

FINANCIAL SERVICES AND GENERAL GOVERNMENT APPROPRIATIONS FOR FISCAL YEAR 2021

TUESDAY, MARCH 10, 2020

U.S. SENATE,
SUBCOMMITTEE OF THE COMMITTEE ON APPROPRIATIONS,
Washington, DC.

The subcommittee met at 10:01 a.m., in room SD-562, Dirksen Senate Office Building, Hon. John Kennedy (Chairman) presiding.
Present: Senators Kennedy, Moran, Boozman, Daines, Lankford, Coons, Manchin, and Van Hollen.

FEDERAL COMMUNICATIONS COMMISSION

OPENING STATEMENT OF SENATOR JOHN KENNEDY

Senator KENNEDY. Senator Kennedy: The hearing of the Appropriations Subcommittee on Financial Services and General Government will come to order. We are honored today to have with us four of the distinguished folks from the FCC, including the FCC's Chairman.

I hope that you will consider focusing your remarks on our new FCC plan to do a public auction with respect to 5G. I know the FCC's budget is very important. We can talk about that, of course, if you would like to but I plan on holding a second hearing dealing specifically to the budget because I anticipate that the 5G issue will dominate a lot of our time today.

And again, I want to thank you all for being here. Why don't we swear you in? Can you stand and raise right hand. Do you promise to tell the truth, the whole truth, and nothing but the truth, so help you God?

Chairman PAI. I do.

Commissioner ROSENWORCEL. I do.

Commissioner STARKS. I do.

Commissioner CARR. I do.

Senator KENNEDY. Thank you. I suppose we should start with our Chairman and then we will move to my left and go to the right. Okay with you? All right. I do not have an opening statement.

Senator Coons, the Ranking Member, is on his way and he will be here probably in 5 or 10 minutes. At the appropriate time, if he has an opening statement, I will ask him to give that. Senator Moran, do you have anything you want to say?

Senator MORAN. I will wait for my questions.

Senator KENNEDY. Okay. All right. Mr. Chairman, you honor us with your presence. Thank you for being here. The floor is yours.

STATEMENT OF HON. AJIT PAI, CHAIRMAN, FEDERAL COMMUNICATIONS COMMISSION

Chairman PAI. Well, thank you, Chairman Kennedy, Members of the subcommittee, for holding this hearing to present the FCC's fiscal year 2021 budget request. The Commission, as you know, requests \$343 million for FCC salaries and expenses and an auction spending cap of \$134,495,000.

And before I discuss our budget, I wanted to let you know that the Commission has a team in place to address the coronavirus situation and we have been consulting with industry on their preparedness. Importantly, we have also taken affirmative steps to protect FCC employees and ensure everyone's safety. I would be happy to go into more detail on that if need be.

Turning back to the budget, I would like to thank the subcommittee for supporting the Commission's work over the last fiscal year. The funding that you have provided has enabled us to pursue policies that are delivering real results for American people. The digital divide is closing with new fiber deployment setting records in both 2018 and 2019. Broadband service is improving with average speeds skyrocketing, and the Internet remaining free and open.

The United States is leading the world in 5G with the FCC delivering low, mid, and high band spectrum. One national carrier now covers over 200 million Americans with 5G, and small scale deployment is booming. And communications technology is making the American people safer and more secure, with improved and more targeted wireless emergency alerts now available to the vast majority of American citizens.

But, of course, our work is not done. And looking to the future, our budget request would modestly increase general spending by \$4 million and lift the spectrum auctions cap by \$2 million. These additional funds would support our continuing commitment to modernizing Information Technology, as well as cover legally mandated pay increases for our staff.

This morning, I would like to briefly discuss how we intend to use the funds we are seeking to advance two priorities. First, closing the digital divide. I am proud, during the first 2 years of this administration, we have reduced the number of Americans without access to 25 megabits per second fixed broadband by 30 percent, and the number of Americans without access to 250 megahertz megabits per second fixed broadband by about three quarters.

And going forward, the Rural Digital Opportunity Fund represents the Commission's boldest step yet in bridging the digital divide. This new program will provide more than \$20 billion over the next decade to support up to gigabit service to up to 6 million rural homes and businesses through a competitive reverse auction.

