370	7,838	8,426	588
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					
25.6 Medical care					
25.7 Operation and maintenance of equipment	47	61	61	61	0
25.8 Subsistence and support of persons					

<b>Object Class</b>		2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
26	Supplies and materials	116	178	182	216	34
31	Equipment	5,250	1,675	1,709	3,837	2,128
32	Lands and structures					
33	Investments and loans					
41	Grants, subsidies and contributions	136	135	135	135	0
42	Insurance claims and indemnities					
43	Interest and dividends					
44	Refunds					
99.9	<b>Total Obligations</b>	40,719	40,441	42,214	72,203	29,989
	Less prior year recoveries	88				
	Less prior year unobligated balance	(9,579)				
	<b>Total Budget Authority</b>	31,228	40,441	42,214	72,203	29,989
	<b>Personnel Data</b>					
	Full-Time equivalent Employment:					
	Full-time permanent	122	146	146	163	17
	Other than full-time permanent					
	<b>Total</b>	122	146	146	163	17
	<b>Authorized Positions:</b>					
	Full-time permanent	127	146	146	163	12
	Other than full-time permanent					
	<b>Total</b>	127	146	146	163	12



**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
11.1 Full-time permanent compensation	3,418	2,513	2,652	3,105	453
11.3 Other than full-time permanent					
11.5 Other personnel compensation	49	29	70	70	0
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	3,467	2,542	2,722	3,175	453
12.1 Civilian personnel benefits	1,088	802	891	1,030	139
13 Benefits for former personnel					
21 Travel and transportation of persons	25	93	95	132	37
22 Transportation of things	0	5	5	6	1
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	459	448	448	489	41
23.3 Commun., util., and misc. charges	108	17	19	23	4
24 Printing and reproduction	3	15	15	17	2
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	0	599	664	24,734	24,070
25.3 Other goods and services from Federal sources	1,870	2,440	2,565	2,743	178
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
25.6 Medical care					
25.7 Operation and maintenance of equipment	17	0	0	0	0
25.8 Subsistence and support of persons					
26 Supplies and materials	29	46	47	52	5
31 Equipment	235	248	257	298	41
32 Lands and structures					
33 Investments and loans					
41 Grants, subsidies and contributions	1	0	0	0	0
42 Insurance claims and indemnities					
43 Interest and dividends					
44 Refunds					
<b>99.9 Total Obligations</b>	<b>7,302</b>	<b>7,255</b>	<b>7,728</b>	<b>32,699</b>	<b>24,971</b>
Less prior year recoveries					
Less prior year unobligated balance	0				
<b>Total Budget Authority</b>	<b>7,302</b>	<b>7,255</b>	<b>7,728</b>	<b>32,699</b>	<b>24,971</b>
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	24	38	38	44	6
Other than full-time permanent					
Total	24	38	38	44	6
Authorized Positions:					
Full-time permanent	21	38	38	42	4
Other than full-time permanent					
Total	21	38	38	42	4

**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
11.1 Full-time permanent compensation	4,132	3,375	3,536	4,055	519
11.3 Other than full-time permanent					
11.5 Other personnel compensation	112	24	70	70	0
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	4,244	3,399	3,606	4,125	519
12.1 Civilian personnel benefits	1,300	1,088	1,191	1,351	160
13 Benefits for former personnel					
21 Travel and transportation of persons	98	114	116	147	31
22 Transportation of things	2	3	3	4	1
23 Rent, communications and utilities					
23.1 Rental payments to GSA					
23.2 Rental payments to others	84	62	62	62	0
23.3 Commun., util., and misc. charges	13	3	4	7	3
24 Printing and reproduction	1	8	8	10	2
25 Other contractual services					
25.1 Advisory and assistance services					
25.2 Other services from non-Federal sources	488	260	335	375	40
25.3 Other goods and services from Federal sources	1,038	1,939	2,075	2,234	159
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
25.6 Medical care					
25.7 Operation and maintenance of equipment	14	59	59	59	0
25.8 Subsistence and support of persons					
26 Supplies and materials	53	30	31	36	5
31 Equipment	698	1,215	1,225	3,271	2,046
32 Lands and structures					
33 Investments and loans					
41 Grants, subsidies and contributions					
42 Insurance claims and indemnities					
43 Interest and dividends					
44 Refunds					
<b>99.9 Total Obligations</b>	<b>8,033</b>	<b>8,180</b>	<b>8,715</b>	<b>11,681</b>	<b>2,966</b>
Less prior year recoveries					
Less prior year unobligated balance	0				
<b>Total Budget Authority</b>	<b>8,033</b>	<b>8,180</b>	<b>8,715</b>	<b>11,681</b>	<b>2,966</b>
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	45	45	45	50	5
Other than full-time permanent					
Total	45	45	45	50	5
Authorized Positions:					
Full-time permanent	43	45	45	49	4
Other than full-time permanent					
Total	43	45	45	49	4

