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REAUTHORIZATION OF NTIA

THURSDAY, FEBRUARY 2, 2017

House of Representatives

Subcommittee on Communications and Technology

Committee on Energy and Commerce

Washington, D.C.

The subcommittee met, pursuant to call, at 10:45 a.m., in Room 2322 Rayburn House Office Building, Hon. Marsha Blackburn [chairman of the subcommittee] presiding.

Present: Representatives Blackburn, Lance, Shimkus, Latta, Guthrie, Olson, Kinzinger, Bilirakis, Johnson, Flores, Brooks, Collins, Cramer, Walters, Costello, Doyle, Welch, Clarke, Loeb sack, Ruiz, Dingell, Engel, Butterfield, and McNerney.

Staff present: Gene Fullano, Detailee, Telecom; Kelsey Guyselman, Counsel, Communications and Technology; Dan Schneider, Press Secretary; Evan Viau, Staff Assistant; Gregory Watson, Legislative Clerk, Communications and Technology; Alex

1     Debianchi, Minority Telecom Fellow; David Goldman, Minority Chief  
2     Counsel, Communications and Technology; Jerry Leverich, Minority  
3     Counsel; and Lori Maarbjerg, Minority FCC Detailee.

1 Mrs. Blackburn. Good morning, everyone.

2 We are delighted that you all are here and that you're joining  
3 us as the Communications and Technology Subcommittee is kicking  
4 off the 115th Congress.

5 I guess kick off is the right word to use because we are  
6 looking at the Super Bowl this weekend. So everybody pick your  
7 team.

8 Our subcommittee features a few new faces and also some  
9 familiar faces in new roles, and before we begin I'd like to take  
10 a moment for a brief introductions.

11 Mr. Lance is our vice chairman and he is going to be a valuable  
12 partner in all of our endeavors. His understanding on the issues  
13 and his experience as a senior member of this committee will be  
14 a great asset to us on the subcommittee.

15 I am also excited to introduce the new Republican member  
16 of the subcommittee, Mr. Flores, Ms. Brooks, Ms. Walters, Mr.  
17 Costello. We welcome their eagerness and their talents to these  
18 issues.

19 I want to congratulate Mr. Doyle, the new ranking member.  
20 He has been consistently active on these issues through the years.  
21 I am looking forward to working with him.

22 As I have so focused on these coms and technology issues I've  
23 appreciated the fact that Mr. Doyle kind of like me chose to opt  
24 himself in to the discussion on these issues and he is joined by  
25 three new members on his side.

1 I know that he will -- he is going to be ready to introduce  
2 them in a few moments. Let me begin with my opening statement.  
3 Get myself organized here.

4 As we continue the subcommittee's work, modernizing the laws  
5 around communications and technology and striving to promote  
6 innovation and investment it only makes sense to begin by taking  
7 a look at one of the agencies tasked with developing  
8 telecommunications policy.

9 The last NTIA reauthorization was adopted in, get this, 1992.  
10 It is far past time that we again reauthorize the agency and the  
11 first step in the process is to examine the role of the agency  
12 past, present and future in crafting policies that will achieve  
13 our shared goals.

14 We are pleased to have three witnesses today that can speak  
15 to their experiences as head of the NTIA. We are so grateful for  
16 your time and for your insights and I am certain they are going  
17 to give us the needed perspective on the work that the agency has  
18 done and also, hopefully, give us some good ideas on how to empower  
19 the NTIA going forward.

20 One of the biggest bipartisan priorities for the  
21 subcommittee over the years has been satisfying the demand for  
22 additional spectrum for commercial use.

23 As the FCC winds down the broadcast incentive auction, one  
24 of the last opportunities for reallocation of commercial spectrum  
25 to other commercial users we are again turning our focus to

1 federally-held spectrum. The government holds a large amount of  
2 spectrum and we recognize that they require much of it for  
3 carrying out critical government missions.

4 However, we also want to be certain that the government is  
5 armed with the best technology and is using that spectrum as  
6 efficiently as possible. The dividend from this investment in  
7 our government agencies will be more spectrum to meet more  
8 broadband demands.

9 Broadband deployment is America's greatest infrastructure  
10 challenge of this decade and it is up to us to rise to the occasion  
11 of meeting this demand.

12 We will have long said that spectrum will need to be an above  
13 -- all of the above solution and NTIA will be an essential player  
14 in any discussion moving forward. In addition to spectrum  
15 policy, NTIA plays a leading role in public safety and  
16 cybersecurity policy.

17 They serve as a liaison for interagency cooperation and  
18 standard setting in both of these areas promoting safer and more  
19 secure communications networks.

20 We have seen time and again in recent months how serious cyber  
21 threats are we will need to use all our tools -- all of our tools  
22 to combat these attacks, especially when it comes to critical  
23 infrastructure.

24 NTIA has the capability to bring together a diverse group  
25 of government stakeholders to address the problem and develop best

1 practices. We must ensure that we empower them to be effective  
2 and efficient in combating cyberattacks and promoting strong  
3 public safety networks.

4 The communication sector is vibrant, thriving and the  
5 government agencies that handle these issues should reflect that.

6 Today, we are going to look at how to enable the NTIA to craft  
7 thoughtful telecom policy that promotes continued innovation and  
8 investment.

9 I thank our witnesses for their thoughtful testimony and I  
10 look forward to a robust discussion on this important agency and  
11 at this time I yield five minutes to the ranking member.

12 Mr. Doyle. Well, I want to thank you, Madam Chair, for  
13 holding this hearing and I want to congratulate you on your new  
14 role. I look forward to working with you and having a productive  
15 partnership and I am glad you like opt in. I do, too.

16 I also want to -- I also want to thank my colleagues on the  
17 committee for giving me this opportunity and introduce our two  
18 new members, Raul Ruiz from California and Debbie Dingell from  
19 Michigan -- both good members and I think will be good members  
20 for this committee.

21 I want to thank the outstanding panel that's here today. We  
22 look forward to your testimony. As the chair said, we are here  
23 today to discuss reauthorizing the National Telecommunications  
24 and Information Administration, an agency charged with providing  
25 the president and the executive branch with fact-based expert

1 policy recommendations on telecommunications, information and  
2 internet issues.

3 NTIA is also responsible for managing the federal  
4 government's use of spectrum and it has been instrumental in  
5 clearing government-held spectrum and making it available for  
6 commercial use.

7 In the process, tens of billions of dollars have been raised  
8 for the federal government. NTIA is also working with federal  
9 agencies to find new and creative ways to share underutilized  
10 spectrum resources and that's important because maximizing our  
11 finite spectrum resources will be critical as we move to the fifth  
12 generation wireless networks and beyond.

13 NTIA's Institutes for Telecommunication Sciences located in  
14 Colorado are key to this mission. Last year, the funding for this  
15 lab was 23 percent below the president's request. Our lack of  
16 investment here could have serious implications for this agency's  
17 ability to accomplish its mission.

18 We want to ensure that this agency has the authority, the  
19 tools and the personnel it needs to do its job. NTIA also plays  
20 a critical role in convening government agencies, industry  
21 experts and academics to tackle complex problems through their  
22 multi-stakeholder process.

23 This process has been used to address evolving issues such  
24 as cybersecurity, the internet of things, UAVs and many others.

25 This is a well-managed, orderly and inclusive process that

1 enables the federal government to thoroughly grasp and  
2 effectively address complex issues, and more than that, this  
3 agency has repeatedly proved its worth beyond just clearing  
4 spectrum.

5 Under the leadership of our panel, NTIA ran the DTV converter  
6 coupon program and the BTOP program to deploy broadband  
7 infrastructure and stood up FirstNet, the public safety broadband  
8 network authority.

9 They have learned valuable lessons along the way. BTOP is  
10 now Broadband USA, a program to help communities expand broadband  
11 and promote its adoption.

12 My hope is that as we talk about infrastructure investment  
13 in this country we look to agencies like NTIA which have extensive  
14 experience in this area to help manage and direct these  
15 investments for our future.

16 My hope in reauthorizing NTIA is that we empower this agency  
17 to continue doing its job and that they continue to have a seat  
18 at the table and continue to provide fact-based advice to the  
19 president and others.

20 Madam Chair, I'd like to ask unanimous consent to enter this  
21 letter from the Electronic Privacy Information Center into the  
22 record.

23 Mrs. Blackburn. So ordered.

24 [The information follows:]  
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1 Mr. Doyle. Thank you, and I would like to yield the  
2 remainder of my time to my colleague, Ms. Matsui.

3 Ms. Matsui. Thank you very much, Mr. Doyle, for yielding  
4 me time.

5 Today's digital economy demands that we bolster the  
6 invisible infrastructure supporting wireless connectivity.  
7 Spectrum is the building block for innovation.

8 Working with NTIA we made significant progress in the last  
9 eight years to free up federal spectrum for commercial use.  
10 Congressional oversight and cooperation from the administration  
11 was critical. As a result, we made 300 megahertz of spectrum  
12 available for the wireless broadband.

13 We must have continued leadership from both branches of  
14 government including leaders at the agencies like the Department  
15 of Defense to expand this progress.

16 We all know there is much more work to be done. The United  
17 States must lead the world in 5G and I look forward to working  
18 with my colleagues to free up more of our nation's airwaves for  
19 the wireless economy.

20 We have always been a nation of innovators and our spectrum  
21 policies should be no exception. With that, I yield back to the  
22 ranking member.

23 Mrs. Blackburn. The gentleman yields back his time.

24 Chairman Walden is not here for his opening. Is there any  
25 member that would choose to take a portion of his time? Then let

1 me reserve that in case he makes it up and at this time -- Mr.  
2 Pallone had requested time. Is that not correct?

3 Mr. Doyle. Could I -- could I claim his time to yield for  
4 one more minute?

5 Mrs. Blackburn. Absolutely you can claim the time and  
6 yield.

7 Mr. Doyle. Thank you, Madam Chair. I appreciate it.

8 Is there any member of the subcommittee that would like to  
9 have time?

10 Mr. Ruiz. Chair.

11 Mr. Doyle. Yes, I'll yield to Mr. Ruiz.

12 Mr. Ruiz. Thank you, Chairwoman and Ranking Member.

13 In today's digital age, access to broadband internet is not  
14 a luxury. It is a great equalizer that gives millions of  
15 Americans the opportunity to pursue their education, find a job  
16 and achieve their dreams.

17 But the fact is there are severe disparities in the  
18 deployment of broadband in my district and across the U.S., felt  
19 most acutely in rural areas and on tribal land.

20 The National Telecommunications and Information  
21 Administration, or NTIA, has been instrumental in closing this  
22 digital divide and I am pleased to be here today to discuss how  
23 we can build upon their successes to better serve our  
24 constituents. And particularly, I want to highlight NTIA's  
25 Broadband USA initiative launched in 2015 which empowers local

1 communities and tribes to expand their broadband capacity and  
2 promote broadband adoption through online and in person technical  
3 assistance, regional workshops and guides and toolkits with best  
4 practices for achieving success.

5 This is a program that supports local solutions supported  
6 by evidence-based best practices and technical assistance and is  
7 a model that we should all be able to support.

8 I thank the ranking member again for the opportunity to speak  
9 briefly about this critical program and look forward to working  
10 together with the members of this subcommittee to find solutions  
11 that move our nation forward into the digital age.

12 Thank you, and I yield back.

13 Mr. Doyle. Thank you. I'd like to yield some time to Ms.  
14 Dingell, too.

15 Ms. Dingell. Thank you, Ranking Member, for yielding to me  
16 and I'd like to thank the chairman for holding this hearing today.

17 I know this subcommittee oversees much of the new technology  
18 that's reshaping our great nation and NTIA in particular has  
19 helped usher in this new era of connectivity through its work  
20 supporting broadband deployment and clearing our airwaves.

21 Every day new high-tech marvels are unveiled including connected  
22 and automated vehicles, which I care a great deal about, which  
23 have the promise of reducing energy consumption and saving lives  
24 on the road.

25 The continuing technological revolution is creating many new

1 jobs and bringing other benefits to society. But for all the good  
2 this innovation brings to consumers in our economy, we have to  
3 ensure that no American is left behind in this new technological  
4 era.

5 As this transition occurs, we have got an obligation to use  
6 every tool at our disposal to create jobs and get people back to  
7 work. We are going to need to train Americans for the new jobs  
8 that need filling and if any agency's up to the task of helping  
9 to solve this problem I know NTIA is.

10 Keeping Americans on the job is critical to this new economy.  
11 It's going to be a major focus for me on this subcommittee. I  
12 thank the ranking member and yield back the time.

13 Mr. Doyle. Thank you. Does anyone else seek time?

14 Mr. McNerney.

15 Mr. McNerney. Well, again, I thank the ranking member.

16 The NTIA is the agency that's going to be advising the  
17 president on internet policies, on privacy and security. These  
18 are really important functions, especially in the age of our  
19 internet of things -- the IOT.

20 So I really advocate for a strong agency that has the  
21 resources to do the research and to develop policy recommendations  
22 that will make internet more competitive and will keep America's  
23 lead in the internet activities and telecommunications  
24 activities.

25 So we have a couple of issues like the broadband map, I think,

1 which needs to be updated so that we have the proper information,  
2 security and privacy. Very, very important.

3 I've worked with the chairwoman of this committee on this  
4 issue and I look forward to working with you again on that. But,  
5 again, I advocate that we have a strong NTIA to help us move forward  
6 working with the administration.

7 Mrs. Blackburn. Gentleman yields back.

8 Mr. Doyle. I yield back. Thank you.

9 Mrs. Blackburn. And this concludes our member opening  
10 statements. I do remind all members that you've got five days  
11 for submitting those opening statements.

12 They are all going to be made a part of the record and we  
13 know that several of our members are on the member bus coming back  
14 from the prayer breakfast and they are not here at this time.

15 We want to thank our witnesses for being here with us today  
16 and for taking their time and for submitting that testimony early.  
17 That's always a good thing.

18 Our panel features three witnesses who are testifying today  
19 in their capacity as former administrators of the NTIA.

20 They are the Honorable John Kneuer, who served as the  
21 assistant secretary of commerce for communications and  
22 information and administrator of NTIA from February 2006 to  
23 November 2007. Welcome.

24 The Honorable Meredith Attwell Baker, who served as the  
25 acting assistant secretary of commerce for communications and

1 information and acting administrator of NTIA from November 2007  
2 to January 2009. Welcome.

3 And Ms. Anna Gomez, who was the acting assistant secretary  
4 of commerce and acting administrator of NTIA from February 2009  
5 to June 2009. Ms. Gomez continued to serve the NTIA as deputy  
6 assistant secretary and deputy administrator of the NTIA until  
7 2013.