We will target support to areas that lack access to fixed 25 megabits per second Broadband through a two-phase approach. The first phase will address areas of the country that everybody agrees are unserved, including more than 100,000 locations each in States like Louisiana, Arkansas, Oklahoma, Illinois, and West Virginia.

The second phase will cover areas in which the first phase does not yield winning bidders and any areas that are partially served. For instance, areas that are in a census block that are covered but the remainder are not. And to identify eligible areas for this second phase, we will use the data to be gathered through our Digital Opportunity Data Collection, a new program that the FCC adopted last August to collect more granular deployment data.

The Commission's budget request is also essential to advancing the FCC strategy to facilitate America's superiority in 5G technology or 5G fast plan. That plan includes three main components, but this morning, I would like to concentrate on the first part, our efforts to make more spectrum available. During the last 16 months, we have completed three 5G spectrum auctions.

All told, these auctions are making available almost 5 gigahertz of high band spectrum for commercial use, and gross proceeds totaled over \$10 billion. We have also been hard at work on mid band spectrum. On June 25, we will begin our 3.5 gigahertz auction, which will make available 70 megahertz of spectrum. And I am pleased to report that we are on track to begin to C-band auction on December 8. I know that the C-band proceeding is of great interest to this subcommittee and I am proud of the decisive action that the FCC took last month to bring this essential spectrum to market for 5G.

When I last testified before you on the C-band, I stated that my decision in this proceeding would be based on four guiding principles. The decision we made is consistent with each. First the FCC is making available a significant amount of C-band spectrum, 280 megahertz, for 5G. Second, by offering accelerated relocation payments, we will make the spectrum available quickly.

Third, we are generating significant revenue for the Federal Government by holding a public auction as the subcommittee recommended. And fourth, we are protecting the services that are currently delivered using the C-band by reserving the upper 200 megahertz of the band for incumbent users.

The FCC C-band auction is a major boost for American leadership in 5G and for bringing 5G to rural America. Vice President Pence recently said that this is, "the plan the President has endorsed and we will be carrying forward," and I am proud to stand behind it. Chairman Kennedy, Ranking Member Coons, Members of the subcommittee, thank you once again for holding this hearing.

I appreciate your interest in the FCC's work and look forward to answering your questions.

[The statement follows:]

PREPARED STATEMENT OF HON. AJIT PAI

Chairman Kennedy, Ranking Member Coons, and Members of the Financial Services and General Government Subcommittee, thank you for inviting me here to present the Federal Communications Commission's fiscal year 2021 Budget Request. The Commission requests \$343,070,000 for FCC salaries and expenses and an auction spending cap of \$134,495,000.

I'd like to take this opportunity to thank the subcommittee for supporting the Commission's work. The funding you have provided has allowed us to pursue policies that are working and delivering real results for the American people. The digital divide is closing with new fiber deployment setting records in both 2018 and 2019. Broadband service is improving with average speeds skyrocketing, and the Internet remaining free and open. The United States is leading in 5G with the FCC

delivering low-, mid-, and high-band spectrum. One national carrier now covers over 200 million Americans with 5G and small-cell deployment is booming. And communications technology is making the American people safer and more secure with improved and more targeted wireless emergency alerts now available to the vast majority of our citizens.

But of course, our work is not done. And looking to the future, our budget request would modestly increase general spending by \$4 million and lift the spectrum auctions cap by \$2 million. These additional funds would support our continuing commitment to improving and modernizing information technology as well as cover legally mandated pay increases for our staff.

I last appeared before the subcommittee on October 17, 2019, to discuss the Commission's auctions process, and FCC staff appeared a month later to provide additional information related to our work in this area. Even in the short passage of time since the October hearing, the Commission has moved ahead aggressively to accomplish its strategic goals—closing the digital divide, promoting innovation, protecting consumers and public safety, and reforming the FCC's processes. As our budget and strategic goals indicate, we aim to move full speed ahead in the next fiscal year. I'd like to discuss with you some of the Commission's most important priorities for the upcoming year.