**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

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
11.1 Full-time permanent compensation	3,571	5,227	5,334	5,217	(117)
11.3 Other than full-time permanent	0	0	0	0	0
11.5 Other personnel compensation	98	63	94	93	(1)
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	3,669	5,290	5,428	5,310	(118)
12.1 Civilian personnel benefits	1,112	1,501	1,570	1,535	(35)
13 Benefits for former personnel					
21 Travel and transportation of persons	121	167	168	163	(5)
22 Transportation of things	1	6	6	5	(1)
23 Rent, communications and utilities					
23.1 Rental payments to GSA	0	0	0	0	0
23.2 Rental payments to others	427	567	567	560	(7)
23.3 Commun., util., and misc. charges	88	21	21	19	(2)
24 Printing and reproduction	33	39	40	39	(1)
25 Other contractual services					
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	5,581	7,198	7,248	7,202	(46)
25.3 Other goods and services from Federal sources	1,191	1,196	1,293	1,194	(99)
25.4 Operations and maintenance of facilities					
25.5 Research and development contracts					

<b>Object Class</b>	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
25.6 Medical care					
25.7 Operation and maintenance of equipment	8	0	0	(9)	(9)
25.8 Subsistence and support of persons					
26 Supplies and materials	17	64	65	64	(1)
31 Equipment	4,196	134	141	134	(7)
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					
<b>99.9 Total Obligations</b>	<b>16,444</b>	<b>16,183</b>	<b>16,547</b>	<b>16,216</b>	<b>(331)</b>
Less prior year recoveries					
Less prior year unobligated balance	0				
<b>Total Budget Authority</b>	<b>16,444</b>	<b>16,183</b>	<b>16,547</b>	<b>16,216</b>	<b>(331)</b>
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	26	30	30	29	(1)
Other than full-time permanent	0	0	0	0	0
Total	26	30	30	29	(1)
Authorized Positions:					
Full-time permanent	27	30	30	29	(1)
Other than full-time permanent	0	0	0	0	0
Total	27	30	30	29	(1)

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

FY 2021

For necessary expenses, as provided for by law, of the National Telecommunications and Information Administration (NTIA), \$72,203,000 to remain available until September 30, 2022: 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.

47 U.S.C. § 1413 authorizes NTIA to make grants to eligible public safety agencies to cover their costs to relocate from the 470-512 MHz band ("T-Band Spectrum").



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

	2019 Actual	2020 Enacted	2021 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
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>

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

	2018 Actuals	2019 Actuals	2020 Enacted	2021 Estimate
Periodicals	0	0	0	0
Pamphlets	8	0	0	0
Audiovisuals	0	0	0	0
<b>Total</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>

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

	2019 Actual	2020 Enacted	2021 Estimate
Average ES Salary	183,196	188,875	190,764
Average GS/GM Grade	13	13	13
Average GS/GM Salary	131,240	135,308	136,662

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

**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 on less than one year ago that designated by GAO as ‘Open’ or ‘Closed-Unimplemented.’**

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

Report Number	GAO 11-352
Report Title	Spectrum Management: NTIA Planning and Processes Need Strengthening to Promote the Efficient Use of Spectrum by Federal Agencies
Issue Date	May 12, 2011
Recommendation Number	1
Recommendation	To facilitate the effective government-wide management of Federal spectrum use, and to ensure NTIA's previous efforts to develop a Federal strategic plan are not diminished, the Assistant Secretary of Commerce for Communications and Information should develop an updated plan that includes key elements of a strategic plan, as well as information on how spectrum is being used across the Federal government, opportunities to increase efficient use of Federally allocated spectrum and infrastructure, an assessment of future spectrum needs, and plans to incorporate these needs in the frequency assignment, equipment certification, and review processes.