8 We appreciate all of you, each of you being here today and  
9 preparing for this. We will begin the panel with you, Mr. Kneuer.  
10 You are now recognized for five minutes to give an opening  
11 statement.

1 STATEMENTS OF THE HONORABLE JOHN M.R. KNEUER, FORMER ASSISTANT  
2 SECRETARY FOR COMMUNICATIONS AND INFORMATION, FORMER  
3 ADMINISTRATOR, NTIA, PRESIDENT AND FOUNDER, JKC CONSULTING; THE  
4 HONORABLE MEREDITH ATTWELL BAKER, FORMER ACTING ASSISTANT  
5 SECRETARY FOR COMMUNICATIONS AND INFORMATION, FORMER ACTING  
6 ADMINISTRATOR, NTIA, PRESIDENT AND CEO, CTIA; ANNA M. GOMEZ,  
7 FORMER ACTING ASSISTANT SECRETARY FOR COMMUNICATIONS AND  
8 INFORMATION, FORMER ACTING ADMINISTRATOR, NTIA, PARTNER, WILEY  
9 REIN

10  
11 STATEMENT OF MR. KNEUER

12 Mr. Kneuer. Thanks very much.

13 Good morning, Chairman Blackburn, Ranking Member Doyle,  
14 members of the committee. It was indeed my privilege to serve  
15 at NTIA as both the deputy and the assistant secretary from 2003  
16 to 2007.

17 Since that time in private life I have served as a board  
18 member, a consultant and an advisor to various companies and  
19 institutions that have an interest in telecommunications and  
20 technology markets.

21 But I want to stress I am here today in my personal capacity  
22 and all of my views are my own.

23 So while NTIA has developed a diverse portfolio of issues  
24 over time, its core mission can really be broken down into two  
25 functions -- the policy coordination and policy advisory for the



1 president function and as the manager of the federal government  
2 spectrum.

3 Because of this dual responsibility, NTIA occupies an  
4 important intersection of telecommunications policy in industry  
5 as well as our national and homeland security.

6 But to be most effective I think any reauthorization statute  
7 should focus NTIA on those areas where its core competency can  
8 be leveraged to maximum effect.

9 With regards to policy coordination and development, under  
10 the existing statute NTIA administrator serves as the president's  
11 principal advisor on telecommunications policies pertaining to  
12 the nation's economic and technological advancement and to the  
13 regulation of the telecommunications industry.

14 This is a very, very broad mandate that can be read to include  
15 essentially policy area that affects the telecommunications and  
16 technology markets.

17 However, in my experience at NTIA I think it's at its most  
18 effective when it focuses its policy coordination efforts on those  
19 areas of its unique responsibility, namely, this intersection of  
20 commercial and government interests.

21 Now, one very obvious example is with regard to cyber.  
22 Cybersecurity is an issue that cuts across commercial interest  
23 as well as very important government equities. By providing the  
24 perspective of industry and the experience that NTIA has there  
25 into the interagency process, NTIA can help bridge the gap between

1 the executive branch interests and executive branch entities that  
2 have national and homeland security responsibilities and the key  
3 private sector interests that also support our collective cyber  
4 defenses.

5 Similarly, NTIA can serve as a conduit from government  
6 agencies with cyber experience back into the private sector so  
7 they have that information flow as well.

8 With regards to spectrum management, you know, I think as  
9 Secretary-designee Ross stated in his confirmation hearing  
10 testimony, the Department of Commerce has to work with Cabinet  
11 departments to free up more spectrum to meet our critical demand  
12 for broadband, and it's not just broadband but it's also  
13 autonomous vehicles, the internet of things, the range of  
14 spectrum-dependent industries that are proliferating across the  
15 economy. All have spectrum demand and we need to manage that  
16 properly. But this doesn't have to be a zero sum transaction  
17 where industry's gain is agency's loss.

18 With thoughtfully crafted policies, Cabinet departments and  
19 agencies benefit both from commercial industry technological  
20 developments that produce not only spectrum efficiencies but also  
21 new mission critical capabilities for government services, and  
22 then the revenue from spectrum auctions can also be used to fund  
23 these critical government facilities and ease budget pressure.

24 Because of its exposure to both industry and government  
25 agencies, NTIA can help ensure that the spectrum relocation

1 results in both positive benefits for industry and the government,  
2 and I think it had been mentioned by multiple comments the ITS  
3 labs in Boulder can also help with cutting edge research in that  
4 regard.

5 There are, however, limits to NTIA's authority. As a  
6 sub-Cabinet agency in a single department it's beyond NTIA's  
7 authority to dictate to other Cabinet departments their spectrum  
8 and capital budget allocations and resources.

9 However, there is one section of the existing authorizing  
10 statute that I think should be examined for potential  
11 clarification in any future reauthorization.

12 Under existing law, NTIA is authorized to advise the director  
13 of OMB on the development of policies relating to the procurement  
14 and management of federal telecommunication systems.

15 In the past, this authority has been effective in combining  
16 NTIA's expertise with OMB's government wide authority to promote  
17 spectrum efficiencies. I think there is -- there is untapped  
18 potential in that relationship.

19 So, again, I appreciate the opportunity to testify and I'll  
20 remain available to the committee as you consider the  
21 authorization of this agency and I'll look forward to any  
22 questions.

23 [The statement of Mr. Kneuer follows:]

24  
25 \*\*\*\*\*INSERT\*\*\*\*\*

1           Mrs. Blackburn. I thank you, and Ms. Baker, you're  
2 recognized five minutes.

1 STATEMENT OF MS. BAKER

2  
3 Ms. Baker. Terrific. Good morning. My name is Meredith  
4 Attwell Baker and I'm president and CEO of CTIA.

5 I first wanted to offer my congratulations to both Chairman  
6 Blackburn and Ranking Member Doyle on your new roles. We applaud  
7 your longstanding commitment to ensuring that all Americans have  
8 access to global-leading communications.

9 As the head of an association that cares deeply about  
10 spectrum policy and as a previous acting administrator of NTIA,  
11 it's an honor to be a witness at this subcommittee's first hearing.

12 Your focus today on the reauthorization of NTIA rightfully  
13 underscores the importance of this organization to so many of our  
14 shared and bipartisan objectives.

15 Serving alongside my colleagues at NTIA was a distinct honor.  
16 I have the highest opinion of the talented, extremely talented  
17 and surprisingly small staff. From the digital television  
18 transition that I helped lead to the AWS-1 and AWS-3 auctions they  
19 helped enable, NTIA plays a critical role in our nation's  
20 communication future in close collaboration and with guidance  
21 from this committee.

22 While NTIA serves many important functions, I want to focus  
23 my remarks on spectrum. As a nation, we need to have advanced  
24 communication networks to support mission critical government  
25 programs and we need to continue to lead the world in commercial

wireless services.

NTIA plays a unique role seeking out win-win situations for government and commercial users. They leverage new technologies and auction revenues to provide government agencies more efficient and effective systems.

In doing so they provide our industry with access to critical new spectrum to better serve all of us. I hope this reauthorization process can help empower NTIA to advance its mission and ensure government and commercial users have the communications resources they need. I believe we can benefit from the lessons learned from prior reallocation efforts to strengthen NTIA's role.

First, we should ensure that NTIA has the technical resources and expertise it needs to serve as an impartial mediator of future spectrum disputes.

For example, I hope we focus on NTIA's engineering lab, ITS, and its ability to do cutting edge research with both government and commercial partners. The lab has always played an important role in AWS-1 and AWS-3 reallocation efforts.

Similarly, NTIA should be able to provide agencies with the R&D support needed to evaluate potential sharing and reallocation efforts. Hand in hand with those technical resources, NTIA would benefit from greater transparency tools to better hold agencies accountable for their spectrum use and to simplify this committee's important oversight role.

1 In my mind, given the importance of our sector to the economy  
2 it is also overdue to elevate the NTIA administrator to an Under  
3 Secretary level to better reflect their role as the president's  
4 principal advisor on communications.

5 Strengthening NTIA now is particularly important. We are  
6 about to have a revolutionary breakthrough in the next generation  
7 of wireless, known as 5G. These networks will be 10 times faster  
8 and five times more responsive than today's networks.

9 They will be able to support 100 times more wireless devices,  
10 from beacons to wearables, and that will unlock powerful benefits  
11 in communities of all sizes from Clarksville, Tennessee to  
12 McKeesport, Pennsylvania.

13 America's wireless industry is ready to make significant new  
14 investments to bring these benefits to communities all over the  
15 country.

16 One recent study estimates that wireless operators will  
17 invest \$275 billion over the next decade to deploy 5G. That  
18 investment is projected to create a new 5G job for every 100  
19 Americans -- three million total jobs.

20 In local communities, increased 5G connectivity will mean  
21 officials can more quickly respond to emergencies. It will make  
22 our roads safer. Smarter energy solutions will lower our monthly  
23 bills and mobile health care systems will instantly connect  
24 patients with doctors. The speed with which these benefits reach  
25 all Americans will largely depend on decisions made here in

1 Congress at NTIA and at the FCC. We need an infrastructure policy  
2 to support denser networks with new small cells, hopefully a  
3 future topic for another hearing soon.

4 And we need a plan for 5G spectrum with a clear pipeline of  
5 new commercial spectrum under NTIA's steady hand. The wireless  
6 industry is ready to invest in what's next.

7 We hope this committee will continue its record of helping  
8 make that happen, help us create jobs and, most relevant for today,  
9 help empower NTIA to provide for all Americans' communications  
10 needs.

11 Thank you.

12 [The statement of Ms. Baker follows:]

13  
14 \*\*\*\*\*INSERT\*\*\*\*\*



1 Mrs. Blackburn. I thank you.

2 Ms. Gomez, you're recognized for five minutes.

1 STATEMENT OF MS. GOMEZ

2  
3 Ms. Gomez. Good morning, Chairman Blackburn and Ranking  
4 Member Doyle, distinguished members of the subcommittee. Thank  
5 you for the opportunity to appear before you to share my thoughts  
6 regarding the important work NTIA performs.

7 I had the honor to serve as NTIA's deputy administrator from  
8 2009 through March 2013 and a short stint as acting administrator  
9 as well. I am proud to have served our nation alongside the many  
10 committed professionals at NTIA and the Department of Commerce.

11 Given technology's large and growing contribution to our  
12 broader economy, sound policy that supports investment and  
13 innovation is critical. NTIA has an important and often  
14 underappreciated portfolio in this regard.

15 First and foremost, Congress and through this committee's  
16 efforts in 1992 enshrined NTIA's authority to serve as the  
17 president's principal advisor on telecommunications.

18 As such, NTIA is responsible for formulating the  
19 administration's telecommunications and information policy, a  
20 role that has grown in importance and breadth with the evolution  
21 of a digital economy.

22 NTIA enables the federal agencies to have access to spectrum  
23 to meet their mission needs and has played an integral role in  
24 making additional spectrum for wireless broadband uses. NTIA  
25 also provides valuable research and analysis to inform efforts

1 to identify additional spectrum efficiencies and potential  
2 opportunities to increase spectrum access for all users.

3 With increasing demand for wireless technologies showing no  
4 signs of abating, the need for an experienced and knowledgeable  
5 manager of our federal agency spectrum resources is ongoing.

6 NTIA also play an important role in developing internet  
7 policy. American businesses in the digital space both large and  
8 small depend on an online ecosystem that has the confidence of  
9 all users.

10 NTIA should continue convening multi-stakeholder processes  
11 to address policies that affect the internet and it's also very  
12 important that NTIA be at the table in policy discussions both  
13 domestically and internationally related to practices that may  
14 affect the digital economy and that it continue its strong voice  
15 in the internet domain name system.

16 NTIA has also focused on increasing broadband access and  
17 adoption. The Broadband Technology Opportunities Program helped  
18 build lasting projects that increase access and adoption of  
19 broadband throughout the country.

20 NTIA also co-chairs the Broadband Opportunity Council, an  
21 interagency effort to produce recommendations to increase and do  
22 remove barriers to broadband deployment, competition and  
23 adoption.

24 And through its Broadband USA program NTIA sponsors a series  
25 of publications, webinars and conferences designed to help

1 stakeholders overcome broadband access and adoption obstacles.

2 NTIA also helps ensure that the nation's telecommunications  
3 resources adequately support the needs of public safety.

4 NTIA administers grants to promote Next Generation 911 and  
5 works with FirstNet, an initiative that is near and dear to my  
6 heart. I believe strongly in its mission to provide broadband  
7 services to all first responders.

8 NTIA also works with NIST on the public safety communications  
9 research program whose laboratories provide research,  
10 development, testing and evaluation to foster nationwide  
11 interoperability in communications.

12 These highly valuable programs will help provide the  
13 nation's public safety the technology they need to keep their  
14 communities and themselves safe.

15 In conclusion, NTIA should continue its important role  
16 coordinating federal policies in areas such as spectrum,  
17 broadband, internet policy, public safety and research. In an  
18 area like technology policy where there are many agencies with  
19 overlapping jurisdiction, it is critical to have an agency like  
20 NTIA to shepherd interagency activities and to bring some thought  
21 and rigor to priorities and interagency coordination so there is  
22 less duplication of effort.

23 One example is with policies regarding the internet of  
24 things. Myriad agencies have oversight over different  
25 components of the IOT. IOT implicates spectrum policy,

1 cybersecurity, privacy concern, among others.

2 In the absence of a central approach to governance, we risk  
3 having inconsistent and burdensome requirements. NTIA can and  
4 should play an important role in convening and guiding the  
5 numerous agencies and ensuring consistent federal policies that  
6 promote innovation.

7 NTIA also should continue its efforts to identify barriers  
8 to broadband deployment and to push interagency efforts to  
9 streamline processes or eliminate requirements that show down  
10 that deployment. In addition, NTIA is well positioned to manage  
11 any grants or other infrastructure funding that would promote  
12 broadband access and adoption. Any new program would benefit  
13 from the NTIA's prior expertise and experiences.

14 I want to thank you again for allowing me to share my thoughts  
15 with you this morning and I look forward to answering any questions  
16 you may have.

17 [The statement of Ms. Gomez follows:]

18  
19 \*\*\*\*\*INSERT\*\*\*\*\*

1 Mrs. Blackburn. The gentlelady yields back and we thank you  
2 all for being here.

3 We will now move to questions and Mr. Kneuer, I would like  
4 to begin my five minutes of questions with you.

5 As I've reviewed the testimony from each of you and we have  
6 looked at the number of different funds, and you alluded to this  
7 in your testimony and all of you did actually, how it is spread  
8 out over different agencies. And I know Commissioner O'Reilly  
9 at the FCC has also commented on his concerns with the way  
10 sometimes we don't have one hand knowing what the other hand is  
11 doing or the agency across the street hasn't coordinated.