Our top priority continues to be closing the digital divide. I've seen for myself what affordable high-speed Internet access can do for a community—for its families, its schools, its hospitals, its farms, its businesses—as well as the impact of its absence. That's why we've been working to promote rural broadband deployment by reducing regulatory burdens and reforming our Universal Service Fund (USF) programs to efficiently distribute funding for those areas where there isn't currently a business case for the private sector to deploy on its own. And I'm proud that during the first 2 years of this administration, we've reduced the number of Americans without access to 25/3 Mbps fixed broadband by 30 percent and the number of Americans without access to 250/20 Mbps fixed broadband by about three-quarters.

Through our 2018 Connect America Fund Phase II reverse auction, the Commission has now authorized nine waves of funding totaling over \$1.4 billion to expand connectivity to more than 627,000 homes and businesses nationwide, including in Arkansas, Delaware, Illinois, Kansas, Louisiana, Maryland, Montana, Oklahoma, and West Virginia. And by allocating these funds through a reverse auction process, we ended up reducing the costs of connecting these homes and businesses by more than two-thirds.

Going forward, the Rural Digital Opportunity Fund represents the Commission's boldest step yet in bridging the digital divide. This new program will build on the success of the CAF Phase II auction and provide more than \$20 billion over the next decade to support up to gigabit service for up to 6 million rural home and businesses through a competitive reverse auction. We'll target support to areas that lack access to fixed 25/3 Mbps broadband through a two-phase approach. The first phase will address areas of the country that everybody agrees are unserved. The second phase will cover areas in which the first phase doesn't yield winning bidders and any areas that are partially served (for instance, some households in a census block are covered but the remainder are not). And to identify eligible areas for this second phase, we will use the data to be gathered through our Digital Opportunity Data Collection, a new program to collect more granular deployment data that we adopted last August.

Through the Rural Digital Opportunity Fund, we will connect more Americans to faster broadband networks than any other USF program in history. On February 28, 2020, the Commission adopted a Public Notice proposing bidding procedures for the first phase of the auction, which is scheduled to begin in October and will make up to \$16 billion available for the deployment of fixed broadband networks across rural America. Our staff's initial estimate shows that in each of 25 States, there would be more than 100,000 locations that would be eligible for Phase I of the Fund. The benefits would be felt from the Gulf Coast to Appalachia, and from the Great Plains to the Pacific Ocean. For example, in Louisiana, the FCC staff estimates that approximately 188,000 rural homes and businesses could be eligible for Phase I RDOF bidding. And Phase I would also have a big impact in Arkansas (222,000 estimated eligible locations), Oklahoma (162,000), Illinois (246,000), and West Virginia (130,000), just to name a few States.

On the mobile side of the broadband ledger, we recognize that there are going to be rural areas where the business case for deploying 5G, the next generation of wireless connectivity, may not exist. I firmly believe we must ensure that 5G narrows rather than widens the digital divide and that rural Americans receive the benefits that come from wireless innovation. That's why I intend to circulate a proposal soon to establish the 5G Fund. This program would make up to \$9 billion in

USF support over 10 years available to carriers to deploy advanced 5G mobile wireless services in rural America. This is a major investment in rural areas that will be allocated through a reverse auction and will target hard-to-serve areas with sparse populations or rugged terrain.

One component of the 5G Fund bears special mention. I've seen first-hand that America's farms and ranches have unique wireless connectivity needs. That's why I intend to propose reserving at least \$1 billion specifically for deployments facilitating precision agriculture.

In another action aimed at closing the digital divide, the Commission at our February 28 Open Meeting adopted a Notice of Proposed Rulemaking to expand our White Space device rules, paving the way for improved broadband coverage for rural Americans. Unlicensed White Space devices operate in slivers of spectrum in the TV broadcast bands as well as other 600 MHz frequencies which are not being used for other authorized services. These airwaves are attractive because they can deliver communications services over long distances, making them well-suited for wireless broadband services in rural areas. As part of our balanced spectrum strategy, I am optimistic that these proposed rules would provide for more robust service and efficient use of White Space devices particularly in rural areas, without increasing the risk of harmful interference to protected services in the TV bands. Our proposed rules would also provide flexibility for these devices to support applications like the Internet of Things.