<p>Target Implementation Date</p>	<p>In February 2019, NTIA and FCC officials told GAO that they were working to address an October 2018 executive memorandum requiring that the Secretary of Commerce, through NTIA, and in consultation with FCC and other agencies to develop a long-term strategy that includes legislative, regulatory, or other policy recommendations to increase spectrum access for all users, including on a shared basis, through transparency of spectrum use and improved cooperation and collaboration between Federal and non-Federal spectrum stakeholders, among other things.</p>
<p>Closure Request Pending with GAO (Yes/No)</p>	<p>No</p>
<p>Clear Budget Implications (Yes/No)</p>	<p>No</p>

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

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**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, 2020	0	0	0	1,109
2021 Adjustments to base:	0	0	0	0
2021 Base	0	0	0	0
plus: 2021 Program changes	0	0	0	0
2021 Estimate	0	0	0	0

	2019 Actual	2020 Enacted	2021 Base	2021 Estimate	Increase/Decrease from 2021 Base
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**Comparison by activity/subactivity:**

**with totals by activity**

	Pos./BA	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel
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	44	0	1,109	0	0	0	0	0	0
<b>Total</b>	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	44	0	1,109	0	0	0	0	0	0
Adjustments for:											
Recoveries			(298)								
Unobligated balance, start of year			(855)		(1,109)						
Unobligated balance transferred											
Unobligated balance, end of year					1,109						
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**  
**Public Safety Trust Fund**  
**SUMMARY OF RESOURCE REQUIREMENTS**  
(Dollar amounts in thousands)

	Positions	FTE	Budget Authority	Direct Obligations
President's Budget, 2020	0	6	0	54,305
2021 Adjustments to base:	0	0	0	0
2021 Base	0	6	0	7,881
plus: 2021 Program changes	0	0	0	0
2021 Estimate	0	6	0	7,881

		2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increases/Decreases from 2020 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
<b>Comparison by activity/subactivity: with totals by activity</b>											
Public Safety Trust Fund	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	2,881	0	48,000	0	2,000	0	2,000	0	0
First Responder Network Authority Administrative	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	1,729	0	250	0	250	0	250	0	0
National Telecommunications & Information Administration Program Administration & Implementation	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	5	2,041	5	5,655	5	5,088	5	5,088	0	0
National Telecommunications & Information Administration Next Generation 911	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	1	340	1	400	1	543	1	543	0	0
<b>Total</b>	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	6	6,991	6	54,305	6	7,881	6	7,881	0	0
Adjustments for:											
Recoveries			(1,025)								
Unobligated balance, start of year			(74,940)		(68,974)						
Unobligated balance transferred											
Unobligated balance, end of year			68,974		14,669						
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 Safety Trust Fund**  
**PROGRAM AND PERFORMANCE: DIRECT OBLIGATIONS**  
(Dollar amounts in thousands)

Activity: Public Safety Trust Fund

Line Item		2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increase/Decrease from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Public Safety Trust Fund	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	0	2,881	0	48,000	0	2,000	0	2,000	0	0
<b>Total</b>	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	0	2,881	0	48,000	0	2,000	0	2,000	0	0

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

Activity: FirstNet - Administration

Line Item		2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increases/Decreases from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
First Responder Network Authority Administration	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	0	1,729	0	250	0	250	0	250	0	0
<b>Total</b>	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	0	1,729	0	250	0	250	0	250	0	0

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

Activity: NTIA - Program Administration & Implementation

Line Item		2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increases/Decreases from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Program Administration and Implementation (NTIA)	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	5	2,041	5	5,655	5	5,088	5	5,088	0	0
<b>Total</b>	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	5	2,041	5	5,655	5	5,088	5	5,088	0	0

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

Activity: NTIA - Next Generation 911

Line Item		2019 Actual		2020 Enacted		2021 Base		2021 Estimate		Increases/Decreases from 2021 Base	
		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
Next Generation E-911, NTIA	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	1	340	1	400	1	543	1	543	0	0
<b>Total</b>	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl	1	340	1	400	1	543	1	543	0	0