12 And so as you were saying, Ms. Gomez, you end up with this  
13 duplication of effort. What I'd like to hear from you is how best  
14 can NTIA work to coordinate those funds and you mentioned --  
15 touched on this when you talked about advising the OMB director.

16 And then what would you propose for them as they look to  
17 coordinate those funds and utilize those dollars to the maximum?

18 Mr. Kneuer. Sure. I think, as you pointed out and Mr.  
19 O'Reilly pointed out, lack of coordination is a fundamental  
20 challenge and problem where you've got so many different pools  
21 of money under different control.

22 But I think there is also not just different institutions  
23 managing these pools of money. They sometimes have slightly  
24 different views and agendas. So some of these pools of money are  
25 for loans versus some are for grants, some are focused on

1 underserved areas versus unserved areas.

2 The -- I think the path is, and particularly as you consider  
3 reauthorization of NTIA, taking a broader look and collaborating  
4 with other committees of jurisdiction, working with the executive  
5 branch, working with OMB to the extent possible to bring these  
6 under a single area of planning and oversight so that the money  
7 that we are spending is focused, it's accountable.

8 It gets to with the highest priority on under -- on unserved  
9 area, places that really have no opportunity to take part in the  
10 broadband economy whether it is tribal lands or very rural areas  
11 but a consolidation and coordination of effort and I don't know  
12 if it'll be possible to make a singular place of focus. But the  
13 challenge is going to be to tighten it up as much possible.

14 Mrs. Blackburn. Okay. So singular point of focus -- if  
15 that's the goal then is NTIA the best place to house that?

16 Mr. Kneuer. In the executive branch I would certainly think  
17 that.

18 Mrs. Blackburn. You would say so? Okay. That's great.

19 Mr. Kneuer. You've got still the other options under the  
20 FCC. But NTIA, having the function of working directly with the  
21 FCC, is the one place in the executive branch that has the  
22 expertise. I think the logical locus would be NTIA.

23 Mrs. Blackburn. Okay.

24 Ms. Gomez, I saw you making notes so I know you have something  
25 you want to add.

1 Ms. Gomez. Actually, I was just making notes on what you  
2 said. But I agree that coordination is very important. One of  
3 the things that NTIA did with BTOP was it -- as part of its stage  
4 of reviews of grants was to make sure that it got input from  
5 industry and from the local governments and from others to make  
6 sure there was not duplication of efforts or that they were not  
7 targeting already served areas. There is always room for  
8 improvement but I do think it's a good role for NTIA.

9 Mrs. Blackburn. Okay.

10 Ms. Baker, I want to ask you a little bit about the 5G  
11 deployment. I see this is siting, utilization of health care  
12 informatics. I am from Nashville. This is something that people  
13 are working on every single day.

14 I -- and this is something we want to go quickly and I am  
15 about out of time and I really want to get through this. Is there  
16 anything that NTIA can and should do that would help facilitate  
17 the 5G deployment? And about 30 seconds on that because I've  
18 got one more item.

19 Ms. Baker. Absolutely. I am glad you asked the question.  
20 We can talk about health care in the future. But I think the  
21 things -- the core functions that NTIA serves to streamline siting  
22 would be very helpful, streamline and simplify siting these small  
23 sites that need to be put up for 5G is critical for the rapid  
24 deployment --

25 Mrs. Blackburn. Okay.



1           Ms. Baker.    -- and I think we are going to need more spectrum  
2 so we need to work on a spectrum pipeline for commercial wireless.

3           Mrs. Blackburn. That is terrific. I appreciate that, and  
4 what I want each of you to submit, since I am out of time, if you  
5 were the one with the pen and the pad working out the  
6 reauthorization of the NTIA and modernizing the agency, what would  
7 you see as the five critical items and what did you see as the  
8 biggest stumbling blocks?

9           If you'll submit that for the record then I will turn and  
10 yield five minutes to Mr. Doyle.

11          Mr. Doyle. Thank you very much.

12          Ms. Baker, I believe that spectrum like roads and bridges  
13 are part of our critical infrastructure and I am starting to work  
14 on some legislation to free up at least an additional 20 megahertz  
15 of federal spectrum below 3 gigahertz available for commercial  
16 use. Would that be something your association and industry would  
17 support?

18          Ms. Baker. Absolutely. I think it's -- the low-band  
19 spectrum is really critical. I think the FCC has done a good job  
20 this summer in bringing forth some high-band spectrum. But if  
21 you look at a place like Montana that hasn't been sited there is  
22 been a recent low-band spectrum that's been released there that  
23 has caused the deployment of siting in Montana.

24          So I think that's -- it is very important for the future that  
25 we have low, middle and high-band spectrum.

1 Mr. Doyle. Great.

2 Ms. Baker. So we absolutely support that.

3 Mr. Doyle. Well, Madam Chair, maybe that's something we can  
4 make part of this reauthorization or perhaps as a standalone or  
5 one of the proposed infrastructure packages. I'd certainly be  
6 interested in working with you on that if you're interested.  
7 Thank you.

8 Ms. Baker and Ms. Gomez, you both worked on spectrum issues.  
9 How important do you think it is that NTIA lab in Colorado is fully  
10 funded and tell us a little bit about what types of research the  
11 lab does and what role they play in freeing up federal spectrum  
12 and do you see that as critical to the future of federal spectrum  
13 policy?

14 Ms. Baker. I'll be happy to go first.

15 I think ITS -- as I mentioned in my testimony, I think ITS  
16 is a critical part of future questions in spectrum. I personally  
17 think that spectrum is a scarce resource. It's becoming more and  
18 more difficult as we move forward.

19 Someplace like ITS can help us figure out how the sharing  
20 -- how we can share where spectrum is critical and where it can  
21 be geographically shared or some other sort of sharing. It was  
22 very helpful in AWS-1 as well as AWS-3 to figure out how to move  
23 critical government agencies' missions to different spectrum.

24 Mr. Doyle. Ms. Gomez.

25 Ms. Gomez. I agree. ITS, which is the Institute for

1 Telecommunication Sciences, served as a valuable resource to  
2 NTIA's Office of Spectrum Management in identifying spectrum and  
3 how it's being used.

4 They perform spectrum services that -- spectrum surveys that  
5 assist with this kind of planning that we are talking about.  
6 Their deployable team and measurement system go to sites.

7 They identify sources of interference. They, as Meredith  
8 mentioned in her opening statement, performed spectrum occupancy  
9 measurements in support of the AWS auction preparations, which  
10 helped industry better understand the nature of the federal  
11 operations.

12 They perform system to system measurements. Basically, they  
13 are an objective and neutral arbiter of these issues -- technology  
14 issues, technical issues -- as we move forward with trying to  
15 identify more spectrum and trying to get more efficient usage of  
16 the spectrum we have today.

17 Mr. Doyle. Thank you. Let me ask you also, Ms. Gomez, as  
18 we look at the challenges of repacking stations as part of the  
19 incentive auction, do you believe that public telecommunications  
20 and facilities program if funded could play a role in assisting  
21 public stations and making the investments necessary to continue  
22 operating?

23 Ms. Gomez. Yes. As you know, that program was defunded  
24 some years ago and but it would have, if it were still funded,  
25 been able to provide valuable support to these public television

1 stations.

2 Mr. Doyle. And let me ask you all, too, during your time  
3 at NTIA what benefit did you see to having an agency act as an  
4 interagency coordinator on telecommunications and what can  
5 Congress do to strengthen that role to ensure that NTIA has a seat  
6 at the table when government agencies are discussing technology  
7 and telecommunications issues?

8 If you could each just take, like, maybe 10 seconds because  
9 I have one more question.

10 Ms. Gomez. So NTIA is in this unenviable role of trying to  
11 herd other federal agencies, not just with spectrum but with other  
12 policies, and pull them away from their own missions to try to  
13 provide resources for the administration's telecommunications  
14 policy and spectrum policies.

15 So anything Congress can do to help bolster NTIA's position  
16 vis-a-vis those other agencies would be very helpful.

17 Ms. Baker. I think NTIA's coordinating and convening role  
18 is critical. I think three things really will help NTIA. I think  
19 an elevation of title to Under Secretary helps.

20 I think transparency as to what they are working on will help  
21 and I think that being able to play the traffic cop for NTIA is  
22 also a very critical function that they perform.

23 Mr. Doyle. And let me just close by saying that, Ms. Baker,  
24 I received a letter from not only your association but several  
25 associations and I know this isn't relative to NTIA

1 reauthorization but asking us to use the Congressional Review Act  
2 to repeal FCC's privacy order.

3 I just want to say for the record that I was disappointed  
4 to get that letter from these associations and that you would urge  
5 Congress to use such a blunt and untested tool to remove privacy  
6 protections for hundreds of millions of Americans. I think there  
7 is a better way to work on that issue and I look forward to doing  
8 that with you.

9 Thank you, Madam Chair.

10 Mrs. Blackburn. Mr. Lance, you're recognized for five  
11 minutes.

12 Mr. Lance. Thank you very much, Madam Chair.

13 To the entire panel, the Spectrum Pipeline Act updated  
14 existing law to ensure federal agencies have the necessary  
15 resources to undertake research and development activities that  
16 would result in freeing up more spectrum for commercial mobile  
17 broadband.

18 The act provides very specific instructions on when and how  
19 the federal agencies may gain access to the \$500 million provided  
20 under the act.

21 To the distinguished members of the panel, how do you think  
22 NTIA could further safeguard the expenditure of this R&D fund so  
23 that it funds activities that would truly improve the efficiency  
24 and effectiveness of federal spectrum use?

25 Mr. Kneuer. There was originally money for similar purposes

1 in the Commercial Spectrum Enhancement Act as part of the  
2 relocation funds for agencies.

3 So agencies would get some of the auction revenue for  
4 relocation purposes and I think one of the challenges with that  
5 process is that agencies had expenditures they wanted to make that  
6 they believed would give them the ability to be more efficient  
7 going forward but it wasn't tied directly to their immediate  
8 relocation efforts.

9 They were looking for spending money on tools that they could  
10 apply in multiple scenarios with multiple different projects.

11 I think the money in the Pipeline Act sort of fills that  
12 purpose. I think for it to be -- to be most useful, again, it's  
13 coordination, having some ability to test, okay, how is that money  
14 being spent and, again, I think the ability for NTIA to be  
15 effective in an arbiter of that is leveraging their relationship  
16 with OMB, that you can export the expert authority of -- expert  
17 judgment of NTIA into the agency with the authority that can green  
18 light those projects, which would be OMB.

19 Mr. Lance. Very good.

20 Ms. Baker.

21 Ms. Baker. So I think -- I think John is right. I think  
22 one of the things that we have learned -- one of the lessons that  
23 he's learned is that the spectrum relocation fund shouldn't just  
24 fund the move.

25 It should fund the planning that goes into what a future move

1 should be and how that -- how that should be coordinated. So I  
2 think that's one of the lessons that we have learned that I think  
3 has been very good. I think that also the qualitative analysis  
4 that NTIA has done has been very good. But I think it's this  
5 committee that usually instructs.

6 If you pick two targets that NTIA can fulfil then and focus  
7 on, I think that oversight of this committee has really been  
8 critical to future spectrum allocations.

9 Mr. Lance. Thank you.

10 Ms. Gomez.

11 Ms. Gomez. I would say that the Spectrum Relocation Fund  
12 and the changes that were made in the -- in the Pipeline Act  
13 actually have helped motivate the agencies to think ahead and to  
14 plan. So it's an important process and I do think it was very  
15 important to provide the funding for that planning.

16 The technical panel that reviews these investments, so to  
17 speak, is already providing a lot of rigor to the process in  
18 determining the funding is being utilized for the reasons that  
19 it should be and I would not want to add more process to that,  
20 given that you have the voice of NTIA, OMB and the FCC as part  
21 of that process.

22 Mr. Lance. Thank you.

23 Ms. Gomez, you noted that the NTIA plays a critical role in  
24 public safety communications including a role in the future of  
25 the FirstNet public safety broadband network.

1 NTIA's role in public safety communications and in the  
2 FirstNet is relatively new. The last time NTIA was authorized  
3 there wasn't a FirstNet.

4 Given that fact, on what should we focus as we reauthorize  
5 NTIA regarding this critical component, moving forward?

6 Ms. Gomez. NTIA works with FirstNet. FirstNet is an  
7 independent agency but it's housed within NTIA, and then NTIA has  
8 some responsibilities that go hand in hand with FirstNet's  
9 responsibilities.

10 It is the one that approves or provides grants to the states.  
11 If states decide not to participate in the FirstNet deployment  
12 then NTIA is the one that will run that process and they will also  
13 be the ones that approve spectrum leases for any states that choose  
14 not to participate in the nationwide -- in the FirstNet deployment  
15 within the states.

16 So I think that NTIA will continue to have responsibilities  
17 to its overseers to respond to its particular role within the  
18 larger endeavor. It needs to support FirstNet to the greatest  
19 extent possible. It's a large undertaking. It's unprecedented.  
20 So this committee's oversight and support would be very important  
21 to it.

22 Mr. Lance. Thank you very much.

23 Madam Chair, I yield back two seconds.

24 Mrs. Blackburn. Way to go. We are running on time today.

25 Mr. Loeb sack, five minutes.



1           Mr. Loeb sack.   Thank you, Madam Chair.

2           I do want to thank the subcommittee for holding this hearing  
3 today and thank the witnesses for your expert testimony regarding  
4 the important role NTIA has to play in our nation's technology  
5 policy.

6           And again, I note that I can't believe it's been since 1992,  
7 although knowing how Congress works I guess it's not surprising.  
8 But so many things have changed since that time.   And so I really  
9 appreciate the chair's request that you provide in writing those  
10 five items about -- regarding modernization.

11          I think that makes complete sense, and then we can all have  
12 access to that so we know what we are talking about because so  
13 many things have changed, as Mr. Lance just said, with respect  
14 to FirstNet.

15          We didn't really have any of that.   In 1992 -- we didn't have  
16 a lot of things in 1992.   But I also want to make sure that I  
17 emphasize that when we do the reauthorization, assuming that we  
18 get there and that may be a big assumption, but when we get there  
19 make sure that we have the funding -- that we provide the funding  
20 for that reauthorization too because just going briefly over what  
21 NTIA does there is so much that it does and so the funding is going  
22 to be absolutely necessary.

23          I can -- I am from Iowa -- southeast Iowa.   I continue to  
24 harp on rural broadband.   I'll do that until my dying days, no  
25 doubt, even when I am not in Congress and, of course, yesterday

1 we had a great rollout of our bicameral bipartisan Rural Broadband  
2 Caucus.