The Commission's budget request also is essential to advancing the FCC's strategy to Facilitate America's Superiority in 5G Technology, our 5G FAST Plan. The 5G FAST Plan includes three main components: freeing up spectrum, promoting wireless infrastructure, and modernizing regulations to encourage fiber deployment. I'd like to give you an update on the significant progress we've made on implementing this plan.

During my tenure as Chairman, we have left no stone unturned in our exhaustive search for spectrum resources. We have repurposed airwaves to provide licensed and unlicensed spectrum and leveraged our engineers' expertise to find better and more efficient ways to use spectrum we've already allocated. The details may be complex, but the result is simple: American consumers are getting better value for the public resources they own, and our economy is better off.

During the last 16 months, we have completed three 5G spectrum auctions. In Auction 101, we auctioned 850 megahertz of spectrum in the 28 GHz band. In Auction 102, we auctioned 700 megahertz of spectrum in the 24 GHz band. And just last week, we concluded Auction 103, where bidders won licenses for 3,400 megahertz of spectrum in the upper 37, 39, and 47 GHz bands. All told, these three auctions made available almost five gigahertz of high-band spectrum for commercial use. To put that in perspective, that is more spectrum than is currently used for terrestrial mobile broadband by all wireless service providers in the United States combined. And gross proceeds for these three auctions totaled over \$10 billion.

All of this highlights that money spent on our auctions program is an exceptionally wise investment. By the end of the last fiscal year, the Commission had held 93 auctions since Congress granted the FCC this authority in 1993 and raised an average of \$4.5 billion a year, for a total of \$117 billion sent to the Treasury.

But despite the difficult and highly technical nature of this work, we have only used a small fraction of auctions proceeds—less than \$2 billion of the \$117 billion total raised—to operate the program. That's a massive return on the investment you've helped make possible over the years.

Looking ahead, we will continue to be exceptionally active with respect to 5G spectrum auctions, and our focus will be on mid-band spectrum. On June 25, for example, we will begin our 3.5 GHz auction, where we will make available 70 megahertz of spectrum for Priority Access Licenses. Indeed, this auction will involve the greatest number of licenses—over 22,000—ever offered by the FCC in a single auction.

And I am pleased to report that we're on track to begin a C-band auction on December 8. I know that the C-band proceeding is of great interest to this subcommittee, and I am proud of the decisive action that the FCC majority took last month to bring this essential spectrum to market for 5G.

When I last testified before you on the C-band, I stated that my decision in the proceeding would be based on four guiding principles. First, the FCC must make available a significant amount of C-band spectrum for 5G. Second, we must do so quickly. Third, we must generate revenue for the Federal Government. And fourth, we must ensure that the services that are currently delivered using the C-band can continue to be delivered to the American people.

The Order that the FCC adopted advances each of these principles, and it's important to recognize that on many of the issues we tackled there is a lot of common

ground. When it comes to making available a significant amount of C-band spectrum for 5G, there is broad consensus that we got it right by reallocating 280 megahertz of spectrum (3.7–3.98 GHz) for flexible use, including 5G. When it comes to ensuring that services that are currently delivered using the C-band can continue to be delivered to the American people, there is broad consensus that we got it right by reserving the upper 200 megahertz of the C-band (4.0–4.2 GHz) for incumbent operators and by requiring winning bidders in the C-band auction to pay for incumbents' reasonable relocation expenses. When it comes to generating revenue for the Federal Government, there is broad agreement that we got it right by deciding to hold a public auction of C-band spectrum rather than authorizing satellite operators to conduct a private sale. And when it comes to making available C-band spectrum for 5G quickly, there is broad agreement among Republicans and Democrats in Congress that accelerated relocation payments should be offered to satellite operators if they meet deadlines for clearing C-band spectrum quickly.

Why are these payments necessary? The answer is simple: speed. The Commission, wireless providers, and American consumers all want satellite operators to vacate the lower portion of the C-band quickly. And this transition will be much faster if we align the incentives of satellite operators with the public interest in expedited access to that spectrum.