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

Activity: Public Safety Trust Fund

<b>Object Class</b>	2019 Actual	2020 Enacted	2020 Base	2020 Estimate	Increase/Decrease from 2020 Base
11.1 Full-time permanent (Compensation)	843	863	890	890	0
11.3 Other than full-time permanent				0	0
11.5 Other personnel compensation	22			0	0
11.8 Special personnel services payments					
11.9 <b>Total personnel compensation</b>	865	863	890	890	0
12.1 Civilian personnel benefits	246	259	267	267	0
13 Benefits for former personnel					
21 Travel and transportation of persons	28	40	65	65	0
22 Transportation of things	1	1	1	1	0
23 Rent, communications and utilities					
23.1 Rental payments to GSA	0	190	190	190	0
23.2 Rental payments to others	257	257	257	257	0
23.3 Commun., util., and misc. charges	53	53	53	53	0
24 Printing and reproduction	3	3	3	3	0
25 Consulting and other services					
25.1 Advisory and assistance services	0	0	0	0	0
25.2 Other services from non-Federal sources	943	1,879	3,289	3,289	0
25.3 Purchase of goods and services from Gov't account	1,650	2,744	1,100	1,100	0
25.4 Operation of GOCOs	0	0	0	0	0
25.5 Research and development contracts	0	0	0	0	0

<b>Object Class</b>	2019 Actual	2020 Enacted	2020 Base	2020 Estimate	Increase/Decrease from 2020 Base
25.6 Medical care	0	0	0	0	
25.7 Operation & maintenance of equipment	4	4	4	4	0
25.8 Subsistence and support of persons	0	0	0	0	
26 Supplies and materials	11	12	12	12	0
31 Equipment	49			0	0
32 Lands and structures					0
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					
94 Expenditure Transfer	2,881	48,000	2,000	2,000	0
<b>99.9 Total Obligations</b>	<b>6,991</b>	<b>54,305</b>	<b>8,131</b>	<b>8,131</b>	<b>0</b>
Less prior year recoveries					
Less prior year unobligated balance	(74,940)	(68,974)			
<b>Total Budget Authority</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
Personnel Data					
Full-Time equivalent Employment:					
Full-time permanent	6	6	6	6	0
Other than full-time permanent	0	0	0	0	0
Total	6	6	6	6	0
Authorized Positions:					
Full-time permanent	6	6	6	6	0
Other than full-time permanent	0	0	0	0	0
Total	6	6	6	6	0

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

<b>Comparison by activity:</b>			2019		2020		2021		2021		Increases/Decreases	
			Actual		Enacted		Base		Estimate		from 2021 Base	
<b>State and Local Implementation Fund</b>			Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
<u>Reimbursable Projects</u>												
State and Local Implementation Grant	Pos./BA		0	0	0	0	0	0	0	0	0	0
Fund Administration	FTE/Obl.		4	22,968	5	2,369	5	2,485	5	2,485	0	0
<b>Total, Reimbursable Projects</b>												
	Pos./BA		0	0	0	0	0	0	0	0	0	0
	FTE/Obl.		4	22,968	5	2,369	5	2,485	5	2,485	0	0

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

<b>Comparison by activity:</b>		2019		2020		2021		2021		Increases/Decreases	
		Actual		Enacted		Base		Estimate		from 2021 Base	
<b>Network Construction Fund</b>		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
<u>Reimbursable Projects</u>											
First Responder Network Authority	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	35,402	0	53,140	0	4,000	0	4,000	0	0
NTIA Opt-Out	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	0	0	0	0	0	0	0	0	0
<hr/>											
<b>Total, Reimbursable Projects</b>	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	0	35,402	0	53,140	0	4,000	0	4,000	0	0

**Department of Commerce**  
**National Telecommunications and Information Administration**  
**First Responder Network Authority**  
**SUMMARY OF REIMBURSABLE OBLIGATIONS**  
(Dollar amounts in thousands)

<b>Comparison by activity:</b>		2019		2020		2021		2021		Increases/Decreases	
		Actual		Enacted		Base		Estimate		from 2021 Base	
<b>First Responder Network Authority</b>		Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount	Personnel	Amount
First Responder Network Authority	Pos./BA	0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	200	30,997	258	448,711	258	120,000	258	120,000	0	0
<b>Total, Reimbursable Projects</b>		0	0	0	0	0	0	0	0	0	0
	FTE/Obl.	200	30,997	258	448,711	258	120,000	258	120,000	0	0

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**Department of Commerce  
National Telecommunications and Information Administration  
FY 2021 ANNUAL PERFORMANCE PLAN / REPORT (APPR) BACKUP**

**Overview of Bureau Accomplishments**

**SO 2.3: Domestic and International Policies.**

- Created a campaign strategy that led to the election of the Director of the International Telecommunication Union (ITU), which will be the first woman elected in the Union's 153-year history.
- Accomplished adoption of the four-year strategic and financial plan at the 2018 Plenipotentiary Conference, with the U.S. delegation influencing positions and language on cybersecurity, Internet governance issues, and over-the-top (OTT) services, all of which were high priorities for the U.S. government and industry.
- OIA successfully scoped and negotiated Artificial Intelligence principles at the Organization for Economic Cooperation and Development (OECD).