3 We all know that upwards of 49 percent of rural America really  
4 isn't adequately provided for when it comes to the broadband --  
5 sufficient broadband.

6 And we really know that, obviously, around the country, the  
7 beginning of the 21st century we have to have that kind of coverage  
8 out there in rural America. Rural America simply will not  
9 survive, let alone thrive if we don't have broadband.

10 Everybody on this committee knows that. I appreciate even  
11 my -- the folks who are from the urban areas here who do support  
12 this extension of rural broadband -- expansion of rural broadband.

13 There is been a lot of talk on the infrastructure front, as  
14 we know, with the new president. I think we have bipartisan  
15 support for significant infrastructure improvements around the  
16 country and we are talking perhaps as much as \$20 billion for  
17 broadband development.

18 And I guess I'd like to ask all three of you, if you could,  
19 to kind of weigh in. You know, what are the lessons learned from  
20 NTIA's role in supporting broadband infrastructure development  
21 in the past?

22 How can these programs be updated, if you will, to bring more  
23 broadband to underserved communities, assuming that we -- and,  
24 again, it may be a big assumption but assuming in the coming months  
25 perhaps we get a pretty significant infrastructure investment in

1 broadband.

2 Can you speak to that, all of you, please?

3 Mr. Kneuer. Sure. I think, you know, one of the stats that  
4 Meredith referenced, close to \$300 billion in new cap ex from  
5 industry over a decade.

6 These industries are spending an enormous amount of money  
7 and they have incentives to spend a great deal of money. But that  
8 incentive is tied to places where they've got enough population  
9 density for their -- for their returns --

10 Mr. Loeb sack. Exactly.

11 Mr. Kneuer. -- on capital. So the challenge is to closely  
12 monitor and evaluate where those market failures exist.

13 Mr. Loeb sack. Right.

14 Mr. Kneuer. All of these companies are in competition with  
15 one another. The value of the network increases to the extent  
16 it can reach other places. It's more valuable to us in  
17 Washington, D.C. if we know that we can reach people in every part  
18 of rural America.

19 So there is certainly a will and a desire to spend private  
20 money. There is a manifest will and desire to lever the private  
21 money with government expenditures in those places that we can  
22 identify and I think it's going to be a combination of leveraging  
23 those two pools of capital in a focused way so that the money gets  
24 to people where it's needed and new incentives for the private  
25 sector to counter those market failures that may not be direct

1 expenditures of grants but it could be tax benefits and other  
2 things. But it's measuring, focusing and being deliberate about  
3 it.

4 Mr. Loeb sack. Thank you.

5 Ms. Baker.

6 Ms. Baker. So I think, as you know, I was privileged to be  
7 at the Rural Caucus roll-out --

8 Mr. Loeb sack. Thank you for being there.

9 Ms. Baker. -- and I support both the House and Senate  
10 bipartisan Rural Caucus. It's a wonderful endeavor to see and  
11 very important.

12 As you said, 1992 is the last reauthorization. 1997 was when  
13 Steve Jobs first introduced the smart phone, in January of -- and  
14 so that was 10 years ago.

15 This smart phone -- the computing power of the smart phone  
16 led to our 3G networks and in the 10 years that's now led to our  
17 4G networks and what we have now is these data driven very fast  
18 and what I am talking about for 5G, which is coming probably in  
19 the next -- you know, we have trials all over America -- you know,  
20 10 times faster network is going to be gigabit fast.

21 So it will actually be a substitute for your wired broadband.  
22 So I think we need to be careful when we define broadband to make  
23 sure that we encompassed the fast growth of these networks and  
24 how quickly they are turning over and improving.

25 I do want to say that the most important thing that NTIA can

1 do and that we can do as in oversight and as an industry is to  
2 streamline the siting to make sure that these networks can roll  
3 out fast.

4 Mr. Loeb sack. Thank you.

5 Ms. Baker. And they will also need more spectrum.

6 Mr. Loeb sack. Thank you.

7 Ms. Gomez. If that's okay, Madam Chair.

8 Mrs. Blackburn. Oh, yes.

9 Ms. Gomez. Okay. Some of the lessons that we learned, the  
10 importance of a broad perspective in the community -- we want to  
11 make sure that we have both the deployment and the adoption and  
12 so those economics are very important.

13 Secondly, the importance of sustainability -- we don't want  
14 to have stranded investments. You want to make sure that it  
15 actually continues and one of the things -- one of the big  
16 successes of the BTOP program is that 98 percent of its projects  
17 continue to operate today.

18 And then, finally, making sure that whoever gets funding,  
19 whether through the Universal Service program or through other  
20 grants, has the institutional knowledge and structure that it's  
21 going to be able to succeed.

22 That's also part of sustainability. So these are all  
23 important lessons learned.

24 Mr. Loeb sack. Thank you for indulging, Madam Chair.

25 Mrs. Blackburn. And the gentleman yields back, and Mr.

1 Shimkus.

2 Mr. Shimkus. Thank you, Madam Chairman. Thank you also for  
3 holding this hearing in our conference and I think really on both  
4 sides part of our responsibility is just oversight and then the  
5 focus on addressing reauthorization of agencies is key. So your  
6 expertise is welcome and we look forward to moving forward. So  
7 it's the focus.

8 So you all have been here before. We have worked with you  
9 closely for many, many years. So it's -- for those of us who've  
10 been up here it's comfortable and we have got great trust and faith  
11 in your expertise in your sector.

12 So let me start by going to Meredith. The committee received  
13 the management plan developed by NHTSA and NTIA for administering  
14 \$115 million in grants to update public safety. You all know that  
15 I've been involved with Anna on the public safety 911 stuff.

16 It appears that most of the actions are generic agency  
17 actions that each agency could perform separately or jointly.  
18 What specific expertise or contribution does NTIA bring to the  
19 table apart from what NHTSA brings to the table? Does the burden  
20 of coordinating with a separate agency outweigh the benefits of  
21 the added perspective of the second agency?

22 Ms. Baker. Good question.

23 Mr. Shimkus. Yes.

24 Ms. Baker. Yes. I would say I think one of the most  
25 important things NTIA does is its convening role and I think some

1 of the joint roles, whether it's been public safety  
2 interoperability with Department of Homeland Security or NHTSA,  
3 the future -- the future of these networks are -- is health care.

4 The future of these networks is Connected Cars. The future  
5 of these networks are financial institutions. So I think  
6 communications will cover every part of our lives and so it's --  
7 this convening role only gets more important for NTIA.

8 Mr. Shimkus. So I think that it's better to talk and maybe  
9 lose a little efficiency there but in the long run that's a better  
10 process?

11 Ms. Baker. I think it's important for -- we have a Connected  
12 Car Coalition that we work with the auto industry. I think it's  
13 important because our jurisdictions have traditionally been so  
14 different but yet our lives are now intertwined. I think it's  
15 important for us to understand both the history and the future  
16 of the industries.

17 Mr. Shimkus. Thank you.

18 Anna, could you discuss your experience and role of NTIA in  
19 the International Telecommunications Union?

20 When I was doing other things involved in the sector I was  
21 not that excited about that. But there are some benefits that  
22 I am going to try to raise.

23 As you know, this is an organization where international  
24 spectrum allocation decisions are made which to me makes it seem  
25 fairly important in the -- that the U.S. participate in a robust

1 way to maintain a voice in those decisions.

2 In your view, does the United States benefit from its  
3 membership in ITU and is it important that we have a forum like  
4 ITU?

5 Is it -- is it able to accommodate our commercial, defense  
6 and other interests and does NTIA have the appropriate authority  
7 and tools to participate in this -- in this new regime?

8 In international discussions I think this is -- might be more  
9 important. Do you want to comment on those?

10 Ms. Gomez. Yes, absolutely.

11 NTIA is very involved at the ITU both on the spectrum side  
12 for allocations. NTIA works closely with the FCC, with the  
13 Department of State to represent the federal agencies' interests  
14 and the administration's interests.

15 It also participates in other areas including internet  
16 governance. So yes, NTIA's role is very important and it should  
17 continue.

18 The ITU is important to the -- to both the health of our  
19 spectrum management system as well as for companies, for example,  
20 that build to standards and to be able to have interoperability  
21 -- global interoperability so that they can continue to  
22 participate in the global economy and not have that hindered by  
23 lack of participation.

24 The U.S. voice at the ITU is very strong and it needs to  
25 continue to be strong to reflect the status of our economy versus,



1 I guess, everyone else.

2 Mr. Shimkus. Thank you very much, Madam Chairman.

3 I am finished and I yield back.

4 Mrs. Blackburn. Gentleman yields back 53 seconds on the  
5 clock. We are doing well. Mr. Ruiz, you're recognized five  
6 minutes.

7 Mr. Ruiz. Thank you very much.

8 In 2009, the NTIA was tasked with administering \$4 billion  
9 in grants to increase broadband access and adoption in underserved  
10 and unserved areas of the country.

11 I understand the NTIA invested \$3.3 billion into  
12 infrastructure projects, which 98 percent of those funded  
13 projects still operating and serving communities across the  
14 country.

15 I represent a remarkably diverse district with 11 tribal  
16 nations, underserved, desert farm worker communities like Thermal  
17 and Mecca, small desert communities like Chiriaco Summit and rural  
18 mountain communities like Anza. So no one solution will address  
19 the broadband needs of the people and the geography that I serve.

20 So, Ms. Gomez, in your testimony, you referenced the  
21 Broadband USA initiative and how NTIA is using this program to  
22 continue helping communities and tribes across the country  
23 increase their access and adoption of broadband. Can you  
24 elaborate on how Broadband USA might be able to help the diverse  
25 set of communities I represent and in particular how tribal

1 governments might be able to benefit from the Broadband USA  
2 initiative?

3 Ms. Gomez. What NTIA did was as it starts winding down its  
4 BTOP program it has the staff that has this great expertise and  
5 knowledge now in both how to deploy infrastructure in unserved  
6 and underserved areas including tribal areas, as you mentioned,  
7 and also how to ensure adoption because, you know, if we build  
8 them and they don't come that's not a good thing.

9 So we have this great staff now that has this technical  
10 expertise so their goal is to provide as much technical assistance  
11 as possible.

12 Mr. Ruiz. How does -- how does a tribe or a school district  
13 get this support? What do they have to do?

14 Ms. Gomez. Well, first of all, NTIA puts together webinars.  
15 They put together seminars. They can reach out to the NTIA or  
16 NTIA can do the opposite in order to make sure that they go to  
17 locations where these tribes are.

18 They've put together a toolkit specifically for tribal  
19 broadband deployment and NTIA also, through the Broadband  
20 Opportunity Council, is working with the Department of Interior  
21 to also have programs to reach out to the tribes on these issues.

22 Mr. Ruiz. Thank you.

23 So on another topic, as an emergency medicine physician your  
24 testimony on the First Responder Network Authority, or FirstNet,  
25 was equally near and dear to my heart and in trauma situations

1 communications between first responders and physicians in the  
2 emergency department can be critical to the survival and  
3 well-being of a patient.

4 So what have you done and what is NTIA doing to ensure  
5 FirstNet's network deployment is patient centered and focuses on  
6 improving outcomes and saving lives?

7 Ms. Gomez. FirstNet's mission is to deploy this network but  
8 there is no requirement that any public safety entity actually  
9 participate in it.

10 So FirstNet has very wisely paid a lot of attention to the  
11 needs of every segment of the first response community and they  
12 need to continue to do so.

13 They are engaging currently and will continue to engage in  
14 consultation with each state and territory to make sure that those  
15 needs are met because the only way they succeed is if in fact public  
16 safety sees the value of the network.

17 Mr. Ruiz. And so what can Congress do to help EMS systems  
18 engage with FirstNet and help foster that kind of relationship  
19 and promote those services?

20 Ms. Gomez. You know, I think communication is very  
21 important. What we find is that the state at the -- at the high  
22 level is very engaged in FirstNet but it's not necessarily at the  
23 very local level.

24 So the more we can reach into those localities and make sure  
25 that they understand that this is a resource and that they need

1 to have a voice with the -- with the state point of contact that  
2 works with FirstNet on these issues the better.

3 Mr. Ruiz. Well, it kind of sounds like a visit to my district  
4 would be warranted and we can get all the stakeholders together  
5 and start talking about how we can help build that relationship.

6 Ms. Gomez. Yes. I am sure FirstNet is watching.

7 Mr. Ruiz. Good. I yield back my time.

8 Mrs. Blackburn. At 41 seconds. We are rolling. Okay.

9 Mr. Latta.

10 Mr. Latta. I hope I don't get in trouble now.

11 Madam Chair, thanks very much for having this hearing this  
12 morning and to our witnesses, thanks very much for being here.  
13 I've been very involved with the internet of things working group  
14 and also with rural broadband, and with the rollout yesterday,  
15 as was mentioned a little bit earlier from our friend and colleague  
16 from Iowa, that, you know, there is great interest out there  
17 because of what you have to have today.

18 Ms. Baker, if I could ask you the first question. It's clear  
19 that wireless is the future and with limited spectrum availability  
20 NTIA has a vital role encouraging efficient use by federal users.

21 What can NTIA do to ensure that there is sufficient spectrum  
22 available for both commercial and federal purposes to meet the  
23 needs of our increasing connected world?

24 Ms. Baker. So I think NTIA plays a critical part, obviously,  
25 in managing the federal spectrum. I think they've just done a

1 qualitative analysis, which I think is very helpful for us to take  
2 a look at what spectrum bands we need to focus on for reallocation  
3 next.

4 I think the federal government -- we now have devised a system  
5 where it's a win-win. So the commercial spectrum -- the spectrum  
6 comes to the commercial providers but yet the federal agencies  
7 get updated systems.

8 It's a terrific tool for federal agencies to update their  
9 system to also become more spectrally efficient. I think with  
10 the help of this committee we can identify the next bands so that  
11 we can have more commercial spectrum and it can move this process.

12 The FCC did a broadband plan but that was -- that was a while  
13 ago. So I think it's time to take a look and see what we need  
14 to do for the future and to build the spectrum pipeline.

15 Mr. Latta. Thank you.

16 Ms. Gomez, you spoke about overlapping jurisdiction in the  
17 federal agencies, specifically how it relates to the internet of  
18 things.

19 As I am sure you are aware, NTIA has already taken an active  
20 role in the security of IOT by holding multi-stakeholders process  
21 meetings and recently releasing a green paper discussing the  
22 possibility of a national IOT strategy.

23 Do you believe that NTIA could be doing more to address  
24 securing IOT as well as other policies that touch these connected  
25 devices such as spectrum policy and privacy concerns?

1           Ms. Gomez. I think it's a very important role for NTIA to  
2 address these issues. The multi-stakeholder process in which it  
3 has been engaging is a very good process for addressing these  
4 issues that change so quickly in our technical system.