To be sure, I recognize that there is disagreement regarding the amount of these accelerated relocation payments. Some believe that the payments in our Order were too small; indeed, we saw numbers proposed that were greater than the annual GDP of Iceland. Others have criticized them as being too large. But I believe we've gotten it just right at a maximum of \$9.7 billion.

We arrived at this figure by working with our economists and other expert staff to determine the value to auction winners of having satellite operators clear the spectrum in an accelerated timeframe and to approximate the size of payments that would be made in the private marketplace absent holdout and free-rider problems. You can find a detailed discussion of this topic at paragraphs 211 through 240 of our Order.

I also think that it is important to clear up a couple of points of potential confusion about accelerated relocation payments. First, they will be made by wireless carriers, not by the FCC and not by the American taxpayer. And second, to the extent they impact the proceeds of the auction at all, they are likely to increase those proceeds. That's because without a strong incentive for satellite operators to cooperate, it will take years longer to clear this spectrum, dramatically reducing the value of this spectrum opportunity to wireless bidders. It's like repainting one's house before selling it; yes, there are costs to doing that, but the costs are more than offset by the higher sales price. And our conservative approach here means the costs of accelerated relocation are outweighed by the benefits to the Treasury (not to mention the public at large).

In short, the idea that we would raise \$9.7 billion more for the Treasury if we removed the \$9.7 billion of accelerated relocation payments from our Order is simply wrong. As our agency's expert economists informed me, this is not a matter of shifting money from one pot to the other. Indeed, had we taken that step or reduced accelerated relocation payments to \$1 billion, we would be likely to raise less revenue through our C-band auction.

Finally, I would note that the Communications Act gives us ample legal authority to move forward with our approach to the C-band. Section 316 of the Act allows us to modify the licenses of C-band incumbents. Section 309 of the Act authorizes a public auction of the lower 280 megahertz of the C-band for flexible-use, overlay licenses. Section 303 of the Act gives us the authority to set new technical rules for the band. And section 303(r) of the Act lets us require the winners of the public auction to pay for the relocation of the band's incumbents under our *Emerging Technologies* framework.

In addition to the C-band, we've been hard at work on the two other aspects of the 5G FAST plan—promoting wireless infrastructure and modernizing regulations to encourage fiber deployment.

And our work to clear regulatory hurdles and facilitate infrastructure build-out is spurring record-breaking capital investments in essential infrastructure, including fiber-optic cables and small cells. Indeed, hundreds of thousands of small cells are being deployed on an annual basis in addition to new towers, creating new employment opportunities for skilled employees doing this work. Notably, Commissioner Carr has been at the forefront of bringing attention to the need to train more skilled infrastructure specialists and developing programs to address this problem.

Thus far, I've discussed closing the digital divide and promoting innovation. Our third priority is to continue fulfilling our important mission to enhance consumer protection and protect public safety. We ended last month by following up on a num-

ber of consumer protection and safety issues of importance to this subcommittee. First, we acted on the outstanding investigatory efforts of our Enforcement Bureau and proposed significant fines against the nation's four largest wireless carriers for apparently selling access to their customers' location information without taking reasonable measures to protect against unauthorized access to that information. We also let the carriers know in no uncertain terms that they may not disclose their customers' location information to a third party without their customers' express consent. This FCC will not tolerate phone companies putting Americans' privacy at risk.

We also continue to protect American citizens and the national security of the United States. At our November 2019 meeting, the FCC unanimously adopted rules to prohibit USF fund recipients from purchasing equipment from vendors deemed national security risks, initially designated Huawei and ZTE as such vendors. In February 2020, the FCC launched an information collection from carriers on their use of Huawei and ZTE equipment and services in their networks.

Under the leadership of Commissioner O'Rielly, the Commission has been reporting on and calling attention to the diversion of 911 fees collected at the State level. Our latest report finds that in 2018, over \$187 million in taxpayer funds (or approximately 7.0 percent of all 911/E911 fees collected) that should have been used for the implementation and support of 911, E911, and NG911 services were instead used to fund other activities. This is an outrageous misuse of these funds and an abuse of public trust.