**SO 1.2: Spectrum Management.**

- Implementation of the Presidential Memorandum on Developing a Sustainable Spectrum Strategy for America's Future.
- Initiated the review of the current use and future spectrum requirements for Federal agencies.
- Launched, in collaboration with the FCC, the initial deployment of the Citizens Broadband Radio Service (CBRS) for mobile broadband wireless use, which uses innovative spectrum access systems for both general access and licensed operators.

**SO 1.2: Advanced Communications Research.**

- Performed crucial testing to enable initial commercial deployment of devices operating in the CBRS spectrum, expanding the availability of licensed spectrum below 4 GHz by about 16%, at a market value estimated by the CBRS Alliance at \$7.5 to \$15.6 billion. The 3.5 GHz band offers a unique mix of capacity and coverage capabilities, making it a potential "sweet spot" for innovative services including Broadband, 5G and Internet of Things.
- ITU adopted software developed by NTIA as the global standard to optimize radiofrequency (RF) spectrum sharing between air and ground systems across a broad range of frequencies.

**SO 2.3: BroadbandUSA.**

- NTIA served as the co-chair of the American Broadband Initiative (ABI) and launched in February 2019 with its milestone 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 98 technical assistance engagements across 30 states/territories.
- Increased participation to 47 states involved in Broadband's State Broadband Leaders Network (SBLN).

#### **SO 3.4: Public Safety – Mandatory.**

- Nearly 9,000 public safety agencies, accounting for more than 750,000 FirstNet connections, have subscribed to the FirstNet Nationwide Public Safety Broadband Network (NPSBN) in March of 2017.
- As of August 2019, Band 14 deployment was 65% complete and available in 650 markets across the U.S, delivering buildout pace well ahead of the contracted schedule.
- FirstNet released its inaugural Roadmap in August 2019 that identifies the work to advance the FirstNet network over a multiyear horizon and delivers a differentiated broadband communications experience for public safety.
- In March 2019, the FirstNet Board approved a set of Network investment principles that provide guidance for investments for the future.

#### **Planned Actions for FY 2021**

- **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; and (3) coordinate critical international spectrum issues that impact U.S. businesses, consumers, and government agencies.
- **Advanced Communications Research.** ITS 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:

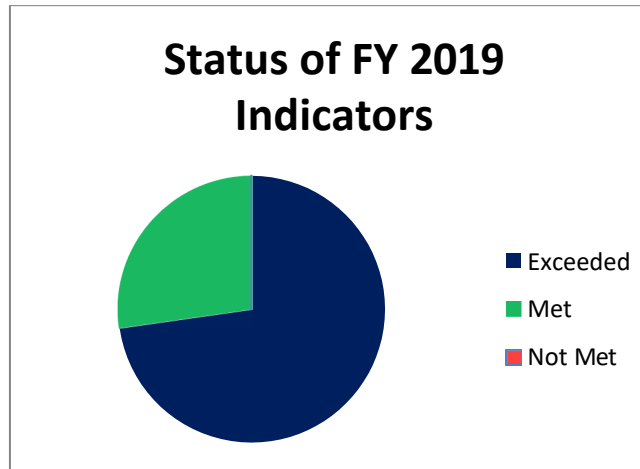
- NTIA’s domestic and international policy group plays a critical role in representing the United States in multiple treaty-based meetings to provide leadership and advance U.S. national economic and technology policies. The metric “*% of NTIA positions substantially adopted or successful at international 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 FY 20 and FY 21** – In FY20 and FY21, NTIA has requested to discontinue several measures and proposed new performance measures that better measure the program’s outcomes based on new Congressional and Presidential mandates. As our mission programs advance, NTIA has transitioned our performance measures to better align with this progression. 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.