5           So yes, I do think NTIA could be doing more. I will say they  
6 are very under resourced in this. So what they are doing right  
7 now is what they can do at their current capacity.

8           If they could get some more capacity, absolutely. There are  
9 lots of areas that they identified in the IOT green paper that  
10 you mentioned in which additional multi-stakeholder processes  
11 would be able to develop policies to address these challenging  
12 issues that are probably better done via this consensus process  
13 than via regulations that become enshrined for long periods of  
14 time.

15          Mr. Latta. Let me follow up.

16          In addition, would it be harmful to have -- to the development  
17 of the IOT to have multiple agencies asserting jurisdiction and  
18 with that should it be more coordination?

19          Ms. Gomez. Multiple agencies have jurisdiction because of  
20 the nature of the IOT. The IOT now touches the Department of  
21 Transportation, the Federal Aviation Administration, the Food and  
22 Drug Administration, the Health and Human Services, because it  
23 touches so much of our society today.

24          But, yes, you are correct -- we need more coordination to  
25 make sure that we are not having one segment be the tail that wags

1 the dog of the entire IOT.

2 Mr. Latta. Thank you.

3 Ms. Baker, if I could ask, with my remaining time here, much  
4 of federal infrastructure is governed by agencies other than NTIA.  
5 How do you think NTIA could better work with agencies to accelerate  
6 and expand access to necessary inputs like leases of federal  
7 buildings or federal right of ways?

8 Ms. Baker. So a great amount of land, as we know, is owned  
9 by the federal government and that is something that NTIA can  
10 absolutely help in citing federal government lands and expedite.

11 At this point, it takes an average of 18 months to site a  
12 tower. In the speed of which we need to roll out 5G, there is  
13 a global race. America has won the race in 4G. We are the world's  
14 leader in wireless.

15 For 5G, Japan, Korea -- they are right on our tails and I  
16 think for us to win the 5G race, which is important for every aspect  
17 of our life and economy, we need to make sure that we can roll  
18 it out fast.

19 NTIA can help in streamlining federal lands, siting on  
20 federal lands. They can also help in best practices and figure  
21 out -- Ohio just passed a bill. I think at every level of  
22 government we need to pitch in to see if we can roll these networks  
23 out as fast as we can.

24 Mr. Latta. Well, thank you very much and, Madam Chair, with  
25 four seconds left I yield back.

1 Mrs. Blackburn. He made it in under the wire. All right.

2 Ms. Dingell, five minutes.

3 Ms. Dingell. Thank you, Madam Chairwoman.

4 First, I want to thank all of the witnesses for your public  
5 service. People don't thank people enough for putting themselves  
6 out there.

7 NTIA has a critical mission that's going to be even more  
8 important in the coming years as technological advances promise  
9 to change the way we live our lives.

10 Nowhere is that more evident than in my home state of Michigan  
11 where the development of connected and automated vehicles  
12 promises to transform the auto industry into the mobility  
13 industry.

14 And while we all agree that we should be doing more to use  
15 spectrum more efficiently, we also have an obligation to ensure  
16 we allow connected and automated vehicles to be developed in a  
17 responsible manner. Over 35,000 people die on our roadways each  
18 year and this technology has the potential to save lives, plain  
19 and simple.

20 NTIA has played a critical role here through its support for  
21 vehicle to vehicle and vehicle to infrastructure technology known  
22 as dedicated short-range communications, or DSRC. There are more  
23 initials in this.

24 I'd like to thank NTIA for collaborating with the FCC and  
25 the DRT with really important work on establishing and executing



1 the test plan to find the best possible sharing solution for the  
2 5.9 GHz band of spectrum.

3 I hope this continues to move forward and we keep finding  
4 common ground. As you know, the auto industry is near and dear  
5 to my heart, in case anybody missed that, and NHTSA has stated  
6 that DSRC has the potential to eliminate or mitigate the severity  
7 of up to 80 percent of nonimpaired crashes. But there are other  
8 ways NTIA could help enable the deployment of these technologies.

9 As you all know, the president and many members of Congress  
10 have said it's a priority to pass an infrastructure bill maybe  
11 has high as a trillion dollars. And I would agree this is a good  
12 idea if we do it right.

13 One thing that must be included is dedication to developing  
14 the vehicle to infrastructure technologies. We should be giving  
15 moneys to the states to help them build these systems up and giving  
16 them technical expertise as well.

17 So my question is for all three of you. Given NTIA's  
18 successful history administering the Broadband Technology  
19 Opportunity Program, do you believe the agency would have the  
20 technical expertise and experience to effectively manage a grant  
21 program to help states and localities adopt the V2Y technologies  
22 and should this be something that Congress considers either in  
23 a comprehensive transportation bill or legislation reauthorizing  
24 NTIA?

25 Mr. Kneuer. I think absolutely NTIA has that ability and

1 there have been, you know, examples in the past. We worked very  
2 closely with the Transportation Department to authorize something  
3 as simple as E-Z Pass, a single frequency allocation that would  
4 cover the entire world or the entire country and the entire highway  
5 system that resulted in probably trillions of hours of saved time  
6 with productivity gains across the economy by something seeming  
7 so small.

8 You magnify that with the ability to essentially make it  
9 highly unlikely to die in a car crash on the nation's highways.

10 It's not just the technical coordination but there is also  
11 a leadership function of being able to articulate the benefits  
12 of this, that this isn't a -- there are huge benefits to the economy  
13 and to the nation by doing these things.

14 So I think NTIA is sort of well situated in its dual role  
15 both in the spectrum side and as a communicator of a unified  
16 national policy.

17 Ms. Baker. I think you're going to find agreement here that  
18 NTIA has effectively handled every single grant program that this  
19 committee has given it and you have given NTIA a lot of grant  
20 programs.

21 The staff is amazing. They have developed expertises in  
22 places that I think they didn't think their core mission was to  
23 begin with. They have very effectively done a terrific job.

24 It's a fair question for this committee to ask whether they  
25 want NTIA to continue in grant programs and I think that that's

1 a conversation that is worth having.

2 Ms. Gomez. I agree it's a very nimble staff that understands  
3 the importance of having a strong oversight mechanism and of  
4 working closely with other agencies like the Department of  
5 Transportation as well as with state and localities and tribes  
6 and making sure that the grant dollars are stretched to the  
7 furthest possible -- possible.

8 Ms. Dingell. Thank you. I don't have enough time so I'll  
9 yield back my 20 seconds, Madam Chairwoman.

10 Mrs. Blackburn. We are on a roll.

11 Mr. Guthrie, see if you can continue it, for five minutes.

12 Mr. Guthrie. Thank you. I'll definitely stay within the  
13 five minutes. I appreciate that.

14 Mr. Kneuer, I want to -- thanks to everybody for testifying  
15 here today but I want to start with a question regarding top level  
16 domains.

17 In 2013, the Obama administration sided with foreign  
18 governments and abstained from a vote at ICANN that led to the  
19 rejection of Amazon's application for the dot Amazon top-level  
20 domain, acting directly against the interests of a major American  
21 company which happens to have facilities in my district.

22 Just made a major announcement that they are going to be  
23 locating a new part of their business at Cincinnati Airport, which  
24 happens to be in Kentucky across the river from Ohio, and a lot  
25 of people are constituents of theirs as well.

1 Do you believe it would be appropriate for the Trump  
2 administration to take specific steps at ICANN to assist Amazon  
3 in its ongoing effort to resolve this matter and right the wrong?

4 Mr. Kneuer. Absolutely. I think the -- with the conclusion  
5 of the transition of the IATA contracts, you know, without  
6 speaking to the substantive decisions of the Obama  
7 administration, the United States government can take  
8 counterintuitively, perhaps, a more proactive role in favor of  
9 domestic companies.

10 I think there was at some point, when the U.S. government  
11 had its oversight or its exclusive contractual relationship with  
12 ICANN there was a -- some hesitancy to be perceived as abusing  
13 that authority or overplaying that role.

14 With the IATA functions being fully enshrined in the private  
15 sector, there are all sorts of examples where it is appropriate  
16 and wholesome for the U.S. government to collaborate with U.S.  
17 companies in front of myriad private and governmental bodies.

18 So I think that's exactly the kind of role that you would  
19 expect to see the Commerce Department and NTIA in particular  
20 playing in this new -- this new environment with the full  
21 privatization of IATA.

22 Mr. Guthrie. How strong do you believe the U.S. position  
23 would be in matters like this when advocating before the  
24 Governmental Advisory Committee?

25 Mr. Kneuer. I think the comparative advantage the U.S.

1 government has in the Government Advisory Committee is our  
2 expertise in the subject. All right. We stood up ICAHN. We  
3 probably have the most dedicated and competent staff to work with  
4 the Government Advisory Committee.

5 So while we are a nation of equals, our historic role and  
6 our expertise, I think, gives us a comparative advantage.

7 Mr. Guthrie. Okay. Thank you.

8 And Ms. Baker, one of the things in your testimony focuses  
9 on ways to empower NTIA, especially as the agency has become more  
10 important in the spectrum debates.

11 I'll leave it open ended if you'd like to expand on some of  
12 the points you made and describe what more can be done to empower  
13 NTIA on spectrum issues.

14 But one idea that has been raised with me would have NTIA  
15 regularly collecting more information about how agencies are  
16 actually using their spectrum rather than conducting  
17 band-specific studies.

18 So in addition to other ideas you may suggest, is it worth  
19 looking at giving NTIA a stronger coordinating role not just in  
20 initial frequency assignments but also in monitoring how federal  
21 spectrum is being used?

22 Ms. Baker. Thank you for your question, and I think that  
23 that is a good idea. I think in my testimony I call it  
24 transparency and I think that it would help both to have federal  
25 government agencies be more transparent about what their use is

1 of the spectrum as well as what NTIA might be looking forward to  
2 in relocation in the future and I think that would probably help  
3 this committee in its oversight abilities as well.

4 I also would compliment you on your federal incentives bill  
5 because I think that was -- also is a very good step.

6 Mr. Guthrie. Well, thank you. Do you think the NTIA has  
7 sufficient stature to tell federal users that they need to be more  
8 efficient with allocations? Is there a problem with regulatory  
9 by larger and possibly more influential federal departments such  
10 as DoD, Homeland Security, FAA?

11 Ms. Baker. I think NTIA punches above its weight in  
12 everything they do and I think that they do a terrific job in  
13 coordinating federal agencies.

14 I do think raising NTIA's profile with the title of  
15 undersecretary would help. It would make them equal to their  
16 sister agency, NIST, and I think it reports directly to the  
17 commerce secretary. So I think that that is a natural. In this  
18 town, titles seem to matter and that seems like that might be a  
19 good -- a good addition to their --

20 Mr. Guthrie. Okay. Would the other two of you like -- any  
21 ways to empower NTIA?

22 Mr. Kneuer. I think the -- there is the coordination with  
23 OMB is critical. So NTIA can use its expertise to gather  
24 information from other departments and agents. But Under  
25 Secretary or not, you know, Under Secretary of commerce calls the

1 Under Secretary of Defense, you know, it's going to be a different  
2 story. The director of OMB calls and says, look, you've got a  
3 new requirement -- if you want capital to spend on these things  
4 it's a different kind of conversation.

5 Mr. Guthrie. I only have about six seconds. I am not going  
6 to run over because it appears that's the flow. So a couple of  
7 seconds? Oh, well, I'll catch you up later. Sorry, I am out of  
8 time. I yield back one second.

9 Mrs. Blackburn. Yield back, and we can submit for the  
10 record. How is that? Because we do have a couple of things that  
11 are coming in.

12 Ms. Clarke, you're recognized five minutes.

13 Ms. Clarke. Thank you, Madam Chair, and I thank the ranking  
14 member. I thank our witnesses today.

15 Spectrum sharing in urban environments may pose particular  
16 challenges since population density and user demand for wireless  
17 services is very high.

18 In the previous administration, NTIA and the FCC started work  
19 towards a model city program that would establish a pilot program  
20 in a major city or cities to serve as a test bed to evaluate and  
21 demonstrate spectrum-sharing technology for urban environments.

22 Additionally, FCC Chairman Pai recently announced the  
23 formation of the broadband deployment advisory committee -- an  
24 advisory committee that would provide advice and recommendations  
25 to the FCC on how municipalities can deploy high-speed broadband

1 nationwide to close the digital divide.

2 So my question is do you support the model city initiative  
3 and what are your thoughts on NTIA -- what else your thoughts would  
4 be in terms of NTIA being -- excuse me, doing -- what would you  
5 be doing to promote spectrum sharing in cities? And it's for the  
6 panel.

7 Mr. Kneuer. I think there is a great benefit if those sort  
8 of model roll-outs. We conducted or we developed a spectrum  
9 initiative for the 21st century when Meredith and I were working  
10 together.

11 And one of its proposals was a test bed where you could take  
12 potentially a block of federal spectrum that's under  
13 consideration for reallocation and a block of perhaps  
14 underutilized commercial spectrum and figure out what are the best  
15 ways to share and how they can be best deployed.

16 You know, the challenge in urban environments is the  
17 propagation characteristics and it's much more difficult to find  
18 low-band spectrum that you can do those sorts of things that would  
19 be of most benefit to an urban environment. But some of those  
20 propagation characteristics have made some spectrum lie fallow.

21 And so I definitely think there are opportunities to combine  
22 those two to explore in the real world and develop the data that  
23 comes from that. So I think it's a fine idea.

24 Ms. Baker. So a couple different things. Sharing, I think,  
25 is important. I think it's the future. But it has to work for



1 all. It has to work for everyone.

2 I think these questions are less policy questions than they  
3 actually are technical questions and I think that goes back to  
4 my plea for the importance of ITS and the labs in Boulder.

5 A lot of our -- the FCC is rolling out one test program now  
6 in 3.5. It's still to be seen if that's going to work or not.  
7 We are all in. We are trying it.

8 We are going to see if it does work. I think in the future,  
9 whether it's licensed spectrum, unlicensed spectrum, shared  
10 spectrum, we are going to need it all and I think model cities  
11 are terrific. A lot of our companies have focused on model cities  
12 and I think when a city sees that they are saving, you know, \$160  
13 billion in energy costs by being a smart city then it does catch  
14 your eye and everybody wants to be one.

15 So I think it's -- there is a cost to the build out but the  
16 savings is so exponentially great for smart city that I think the  
17 more we can illustrate the more rapidly they will deploy.

18 Ms. Gomez. I can't say much more than that. I agree, smart  
19 cities are so important for our future in 5G as well. So anything  
20 we can do to support that is a good thing.