Additionally, February 17, 2020 was the effective date of Kari's Law, which requires all new multi-line telephone systems—which are commonly used in hotels, office buildings, and college campuses—to directly route 911 calls, without the need to dial a prefix to reach an outside line. This will help save lives by enabling those who need it most to reach help immediately.

Another public safety issue involves suicide prevention and mental health. Suicide rates in this country are reaching levels not seen since World War II. Vulnerable populations are particularly at risk, such as veterans, rural Americans, and LGBTQ youth. Access to trained counselors could make the difference between life and death. And so, with the urging of Members of this subcommittee, we have proposed to designate 988 as a new, Nation-wide, 3-digit number for suicide prevention and mental health. If this number is implemented, those in crisis will only need to dial a 3-digit number to be connected with professionals who staff the current National Suicide Prevention Lifeline (1-800-273-TALK).

Another serious public safety issue involves the illicit use of contraband cellphones in prison. I've seen for myself the impact that these devices can have within and outside of prison walls, in places like Jess Dunn Correctional Center in Taft, Oklahoma. We intend to continue our work in addressing this dangerous problem, and I want to thank Senator Lankford for his leadership on the issue.

I am also pleased to provide you with an update on our work to combat what Chairman Kennedy has called "a nuisance and an intrusion into family dinners, jobs, weddings, graduations and ballet recitals"—robocalls. I know this is another important concern of every Member of this subcommittee. Like most Americans, and like me, you are sick and tired of robocalls. The Commission has continued its mission to fight robocalls—consistently our top source of consumer complaints—by allowing telephone providers to block suspected malicious and illegal calls by default, and we've taken aggressive enforcement action against these violators. And last week, I shared with my fellow commissioners a draft Report and Order to mandate the implementation of caller ID authentication technology known as STIR/SHAKEN. This technology enables phone companies to verify the caller ID information that is transmitted with a call and will help them identify calls with illegally spoofed caller ID information before those calls reach Americans' phones. At our March Open Meeting, we'll vote on this item—a significant step toward ending the scourge of spoofed robocalls and a step supported by Congress's passage of the TRACED Act.

We're pleased that we can absorb the costs for the TRACED Act—less than \$200,000—within our budget, but that isn't always the case. For example, our staff estimates that the newly enacted PIRATE Act will cost upwards of \$11 million to administer, potentially bringing our total budget figure to \$354 million. That number would include an \$8 million increase to the base budget. Specifically, in order to combat the problem of illegal radio operations, the statute requires a sweeping process that will require new equipment and a substantial number of additional field agents to implement fully. We are submitting a formal amendment to the Office of Management and Budget concerning costs associated with the full implementation of the PIRATE Act and will work with this subcommittee toward determining a reasonable funding level for that program.

As we move ahead in fiscal year 2020 and look forward to fiscal year 2021, I want to assure the subcommittee that we will continue essential projects that focus on American territories and Tribal communities. A good example of the former is the \$950 million in long-term funding we approved last year to expand, improve, and harden broadband networks in Puerto Rico and the U.S. Virgin Islands through the Uniendo a Puerto Rico Fund and Connect USVI Fund.

And with respect to Tribal communities, with the subcommittee's support and direction, we will be continuing our efforts to expand broadband opportunities on Tribal Lands. We have increased support for carriers providing communications services on Tribal lands and created a priority window that allows Tribes to obtain free access to unassigned 2.5 GHz spectrum on rural Tribal Lands. This priority window opened on February 3, 2020 and will close on August 3, 2020. We are also following through with the subcommittee's direction to work with Tribes to ensure that the Commission is adequately addressing their needs.

What's next for the Commission itself? During the current fiscal year, the Commission will be making a fresh start in a new headquarters building where we will realize rent savings of millions of dollars in fiscal year 2021 and future years. This subcommittee is responsible for funding the move and we greatly appreciate your support. Our staff has worked hard to develop a comprehensive plan and we are hoping to have a seamless move at the end of June.

Finally, I want to thank Senator Moran once again for his leadership in prioritizing information technology for all agencies. We hired a new Chief Information Officer since I last testified, and we continue to upgrade and modernize our systems.