**Evolution of the Performance Indicators** – In FY20 and FY21, NTIA has requested to discontinue several performance measures and proposed new ones that better measure the program’s outcomes based on new Congressional and Presidential mandates. As our mission programs advance, NTIA has transitioned our performance measures to better align with this progression and to increase the utility of the measures for periodic review with senior leadership.

### **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). The chart and table are embedded excel files. Status in the table is pre-calculated. Once actuals and targets are entered, the status cell will populate automatically.



<b>Strategic Objective</b>	<b>Indicator</b>	<b>FY 2019 Target</b>	<b>FY 2019 Actual</b>	<b>Status</b>
1.2	Number of times research publications are downloaded annually	7,000	7,300	Exceeded
1.2	Successfully completed deliverables under reimbursable agreements	95%	100%	Exceeded
1.2	Percentage of spectrum assignments transitioned on time, based on approved plans	75%	96%	Exceeded
1.2	Create a pipeline of spectrum for mission-critical government services and commercial providers	66%	71%	Exceeded
2.3	In coordination with DOC operating units, conduct outreach activities with the government, industry, and multi-stakeholder groups to identify and address privacy and global free flow of information issues	6	10	Exceeded
2.3	Percentage of NTIA positions substantially adopted or successful at international meetings	75%	89%	Exceeded
2.3	Number of pilot states providing data to NTIA to populate Congressionally mandated Broadband map	8	8	Met
2.3	Communities to which NTIA provide technical assistance	170	175	Exceeded
2.3	Project impact on the number of hospitals, K-12 schools, and students in areas where NTIA is providing broadband project support (# of CAIs metric)	7,000	7,000	Met
2.3	Project impact on the number of hospitals, K-12 schools, and students in areas where NTIA is providing broadband project support (# K-12 schools metric)	3,150,000	3,200,000	Exceeded
2.3	Project impact on the number of hospitals, K-12 schools, and students in areas where NTIA is providing broadband project support (# Hospitals metric)	1,250	1,500	Exceeded
3.4	Percentage of planned coverage achieved	20%	20%	Met

**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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target	7300	7500	8000	7000	7000	7000	7000
Actual	8960	8748	8089	7553	7300		
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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target	95%	95%	95%	95%	95%	95%	95%
Actual	99%	99%	99%	100%	100%		
Status*	Exceeded	Exceeded	Exceeded	Exceeded	Exceeded		

Indicator	Percentage of spectrum assignments transitioned on time, based on approved plans						
Strategic Goal	Accelerate American Leadership (#1)						
Objective	Advance Innovation (# 1.2)						
Program Activity Name	Spectrum Management						
Indicator Class	Discontinued						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a <b>brief</b> explanation of the data source						
Description	Create a sustainable pipeline of spectrum for commercial wireless services, while ensuring sufficient spectrum is available for mission-critical government services. Leveraging advanced technical research and key assessment of prioritized spectrum bands, NTIA will verify Federal agencies transition plan compliance with requirements and oversee execution of approved plans to ensure on-time relocation or implementation of spectrum sharing opportunities between Federal agencies and industry to foster economic innovation and growth.						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target				80%	75%	DISC	
Actual				92%	96%		
Status*				Exceeded	Exceeded		

Indicator	Create a pipeline of spectrum for mission-critical government services and commercial providers						
Strategic Goal	Accelerate American Leadership (# 1)						
Objective	Advance Innovation (# 1.2)						
Program Activity Name	Spectrum Management						
Indicator Class	Discontinued						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a <b>brief</b> explanation of the data source						
Description	Create and institutionalize enduring processes that foster full, efficient, and effective use of radio spectrum and result in a pipeline that provides sufficient spectrum access opportunities to meet the increasing needs of the Federal Government, State and Local entities providing mission critical services, as well as commercial wireless services. The required ongoing analyses combined with various possible band-repurposing options results in a new set of deliverables each fiscal year. NTIA will establish at the beginning of each fiscal year the set of expected deliverables to complete this complex project.						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target				66%	66%	DISC	
Actual				75%	70%		
Status*				Exceeded	Exceeded		