21 Ms. Clarke. Very well.

22 The next question is for you, Ms. Gomez. First, I want to  
23 say that NTIA is a very important government agency vital to  
24 growing our innovative digital economy.

25 With the recent cyberattacks that have been -- that have

1 occurred over the past couple of months, a particular spotlight  
2 has been placed on creating secure cybersecurity policies.

3 In 2015, NTIA began its cybersecurity multi-stakeholder  
4 process. What are your thoughts on this approach and how will  
5 it enhance NTIA's policy recommendations?

6 Ms. Gomez. I'm a big believer in the multi-stakeholder  
7 processes. I think that they can be much more nimble and flexible  
8 than actual regulations and they pull in all of the stakeholders,  
9 not just whatever stakeholder a particular individual agency has  
10 jurisdiction over.

11 So it's important to have these discussions, to have as many  
12 stakeholders as possible including government, civil society,  
13 public interest groups, industry, everybody together to come to  
14 consensus to try to address these issues as they change on almost  
15 a daily basis. So I would be a big supporter of what they are  
16 doing.

17 Ms. Clarke. Very well, and I won't break the trend. I go  
18 back, Madam Chair.

19 Mrs. Blackburn. We are on a roll.

20 Mr. Olson.

21 Mr. Olson. I thank the chair for the time. On behalf of  
22 all Texans, especially one of our witnesses from Houston, Texas,  
23 thank you for the opening comments, the strong statements about  
24 the best Super Bowl ever. Super Bowl LI, Falcons versus the  
25 Patriots, NRG Stadium, Houston, Texas, kickoff 5:30 p.m. Sunday,

1 February 5th.

2 Well, to our witnesses a special howdy to our Texan, Ms.  
3 Baker. Ms. Baker, you know, in our home state bigger is better.  
4 Your testimony spent a great time talking about the deployment  
5 of 5G over moving up from 4G.

6 In Texas, bigger is better. 5G is bigger. And Texans are  
7 excited about the flood of new services they will have with 5G  
8 deployment.

9 You mentioned medicine, transportation. My question is  
10 where do we stand right now with deployment of 5G in the spectrum.  
11 When do you think that will be truly available?

12 Ms. Baker. Great question, and we are excited for the Super  
13 Bowl in our house, too.

14 I think when you look at the Super Bowl, for instance, you  
15 look at the capacity of how many people are going to want to send  
16 videos and tweet and take pictures and send them.

17 You see the importance of the capacity. It's grown  
18 exponentially and we are expected to see it grow six times in the  
19 next -- by 2020.

20 So the data is just increasing so our network's capacity has  
21 to increase. I was in Dallas not too long ago and we have some  
22 trials going on there. I think there are about 117 trials of 5G  
23 across the country at this point.

24 When I -- when I first started this job two and a half years  
25 ago we were not necessarily thinking that we needed 5G. The

1 industry has changed that quickly to now we are seeing the rollout  
2 of field trials this year and I expect that we will see commercial  
3 roll-out of 5G by 2020.

4 Mr. Olson. Great. Thank you.

5 You talked about America leading development of 4G. We led  
6 the world in 4G. It appears we are losing some advantages with  
7 5G.

8 In today's global economy, as you know, speed kills. You  
9 mentioned we are behind South Korea and Japan. I traveled there  
10 with Chairman Upton and Chairman Walden, Mr. Shimkus, Mr.  
11 Griffith, we saw it firsthand. We are falling behind those two  
12 countries. Who else is ahead of us globally?

13 Ms. Baker. I'm hopeful we're not too far behind at this  
14 point and we are catching up.

15 Mr. Olson. Okay. Great.

16 Ms. Baker. Our companies are really working hard and they  
17 are investing the money and they are -- they are working hard to  
18 overtake that because of the importance of -- the reason the app  
19 community is in the United States is because we lead the world  
20 in wireless. The reason that every -- 98 percent of operating  
21 systems are from the United States is because we rolled our  
22 networks first.

23 So I think we understand how important it is and we are  
24 working hard to that end.

25 Mr. Olson. Okay. Thanks.

1           Who's behind? Who should be consider as behind us but  
2 catching up quickly maybe we should be worried about in the rear  
3 view mirror?

4           Ms. Baker. I think we are doing well. Well, you know, our  
5 4G -- our LTE networks are covering 99.7 percent of America. So  
6 we have a good head start to build on.

7           Mr. Olson. Okay. One further question -- as former NTIA  
8 administrators speaking only for yourselves, not for the  
9 organization, is NTIA being helpful with the 5G rollout and where  
10 can we help them with deficiencies with the reauthorization of  
11 the agencies? One minute and 20 seconds. Ms. Gomez, you're up.

12           Ms. Gomez. 5G rollout, as Meredith has mentioned, is a huge  
13 undertaking. I think continued support of their interagency  
14 processes to get relief from the barriers to infrastructure  
15 deployment is the most important thing.

16           Mr. Olson. Okay. Ms. Baker.

17           Ms. Baker. More spectrum and streamlined siting.

18           Mr. Olson. Mr. Kneuer.

19           Mr. Kneuer. Because of our lead in 4G, we have the highest  
20 economic incentives to roll out 5G. The barriers are going to  
21 be in policy and so making sure that we have the spectrum  
22 available, that everybody's pulling in that direction, the  
23 industry's going to take care of it and we will be first in that.

24           Mr. Olson. Well, thank you. I yield back my time with 45  
25 seconds.

1 Mrs. Blackburn. And he is under the wire.

2 Mr. Olson. I yield back.

3 Mrs. Blackburn. And I will remind the gentleman from Texas  
4 that his Houston team left and came to Tennessee and became  
5 Tennessee Titans.

6 And with that, Mr. McNerney, all yours for five minutes.

7 Mr. McNerney. Well, first, I want to congratulate the  
8 chairwoman on assuming the chair. I look forward to working with  
9 you and the ranking member as well.

10 My first question goes to Ms. Gomez. The rapid growth of  
11 the IOT devices creates immense opportunities but also raises  
12 serious concerns about issues like privacy and data security.

13 Multiple federal agencies have recently been involved in  
14 examining the challenges raised by these questions. Can you  
15 explain the NTIA's role and why that might be important?

16 Ms. Gomez. So the NTIA is, of course, the principal policy  
17 advisor for administration policy on telecommunications and  
18 information issues, which includes the issues that you raised --  
19 privacy, cybersecurity, any other issues raised by the internet  
20 of things.

21 In that role it serves a convening function in two ways.  
22 One, it coordinates interagency activities that lead to whatever  
23 policies are implemented for the IOT and hopefully the removal  
24 of barriers to deployment so that we can get to the rollout of  
25 5G in a timely fashion.

1           And then, secondly, it's a multi-stakeholder process in  
2       which it convenes stakeholders from all walks of life in order  
3       to develop consensus policies to address issues like cyber  
4       security and privacy issues writ large, both for the IOT and for  
5       others.

6           Mr. McNerney. Thank you.

7           I am going to follow up on a question that the ranking member  
8       asked Ms. Baker. Industry groups like the CTIA have been on the  
9       Hill, sent a letter around asking Congress to use the  
10      Congressional Review Act to overturn existing rules. This letter  
11      makes no mention of the fact that the CRA could prevent the FCC  
12      for making substantially similar rules in the future.

13          Now, are you aware that the CRA could prevent the FCC from  
14      making future rules regarding data breach notification or working  
15      with industry to create new privacy rules in the future?

16          Ms. Baker. So we are absolutely 100 percent committed to  
17      consumers' privacy and as such we distributed privacy principles  
18      on Friday.

19          I think what we are looking for is a uniform and common set  
20      of rules that apply to the entire ecosystem so that they --  
21      everyone is competing with the same rules.

22          Mr. McNerney. But are you aware that the CRA could prevent  
23      the FCC from making new rules regarding privacy and data breach  
24      notification, for example?

25          Ms. Baker. We're looking for any -- any tool that will allow

1 privacy rules to be the same for the entire ecosystem.

2 Mr. McNerney. Ms. Gomez, it's been two and a half years  
3 since the National Broadband map was updated. Although the NTIA  
4 is no longer responsible for keeping the map up to date,  
5 individuals, businesses and state and local governments still  
6 rely on this map. Is it -- is having an accurate map important  
7 for identifying geographical areas that are underserved or  
8 unserved by broadband providers?

9 Ms. Gomez. Yes. As you know, NTIA is no longer updating  
10 the map. That function has been moved over. But it has not been  
11 updated since 2015 and that was using 2014 data.

12 I do believe it's important to have data-driven decisions  
13 and so having an updated map would be a good thing, just not the  
14 current state.

15 Mr. McNerney. How fast does that map change?

16 Ms. Gomez. The map changes constantly. We have deployment  
17 change every day. As Meredith mentioned, there is a lot of  
18 capital expenditures every year, every day to get the  
19 infrastructure deployed.

20 Mr. McNerney. So, I mean, in terms of the digital divide,  
21 having this map up to date is important and should be funded.

22 Ms. Gomez. The map was an important tool and it would be  
23 good to fund the map in the future.

24 The FCC also has the ability to do it. It just doesn't have  
25 the funding.



1           Mr. McNerney. So is the NTIA the right organization to do  
2 that?

3           Ms. Gomez. If the NTIA gets its grant program again that  
4 would be the right way to do it or it would be a good way to do  
5 it, I should say. I mean, the way that the map was developed was  
6 a bottoms-up process in which the states provided the information  
7 to NTIA and NTIA worked with the FCC to create the map.

8           One way or another, you need to have that input and you need  
9 to have the funding to be able to have an accurate map because  
10 if it's not accurate then it's not useful.

11           Mr. McNerney. I'm just going to ask a question, and you  
12 won't have time to answer it. Mr. Kneuer, you indicated that the  
13 NTIA is the most effective -- it's most effective when it's the  
14 working intersection between business and private and government  
15 sectors and also can be effective in the -- advising the Office  
16 of Management of Budget.

17           I'd like you to elaborate that in a written, since I am  
18 running out of time. Thank you.

19           Mrs. Blackburn. And he made it before he went into overtime.

20           Mr. Johnson, for five minutes.

21           Mr. Johnson. Thank you, Madam Chairman, and I to want to  
22 congratulate you on your chairmanship and looking forward to this  
23 session, working with you.

24           You know, I -- and I want to thank our panel for being here  
25 today, too. Really appreciate that.

1 I represent a district that struggles with the issue of the  
2 digital divide, particularly when it comes to talking about  
3 broadband access. I've got high school students in my district  
4 that have to go a public library or to a neighboring town in order  
5 to do their school research or to check out the internet, to do  
6 things that most of us, you know, just take for granted.

7 So broadband access is a very, very important issue for the  
8 721,000 people that I represent.

9 Ms. Gomez, one of -- one important component of effectively  
10 allocating resources for broadband deployment projects is  
11 accurate comprehensive data regarding the current level of  
12 broadband service across the country ideally at a granular level.

13 How can NTIA, in your opinion, be helpful in developing this  
14 information?

15 Ms. Gomez. There's a couple of ways that NTIA has been  
16 involved in this type of information. The first is with this tool  
17 that we were talking about before, which is where NTIA  
18 administered grants to get the data necessary to populate the map  
19 that the FCC actually put together. They worked on that jointly.

20  
21 It's not something that's currently funded by if it was that  
22 would be a very valuable way to get more accurate data and give  
23 the localities of tool that is visual and that provides them good  
24 planning tools.

25 The second way is also with the work that NTIA does in working

1 with the Census to get accurate adaption information. That's --  
2 that is a very useful way to understand where we might have our  
3 deployment but not necessarily the take-up. So understanding  
4 from a demographic perspective who is using the internet, how they  
5 are using the internet, also helps with this type of planning to  
6 support localities that need to get broadband infrastructure and  
7 adoption.

8 Mr. Johnson. Okay. Continuing with you -- I appreciate  
9 that answer -- you were at NTIA during the broadband technology  
10 opportunities program when NTIA administered more than \$4 billion  
11 in grants to promote broadband employment and adoption.

12 What are some of the lessons that we can draw from that  
13 program as we move forward and what is the appropriate -- what  
14 role is appropriate for NTIA to play in future broadband  
15 deployment efforts?

16 Ms. Gomez. We learned a few things from the BTOP program.  
17 As I mentioned before, the importance of sustainability -- we want  
18 to make sure that the funding is sustainable and continues.

19 The importance of providing the technical assistance to the  
20 grantees and to the communities to make the full usage of the  
21 grants and to make sure that the grants not just benefitting a  
22 specific deployment but also had ripple effects throughout the  
23 communities in both the adoption as well as the access for other  
24 providers to be able to link to whatever infrastructure was being  
25 deployed.

1           The importance of a strong both team to both select the  
2 grantees as well as to manage and oversee them. It really  
3 requires a lot of resources and a lot of attention to make sure  
4 that the grant dollars are well used and used in a timely fashion.

5           So there is still a lot of that expertise within NTIA because  
6 that staff that became very expert at managing the grants have  
7 now pivoted to the technical assistance they are providing through  
8 the Broadband USA program.

9           So absolutely NTIA could continue to provide the grant  
10 management that you might seek. Understanding that whatever  
11 enabling statute is very important in setting parameters of the  
12 program.

13           A lot of the criticisms of the program came from concerns  
14 about the fact that, for example, the grants went to fund both  
15 unserved and underserved areas.

16           The definition of rural was very important to managing the  
17 grant program. So attention to the statutory language that NTIA  
18 would use to implement the programs is also very important.

19           Mr. Johnson. Okay. Well, thank you.

20           Madam Chair, I yield back just under the wire.

21           Mrs. Blackburn. I tell you, we are rolling.

22           Let's see. Mr. Pallone, you're recognized five minutes.

23           Mr. Pallone. Thank you. Thank you, Madam Chairman.

24           And, again, I know this is your first hearing so I want to  
25 congratulate you and Mr. Doyle for being the chairman and the

1 ranking member.

2 Ms. Gomez, I've reviewed NTIA's most recent budget request  
3 asking for only \$50 million total, and given the recent growth  
4 in the communication networks that the agencies oversees, that  
5 amount seems reasonable.

6 NTIA has also provided strong justification for their  
7 request. So can you just tell us briefly what an authorization  
8 of \$50 million would allow the agency to do for the American  
9 people?

10 Ms. Gomez. You know, from my experience, NTIA is a very  
11 resource-constrained agency. It is surprisingly small,  
12 considering the breadth of its portfolio. And with the evolution  
13 of the digital economy and the new and innovative uses, its role  
14 is only going to get bigger.

15 So new funding can be used in a variety of ways. Spectrum,  
16 spectrum, spectrum. Our innovation is very much centered on  
17 wireless and we need to have both the staff that can manage day  
18 to day the federal agency's use of spectrum but also continue to  
19 plan for the future, continue to plan for the pipeline and continue  
20 to work within the interagency process to identify more spectrum  
21 for wireless broadband uses.

22 On the internet policy front, we need to continue our strong  
23 voice at the governmental advisory committee on the -- before  
24 ICANN. That is going to continue to be important for  
25 international and domestic internet presence but also addressing

1 cyber security and privacy issues is going to be important in the  
2 multi-stakeholder process. Particularly with cyber security, we  
3 need staff that has security clearances that understands the  
4 issues so that they can convene and shepherd these  
5 multi-stakeholder processes to develop these policies.

6 Both with the multi-stakeholder process as well as  
7 intergovernmentally to work with the other agencies as they  
8 develop their own security policies.

9 And on research, very important -- it's important for  
10 supporting the spectrum initiatives as well as other agencies and  
11 also industry. Industry relies on the laboratory for some of its  
12 measurement and testing.

13 And so bolstering their ability is going to be very  
14 important. I think the National Foundation found that they are  
15 actually seriously underfunded. So that would be very helpful  
16 in that regard.

17 Mr. Pallone. Thank you.

18 Ms. Gomez mentioned the privacy issues. So let me ask Ms.  
19 Baker, NTIA found last year that around half of American adults  
20 limited their economic activity online because they were worried  
21 about their privacy and data security.

22 A Pew study also found that a full 91 percent of adults  
23 believe they have lost control of how personal information is  
24 collected and used by companies.

25 And that's why I have been disappointed in CTIA's recent

1 attacks on consumer privacy protections. I am hopeful we can  
2 still find some common ground though. So I think we may agree  
3 that the Federal Trade Commission should be a strong protector  
4 of consumer privacy.

5 Let me ask you, would CTIA support democratic efforts to  
6 strengthen the FTC Commission -- the FTC's ability to protect  
7 consumers by lifting the common carrier exemption, given the FTC  
8 Rulemaking authority, giving the FTC more privacy staff. Would  
9 you comment on that?

10 Ms. Baker. First, I think that CTIA believes strongly in  
11 privacy and in consumers' right to privacy and data security. It  
12 is a priority for all of our carriers and companies.

13 I think that we believe that the data that -- consumers are  
14 served better when their privacy protections are based on the type  
15 of information as opposed to the company that holds it.

16 And for that reason, we would -- we would like to see the  
17 FTC's jurisdiction on privacy be consistent across all of the  
18 companies. The mechanism is to how to get to that. I would have  
19 to get back to you on the languages too.

20 But yes, the idea is to having the FTC have jurisdiction over  
21 the privacy of consumers' data. All companies would be  
22 consistent with what we believe.

23 Mr. Pallone. All right. Let me just -- and I've run out  
24 of time but I wanted to ask you a local question. Well, it's not  
25 really local. But Ms. Gomez, one of my priorities is promoting

1 public safety communications and network resiliency, and I have  
2 been a strong supporter of FirstNet, which is housed at NTIA.

3 And getting better technology in the hands of first  
4 responders is really important. So I understand you were at NTIA  
5 when FirstNet was formed, and from that perspective how would you  
6 assess FirstNet's progress in starting up the nation's public  
7 safety broadband network?

8 Ms. Gomez. I think FirstNet has made great progress. It  
9 is a huge undertaking as well and it is very close to getting the  
10 contract in place to be able to start the actual deployment in  
11 services and working with the states.

12 So I, too, am a great supporter of FirstNet.

13 Mr. Pallone. Okay. We have run out. Thank you, Madam  
14 Chairwoman.

15 Mrs. Blackburn. Well, actually, you went three seconds over  
16 but who's counting?

17 Mr. Kinzinger, you're recognized five minutes.

18 Mr. Kinzinger. Thank you, Madam Chair, and running a tight  
19 clock. That's good. That's good. I am excited. It's going to  
20 be a good couple years.

21 Quickly, just to all witnesses, since 2010 NTIA's office of  
22 spectrum management has been tasked with executing a presidential  
23 memorandum to make available a total of 500 megahertz of  
24 federal-nonfederal spectrum by 2020. We are quickly approaching  
25 the end of that 10-year window and do you all think there is a



1 need for the NTIA and the FCC to jointly establish and carry out  
2 formal planning activities for the next decade through a new  
3 national spectrum plan?

4 Mr. Kneuer. Yes, I think it's vital to have a pipeline to  
5 have to have long-range visibility as to where the next spectrum  
6 bands are going to come from to meet the growing needs that I think  
7 we have all been talking about.

8 I think there is a challenge when you set numbers of megahertz  
9 to be freed without some more detail and concept about what that  
10 means.

11 If the agencies are put in a position to find spectrum, they  
12 may find spectrum that is in the cupboard but is not very useful  
13 and say we have met our obligation.

14 So the focus less on specific targets and more on holistic  
15 policies that will be deployed across the entire government that  
16 this is part of your job, day in day out.

17 As a steward of these resources you need to account for them  
18 and make sure you're taking steps that they are used across the  
19 economy and not just held for isolated purposes. So I think  
20 long-range planning is very important. I think the spectrum  
21 pipeline bill is important. But yes, we have to keep looking down  
22 range.

23 Ms. Baker. I think goals are important and I would certainly  
24 welcome this committee, asking NTIA and the FCC to have set another  
25 goal for 10 years. I think that the focus of this committee is

1 very helpful.

2 You have brought the AWS-3 auction. You have brought the  
3 600 megahertz auction to bear. And I think that the guidance from  
4 this committee is very important and we would love to see that.

5 Mr. Kinzinger. Ms. Gomez, do you have anything to add?

6 Ms. Gomez. Sorry. The only thing I would add is I agree,  
7 planning is I agree planning is very important. Goals are very  
8 important. I also want to make sure that NTIA continues to focus  
9 on what it's doing today because it still has a lot of work to  
10 do.

11 So whatever resources they need it would be good to bolster  
12 those resources so they can in fact engage in thoughtful planning  
13 for the future.

14 Mr. Kinzinger. Mr. Kneuer and Ms. Gomez, how can the NTIA  
15 most effectively promote the interests of the United States in  
16 international discussions on internet and communications  
17 policies?

18 Mr. Kneuer. Well, I think Mr. Shimkus asked about ITU and  
19 our role there. That has been the vehicle in the world radio  
20 conference where NTIA works with our colleagues in the State  
21 Department. Aggregating all of the equities of the  
22 spectrum-dependent agencies is very heavily focused on the  
23 Defense Department, as you would imagine.

24 So maintaining a robust role and making sure that we  
25 collaborate across those areas. With regards to internet

1 governance and those sorts of subject matters, you know, the  
2 multi-stakeholder model has been very, very productive.

3 It was productive in collaborating and coordinating the IATA  
4 functions. Some of these broader internet governance issues  
5 probably don't belong.

6 The nontechnical issues don't belong in a technical body.  
7 But the model of the multi-stakeholder model to bring diverse  
8 coordinated interests and equities together for U.S. promotion  
9 in a variety of international forums, NTIA plays an important role  
10 in that.

11 Ms. Gomez. I absolutely agree with John. NTIA's strong  
12 voice and role in the governmental advisory committee is very  
13 important, may even be more so important today to ensure that the  
14 internet remains an open -- free and open resource and that other  
15 bodies don't take over trying to manage the architecture that so  
16 far has been so successful and open.

17 Mr. Kinzinger. And let me just ask you very briefly, Ms.  
18 Gomez, one of the NTIA administrator's important roles is to  
19 represent the administration and the United States and the  
20 multi-stakeholder decision process, particularly when it comes  
21 to settings like ICANN and the internet governance issues. Do  
22 you see an obstacles to doing this?

23 Ms. Gomez. I would agree with what Meredith said earlier,  
24 which is that this is -- or maybe it was John who said it. Sorry.

25 This is probably the best staff, the most expert staff and

1 the strongest and most strategic staff that we have to participate  
2 in these -- in this body.

3 So it's important to continue to support that resource and  
4 support their needs as we move forward with a U.S. presence and  
5 voice in these -- in these meetings and associations.

6 Mr. Kinzinger. Okay. Thanks.

7 And I yield back now.

8 Mrs. Blackburn. With military precision, yields back.

9 Mr. Butterfield, five minutes.

10 Mr. Butterfield. Thank you, Chairman Blackburn and Ranking  
11 Member Doyle. Thank you for holding today's hearing on NTIA  
12 reauthorization.

13 There is no doubt that NTIA will play a critical role as this  
14 administration contemplates its goals related to our nation's  
15 telecommunications policy.

16 By any definition, NTIA is critical in the communication  
17 space. NTIA's past and ongoing work with FirstNet -- and I  
18 appreciate the ranking member's comments a few moments ago -- work  
19 with FirstNet as well as their work with the National Highway  
20 Safety Administration to develop and implement next generation  
21 9/11 services is to be commended.

22 NTIA also plays a critical role in safeguarding our nation  
23 from cyber threats. There is no higher mission from members of  
24 Congress than doing all that we can to protect our constituents  
25 from potential threats.

1           At this point, it is underscored by the intervention of  
2       Russia in last year's election and their state-sponsored hacking  
3       of the Democratic National Committee.

4           Those incidents highlight that cyberattacks that threaten  
5       our country can be carried out by highly funded and even  
6       state-sponsored actors.

7           In response to that type of attack on our democracy, we must  
8       take steps to investigate all potential cyber security threats  
9       including those posed by state sponsors like Russia, and I am  
10      confident that NTIA will do just that.

11          Also important to my district and my constituents is  
12      identifying ways to increase broadband adoption and reduce  
13      barriers to broadband deployment.

14          In this regard, I understand that NTIA continues to engage  
15      in several initiatives aimed to increase adoption. For example,  
16      NTIA has engaged local communities through the Broadband USA  
17      initiative to provide technical assistance and guidance on how  
18      best to increase access to affordable broadband.

19          It has also been a key participant of the broadband  
20      opportunity council which created to ensure -- which was created  
21      to ensure federal agencies take specific steps to encourage  
22      broadband investment and remove regulatory barriers.

23          Just one or two questions, Ms. Gomez. Do you think that the  
24      new administration should continue these activities and why?

25          Ms. Gomez. Absolutely. All the activities that you

1 mentioned are important and especially to the continued  
2 innovation and deployment of these new and important  
3 technologies.

4 So I would say NTIA is front and center in a lot of them and  
5 these are initiatives that should continue.

6 Mr. Butterfield. Aside from the increase in the budget from  
7 40 to 50, are there other things that we can do legislatively to  
8 enhance the work of NTIA?

9 Ms. Gomez. I do think that there are ways that you can  
10 empower and promote NTIA as it continues a lot of these interagency  
11 discussions.

12 As we have discussed before, it's a small agency with a  
13 mandate to push and prod its fellow agencies throughout the  
14 federal government to lead to, for example, removing barriers to  
15 infrastructure deployment.

16 That requires dedication and focus from other agencies that  
17 NTIA sometimes doesn't have the muscle to force other agencies  
18 to make a priority as part of their mission.

19 So to the extent Congress can help with bolstering NTIA's  
20 ability to successfully get the other agencies to cooperate,  
21 that's always very helpful.

22 Mr. Butterfield. Thank you very much.

23 Madam Chairman, I yield back.

24 Mrs. Blackburn. And gentleman is competing for first prize  
25 in yield back.

1 Ms. --

2 Mr. Butterfield. I was told -- I was told that you would  
3 be in the chair, Ms. Blackburn. Your real title in the time is  
4 I was when I was when I was a judge in the courtroom.

5 Mrs. Blackburn. Absolutely.

6 Mr. Butterfield. I understand the importance.

7 Mrs. Blackburn. Yes, sir. Ms. Walters, five minutes.

8 Ms. Walters. There is a lot of pressure.

9 First of all, there's a lot of pressure. First of all, I'd  
10 like to thank the chair for holding this hearing and for the  
11 witnesses being here today.

12 Cybersecurity continues to be a growing threat and I'd like  
13 to get your thoughts on what role the government should play in  
14 this area as this becomes a bigger concern to all stakeholder.

15 With that, Ms. Baker, with regard to cyber security, there  
16 seems to be several agencies that are staking a claim of leadership  
17 -- FCC, DoD, DHS, NTIA.

18 With respect to the commercial sector, do you have opinions  
19 as to which agency should run point?

20 Ms. Baker. I'm glad you asked. It's a great question.

21 I do -- we do have an opinion here. Cybersecurity is  
22 critical. These networks are going to change everyone's life  
23 every job, our economy. But they have to be safe.

24 And so cyber security is the most important thing that we  
25 work on every day. I feel strongly that this needs to take place

1 within the administration, not an independent agency.

2 So I think there's a coordination role that needs to happen  
3 between DHS, NTIA, NIST. I think we probably prefer DHS to be  
4 the lead with coordination from the others. But I do think one  
5 way or another it needs to take place in the administration, not  
6 in the FCC. Thank you.

7 Ms. Walters. Ms. Gomez, one of the primary challenges we  
8 face in security our nation's communication infrastructure and  
9 networks from cyber threats is the rapidly evolving nature of  
10 these threats.

11 Does NTIA have the ability to adapt quickly enough to adjust  
12 to new and emerging threats in its efforts to drive interagency  
13 cybersecurity practices?

14 Ms. Gomez. In keeping with your prior question, it is  
15 important that we have some kind of a balance of the economic and  
16 national security concerns in cybersecurity practices.

17 The point that you're making is it is a challenge to keep  
18 up with changes in technology and that is why you need an agency  
19 that can convene processes that are able to be flexible enough  
20 to be able to address those changes.

21 NTIA could use more expert staff. They have very good expert  
22 staff. But as we look forward to continuing and increasing  
23 challenges and new and novel issues in these areas, it would be  
24 helpful to be able to bolster them.

25 As I mentioned before, they also need the security clearances



1 which is part of the reason why the need additional budget to be  
2 able to get those clearances for their staff.

3 Ms. Walters. And Ms. Gomez, you have the most recent tenure  
4 at NTIA. And how would you describe the relationship between NTIA  
5 and DHS and in this cybersecurity framework? And do you think  
6 NTIA and the FCC have sufficient authority and ability to  
7 represent the interest the interests of the commercial sector in  
8 this conversation?

9 Ms. Gomez. NTIA and DHS has had a very good relationship  
10 both on cybersecurity as well as on public safety. There are  
11 established processes in place. There are interagency groups in  
12 which they participate. So that is very helpful.

13 I think having specific authority is always helpful to  
14 bolster an agency's jurisdiction and I think NTIA does have a very  
15 good jurisdiction writ large but it always is helpful to give them  
16 that specific jurisdictional authority in reauthorizing  
17 legislation.