Indicator	Percentage of timely implementation of Presidential Memorandum within 3 years						
Strategic Goal	Accelerate American Leadership (#1)						
Objective	Advance Innovation (#1.2)						
Program Activity Name	Spectrum Management						
Indicator Class	Proposed New						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a <b>brief</b> explanation of the data source						
Description	<p>Pursuant to the Presidential Memorandum, NTIA will modernize the current spectrum access ecosystem by:</p> <ol style="list-style-type: none"> <li>1) Documenting current spectrum use and future requirements</li> <li>2) Establishing the data and tools needed to automate spectrum management functions and securely make them as transparent and predictable as practicable</li> <li>3) Updating spectrum access policies to provide greater flexibility and incentivize efficiency</li> <li>4) Enhancing spectrum enforcement mechanisms</li> <li>5) Pursuing workforce development initiatives that are critical to long-term success</li> </ol>						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						50%	35%
Actual					<i>New</i>		
Status*							



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	Proposed New						
Type	Outcome						
Source	Provide a link directly to the data or a <b>brief</b> explanation of the data source						
Description	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.						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						15%	30%
Actual					New		
Status*							

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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target	6	6	6	6	6	6	6
Actual	10	10	7	11	10		
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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target	75	75	75	75	75	75	75
Actual	95	95	95	91	89		
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	Proposed New						
Type	Output						
Source	Provide a link directly to the data or a <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target					8	8	14
Actual					8		
Status*					Met		

Indicator	Communities to which NTIA provides 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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target	175	250	250	145	170	193	193
Actual	337	449	400	217	175		
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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target (CAIs)					7,000	7,700	7,700
K-12					3,150,000	3,400,000	3,400,000
Hospitals					1,250	1,350	1,350
Actual (CAIs)				6300	7,000		
K-12				2,875,000	3,200,000		
Hospitals				1,150	1,500		
Status*					Met		

Indicator	Percentage of public safety adoption targets achieved						
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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						50% of 2023 target	60% of 2023 target
Actual					N/A		
Status*							

Indicator	Percentage of planned coverage achieved						
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 <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target					20% of 2023 target	60% of 2023 target	80% of 2023 target
Actual					20%		
Status*							



Indicator	Percentage of States and Territories that will continue critical coordination activities regarding wireless broadband and FirstNet beyond NTIA's availability of grantfunds						
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	Proposed New						
Type	Intermediate Outcome						
Source	Provide a link directly to the data or a <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						33%	50%
Actual					New		
Status*							

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	Proposed New						
Type	APG						
Source	Provide a link directly to the data or a <b>brief</b> 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 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						18%	5%
Actual					New		
Status*							

Indicator	Percentage of time ITD services (e.g., internet, email, applications, websites) are available to NTIA stakeholders, reducing downtime						
Strategic Goal	Deliver Customer-Centric Service Excellence (#5)						
Objective	Engage Commerce Employees (#5.1)						
Program Activity Name	Internal Administrative - Customer Service						
Indicator Class	Proposed New						
Type	Customer Service						
Source	Provide a link directly to the data or a <b>brief</b> explanation of the data source						
Description	The metric provides a broad indicator as to how well ITD is delivering core IT infrastructure services to NTIA staff and other stakeholders. The metric is calculated monthly, based on incident reports generated by the footprints system as well as after action reports developed by the ITD Operations Branch.						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						85%	99%
Actual					New		
Status*							

Indicator	Percentage of invoices reviewed, approved, and submitted to NIST within seven business days						
Strategic Goal	Deliver Customer-Centric Service Excellence (#5)						
Objective	Engage Commerce Employees (#5.1)						
Program Activity Name	Internal Administrative - Customer Service						
Indicator Class	Proposed New						
Type	Customer Service						
Source	Provide a link directly to the data or a <b>brief</b> explanation of the data source						
Description	The Management Division will provide timely acquisition services and support to NTIA program offices as measured by procurement request reviews and invoice management						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						75%	90%
Actual					New		
Status*							

Indicator	Improve existing processes every six-month intervals to achieve a more streamlined workflow and greater efficiency.						
Strategic Goal	Deliver Customer-Centric Service Excellence (#5)						
Objective	Engage Commerce Employees (#5.1)						
Program Activity Name	Internal Administrative - Customer Service						
Indicator Class	Proposed New						
Type	Customer Service						
Source	Provide a link directly to the data or a <b>brief</b> explanation of the data source						
Description	Use staff time more efficiently and move from low-value to higher-value work						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	FY 2020	FY 2021
Target						25%	25%
Actual					New		
Status*							