18 Ms. Walters. And Ms. Baker and Mr. Kneuer, do you have  
19 anything to add, either one of you?

20 Mr. Kneuer. I think there's -- there is value in NTIA's role  
21 with its interface with the private industry. There is the  
22 response part of dealing with the cyber initiative which is  
23 probably not going to be NTIA's role.

24 But one of the greatest lines of defense in cyber is to share  
25 information on the nature of threats and the nature of attacks.

1 Private industry sometimes is hesitant to share that kind  
2 of information because they are admitting to a vulnerability or  
3 they are exposing a vulnerability or they are concerned about  
4 litigation exposure.

5 NTIA can play that role, taking some of the information of  
6 the information from the private sector, bringing that into the  
7 interagency and taking the best information from the interagency  
8 and taking the best information from the interagency and  
9 distributing it back into the private sector.

10 Ms. Baker. I think you've covered it.

11 Ms. Walters. Thank you, and I yield back the balance of my  
12 time.

13 Mrs. Blackburn. Mr. Costello for five minutes.

14 Mr. Costello. Thank you.

15 Continuing on the cybersecurity issue, could you share your  
16 thoughts, Ms. Gomez, and I would open up to the other panelists  
17 as well, on NTIA's role in assisting FirstNet plan and its  
18 cybersecurity strategies.

19 We spoke on the commercial side already.

20 Ms. Gomez. Great. Well, cybersecurity is a very important  
21 component of FirstNet. Again, we need to have public safety's  
22 trust and confidence in the security of the nationwide public  
23 safety broadband network to have -- to have -- to get them to  
24 actually sign on to the service.

25 NTIA -- FirstNet has its own cybersecurity staff. I would

1 start with that. So to the extend NTIA is supporting FirstNet  
2 I would say that's probably it's biggest role.

3 NTIA also participates with NIST in the public safety  
4 communications research program and through that program is able  
5 to coordinate support for FirstNet as well on cybersecurity  
6 issues.

7 But this is fundamental to the success of the network will  
8 be the ability to have a very secure network.

9 Ms. Baker. I would just add probably that I think FirstNet  
10 it has probably one of the very most important missions of any  
11 government agency.

12 And as I just stated, I think cybersecurity is one of the  
13 most important jobs that we have as network providers. So I guess  
14 you get double importance there.

15 Mr. Kneuer. I think that's right. I think there is an  
16 opportunity for potentially a virtuous cycle to come into effect  
17 as a -- as a customer. FirstNet probably has higher cyber  
18 requirements than a typical large enterprise company, right.

19 So as they put those requirements into the provider and the  
20 contractor for FirstNet, those cyber requirements populate into  
21 the commercial networks more broadly and as those technological  
22 developments take place in response to FirstNet, you know, we get  
23 this loop where the requirements get put in, the technology gets  
24 developed and it's an improving cycle.

25 Mr. Costello. This could be a philosophical or a technical

1 question or both.

2 We are obviously dealing with a very massive network that  
3 I think we can all agree needs to remain agile because as you get  
4 new security technologies you want to make sure that you don't  
5 have to sort of go back in time to reengineer.

6 How do you -- how does NTIA remain relevant and make sure  
7 that it remains agile and nimble as new security technologies  
8 enter into this?

9 Ms. Gomez. I think, again, this goes back to NTIA's  
10 convening role. It both has the external expertise. It also has  
11 the interagency expertise between NIST and DHS.

12 But, more importantly, it also needs to rely on the  
13 stakeholders to come in and to educate it and the  
14 multi-stakeholder processes on these new technologies and that's  
15 large part of what they do.

16 Mr. Kneuer. I would just build on something Meredith said  
17 earlier about the administration being the best place for some  
18 of these issues.

19 I think the danger in pursuing a regulatory approach to cyber  
20 is that the incentives shift from network protection to regulatory  
21 compliance and that creates a sort of sporadic function that  
22 you're concerned about, that how do you stay relevant.

23 Enshrining things in regs is the quickest way to delay rapid  
24 changes. So leveraging the coordinating function, leveraging and  
25 taking advantage of the incentives that both industry and the

1 government have to protect themselves is the best way for us to  
2 keep it as something that's top of mind rather than always backward  
3 looking at a regulatory structure.

4 Mr. Costello. The state and local implementation grant  
5 program -- the education and outreach to a state's local emergency  
6 personnel is obviously extremely important. And the guidance --  
7 the NTIA can offer in the decision making process for states  
8 weighing challenges and how to opt in or opt out, can you sort  
9 of explain, moving forward, how NTIA should approach that on a  
10 -- particularly in my state of Pennsylvania, where it's an  
11 extremely important issue?

12 Ms. Gomez. Yes. Congress was very wise to include what we  
13 call planning funding, just generally, in creating this state and  
14 local implementation grant program because FirstNet needs to get  
15 the input from the bottom up, from the cities and communities and  
16 localities up through the state up to FirstNet, and that takes  
17 dedicated resources. That's what the grant program does.

18 What NTIA does is administers that grant program and support  
19 FirstNet's efforts to reach out to those -- to those individuals  
20 so they can have a voice in the network.

21 Mr. Costello. Thank you.

22 Mrs. Blackburn. Gentleman yields back.

23 Mr. Cramer, you're recognized five minutes.

24 Mr. Cramer. Thank you, Madam Chair, and congratulations on  
25 the gavel.

1           Thanks to all of our witnesses for this hearing and your time  
2           -- time that is getting late.

3           Now, I've sat here a long time and I've listened to pretty  
4           much everything and there have been a couple of passing references  
5           to smart cars or autonomous vehicles. But I am going to bring  
6           up a completely different topic so a completely different context  
7           at least for a similar topic.

8           So my home state of North Dakota is home to the Northern  
9           Plains UAS test site, one of the six FAA-designated test sites  
10          designated in 2013.

11          And as you likely know, remotely-piloted aircraft are going  
12          to play an increasing -- are playing an increasing role in  
13          important duties like disaster recovery, monitoring pipelines,  
14          precision agriculture.

15          Obviously, there are the obvious military applications.  
16          And as a result of our test site, we have a rather unique enhanced  
17          use lease at the Grand Forks Air Force Base where there is a private  
18          sector business park at the same place as the -- on the air base,  
19          you know, with the appropriate security divisions and what not.

20          It's quite unique, and for military applications for defense  
21          contractors, which we have attracted to the park, you know,  
22          spectrum is fairly easy. It's a -- of course, it's a military  
23          issue.

24          But for the private sector where I think the real opportunity  
25          and real growth lies for testing, aircraft testing equipment, you

1 know, training pilots, research and development, there has been  
2 a challenge as it relates. And, in fact, there was a specific  
3 situation not that long ago where a company was testing and wanting  
4 to illustrate, demonstrate the use of their cameras and video.  
5 And they literally could not do it because of a fairly basic  
6 spectrum issue.

7 All of that being said, going forward, how do you see spectrum  
8 allocation as it relates to UAS and how do you see it being  
9 resolved, improved upon? NTIA -- obviously, their role in other  
10 agencies and what can we as Congress do to help clarify it? And  
11 I throw that to all of you and that will be my only question, Madam  
12 Chair.

13 Ms. Gomez. So spectrum is going to be very important for  
14 unmanned aircraft in a variety of ways. First of all, the command  
15 and control of aircraft, particularly if you start looking at  
16 beyond line of sights uses.

17 And there is going to be different types of needs depending  
18 on the type of aircraft and the operations themselves. So right  
19 now, you can fly using unlicensed but that's not going to be true  
20 for the longer range flights.

21 So the spectrum is going to be very important. The FCC is  
22 going to be important because they are going to have the rules  
23 for commercial uses.

24 The FAA's going to be important because they are the ones  
25 that are going to try to regulate to make it -- make everything

1 safe and make sure that they meet requirements to make them safe.  
2 And NTIA is important because there is going to be interagency  
3 coordination.

4 And so spectrum is something that the agencies are very  
5 focused on currently. There is internationally allocated  
6 spectrum for unmanned aircraft and it's specific aeronautical  
7 spectrum, and then there is also other spectrum that can be  
8 utilized that will also be very significant for the expansion of  
9 this industry that is moving so quickly and, as you've noted, the  
10 North Dakota test site is an important part of that.

11 Mr. Cramer. So Ms. Gomez had beautifully described the  
12 complication of the issue. So as a result going forward, how can  
13 we help streamline? Because you articulated perfectly how  
14 difficult this is, especially command and control, which is where  
15 the real opportunity rests.

16 Ms. Baker. I would highlight, it's like -- many of the  
17 things that we have talked about today, the future of our  
18 communications networks, overlapped jurisdictions, and I think  
19 what we need to encourage is to make sure that we remain on the  
20 cutting edge of innovation and I think, you know, UAS is one where,  
21 you know, they are using them in England. We are not using them  
22 really here.

23 So I think its own place where -- I think with Congress'  
24 oversight we can make sure that we don't over regulate budding  
25 innovations and budding industries so that we can maintain our



1 innovative edge and competitive edge against other countries  
2 around the world.

3 Mr. Kneuer. The only thing I would add apart from the  
4 long-term deployment of unmanned vehicles, with regards to the  
5 test site, there are private test sites. There are military test  
6 sites that are typically in very remote areas and those remote  
7 areas are typically not at all spectrum constrained in the real  
8 world but they're spectrum constrained by the issuance of those  
9 licenses.

10 We issue licenses on national bases or wide geographic areas  
11 and you can turn on a spectrum analyzer and say there is no one  
12 here. But the authorities are held by someone else.

13 Creating governance processes where there are the  
14 opportunity and the ability of diverse carriers to say you know  
15 what, I am not out there, and, you know, here's how we can  
16 collaborate and here's how you can use my spectrum, how you can  
17 have transactional agreements in those areas, I think, clarifies  
18 or will get the regulatory out of the way of the technological  
19 in those test areas.

20 Mr. Cramer. Thank you all very much, and Madam Chair, I  
21 yield back.

22 Mrs. Blackburn. Gentleman yields back.

23 Mr. Engel, we will get you in before we get called to votes  
24 and be able to dismiss our panel and not have to come back.

25 Mr. Engel. Okay. Thank you. Thank you, Madam Chair, and

1 briefly, before I begin, I want to say how excited I am to be  
2 rejoining this subcommittee after having served on it a number  
3 of years ago and how much I am looking forward to working with  
4 you, Madam Chair, and all the members here on these important  
5 issues of Congress.

6 Thanks to our witnesses. I wanted to focus on cybersecurity  
7 and particularly the role NTIA plays coordinating our national  
8 cybersecurity response between government and industry.

9 Last year, when Russian operatives breached the Democratic  
10 National Committee and broke into John Podesta's emails, they  
11 attacked our election, the very core of our government.

12 But even that attack never hit a government agency or  
13 government-owned computer. The DNC is a private organization and  
14 Mr. Podesta kept his email on a Google gmail account.

15 So the Russian hacking story is at least in part a story about  
16 how cyber threats leave us vulnerable in these places where  
17 governments and the private sector meet.

18 NTIA has emerged as a vital cop on that beat in its role at  
19 the IPTF and as a liaison between industry, Commerce Department,  
20 defense and intelligence communities, DHS and the rest of the  
21 government.

22 So let me ask Ms. Gomez and Mr. Kneuer, I wonder if you could  
23 talk a bit about what would happen to this multi-stakeholder  
24 approach to cybersecurity, particularly on the government side  
25 if there wasn't an agency to fill that role.

1 Ms. Gomez. So what would happen if there wasn't an agency  
2 to fulfill the role of coordinating with other agencies, as we  
3 talked there's a lot of overlapping jurisdiction and interests  
4 throughout government.

5 As I mentioned, I think it's very important that as we  
6 continue to look forward to securing the networks that we make  
7 sure we balance economic and national security interests because  
8 each agency's mission is a little bit different.

9 The national security agency's interest is in protecting the  
10 internet. That could lead to very draconian measures that would  
11 not allow continued innovation.

12 So an NTIA is important because they are a convener and they  
13 provide a balance. It's also important because it convenes the  
14 multi-stakeholder processes to ensure that we have methods of  
15 addressing a lot of these vulnerabilities and without having rules  
16 enshrined in regulations that would then not be flexible for to  
17 take into account changes in technology.

18 Mr. Engel. Mr. Kneuer, do you have anything to add?

19 Mr. Kneuer. I think I agree largely with all of that.

20 The legal and authorization structures around structures  
21 around cyber touch everything. This is Title 50 authority  
22 Defense Department -- it's Title 10 Authority under Espionage and  
23 you've got all of the various law enforcement authorities on the  
24 response side of things.

25 I never -- I don't think it's ever going to be NTIA's role

1 or whether it would be wise for it to be NTIA's role to be in the  
2 response change.

3 However, it does play an important role in, as we have talked  
4 about earlier, sharing information that is developed from some  
5 of those other expert agencies that are really designed to respond  
6 to foreign and domestic threats.

7 Its role is best suited, I think, to making the commercial  
8 industry aware of these threat vectors, what they can do to  
9 practically defend themselves. And should the attacks come, the  
10 response is going to be focused, I think, in other agencies.

11 Mr. Engel. Thank you. Let me ask Ms. Baker.

12 How valuable is the institutional expertise at NTIA and IST  
13 and these other industry facing agencies that work with all of  
14 you in cybersecurity -- what would happen to our national  
15 cybersecurity strategy if we lost that expertise at that junction  
16 between industry and government?

17 Ms. Baker. I think it's critical. I mean, I think  
18 expertise as these networks evolve is having that housed in both  
19 in the private sector and having that in the government so that  
20 they can convene the private sector I think is integral to our  
21 protection, going forward.

22 Mr. Engel. Thank you. So let me just say, in conclusion,  
23 that I am convinced that one of the biggest problems we are facing  
24 now in confronting cyber threats is that everything is spread out.

25 There are precious few clearinghouses where actual decisions

1 are made about the best way to protect American interests.

2 We have this opportunity here with NTIA to build on and expand  
3 our capability at this intersection of industry and government.

4 I believe it is very important to overcoming part of this  
5 problem. So I want to urge my colleagues and chairwoman to keep  
6 that in mind while this subcommittee moves forward with this  
7 reauthorization progress -- process.

8 Thank you, Madam Chair, and I yield back the balance of my  
9 time.

10 Mrs. Blackburn. The gentleman yields back and there are no  
11 further members waiting to ask questions. So we will thank our  
12 witnesses.

13 We are so pleased to have had you with us today. I remind  
14 members you've got five days to submit opening statements. You  
15 have 10 days to submit further questions to our witnesses.

16 We would ask for written responses within 10 days, and there  
17 being no further business to come before the committee today, it  
18 is adjourned.

19 [Whereupon, the hearing concluded at 1:01 p.m.]