As you can see from this testimony, the FCC has been exceptionally busy and will continue to be so during fiscal year 2021. And we have been able to accomplish all of this because of the talents and dedication of our extraordinary staff. Indeed, since I became Chairman, we have held 38 monthly Open Meeting at which more than 200 items were adopted, 80 percent of which were passed with bipartisan support. The hard-working men and women of the FCC serve the American public each day with skill and commitment, and I am deeply honored to work alongside them.

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Chairman Kennedy, Ranking Member Coons, and Members of the subcommittee, thank you for this opportunity to testify. I am pleased to answer your questions.

Senator KENNEDY. Thank you, Mr. Chairman. Mr. Ranking Member, would you like to make a statement?

Senator COONS. I am fine. Thank you, Mr. Chairman. Let's proceed.

Senator KENNEDY. Thank you, Senator. Commissioner Carr, you honor us with your presence. Thank you for being here. The floor, sir, is yours.

STATEMENT OF HON. BRENDAN CARR, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION

Commissioner CARR. Thank you. Chairman Kennedy, Ranking Member Coons, Senator Moran, thank you for the opportunity to testify. I want to begin with an update on the FCC's work to accelerate the build out of 5G. Just a few short years ago, in 2015 and 2016, we were at serious risk of seeding U.S. leadership in 5G to China. We were in jeopardy of losing to our overseas competitors, the good-paying American jobs, and the half trillion dollars that 5G can add to the U.S. economy.

We have now flipped the script. We have secured the strongest 5G platform in the world. We must now maintain this momentum. And time is of the essence because we know what is at stake with 5G, \$275 billion in private sector investment without a penny in new taxes, 3 million jobs, and \$500 billion in economic growth. The country that builds 5G first will reap the benefits of early adopter jobs and services. To achieve all this, the FCC has implemented a 5G plan that focuses on infrastructure and spectrum.

On infrastructure, we modernized outdated rules that only slow down Internet builds. On spectrum, we have pursued an all-of-the-above approach. We freed up more high band spectrum than any country in the world. We have pushed hard on low band coverage spectrum for 5G. And on mid band, we had to play catch-up. That is because in 2017, when leadership changed at the FCC, the agency had no mid band spectrum in the pipeline.

We have worked diligently since then to correct that mistake. And our 5G plan is now delivering results. Internet speeds are up 85 percent. Internet providers built out more miles of high-speed fiber last year than ever before smashing records. The digital divide has narrowed by nearly 30 percent. And competition for high-speed services has increased. We must now continue to build on this success, and our decision last month on C-band is key to that effort.

Unlocking the C-band has been a tremendously complicated and important policy puzzle to solve. It involved nearly every industry the Commission regulates. The best minds at the FCC ground away at it for 2 years, relying on all our capabilities, engineering, economics, and the law. The Chairman and the FCC's dedicated staff deserve immense credit for the work they have done. And all that effort will deliver results. We will clear 300 megahertz of mid-band.

Americans will start benefiting from these services next year, ensuring that our communities don't wait any longer than necessary for the opportunity that high-speed connections can enable and we will do all of this using the FCC's tried-and-true auction process which will return tens of billions of dollars to the U.S. Treasury.

Our approach strikes the right balance. To understand why, consider where we started. Two years ago, satellite companies proposed selling just 100 megahertz in a private sale. That would not have made enough spectrum available for 5G. That would not have assured a fair and transparent bidding process. And that would not have returned a single penny to the taxpayer. Satellite companies may have pocketed \$30 billion or more. We said no. Satellite companies then increased their spectrum target to 200 megahertz, quickened their pace of clearing and offered a 50/50 split to Treasury, one that Senate Commerce leadership tracked in their own legislation.

Again, we said no. Instead, we determined that the amount of spectrum cleared will be 300 megahertz, that we will conduct the auction using the ordinary public process that Americans will start to see this spectrum next year that satellite companies could receive acceleration payments if and only if they earn it.

In response, at least one satellite company has now threatened lawsuits in bankruptcy, hoping the FCC would cave and offer them billions more in cash. We said no. We stuck with a final decision determined by the facts in the law, not by the desire of any satellite company to pad their balance sheet.

I am proud of the Commission's multi-year work on the order because it preserved vital broadcasting services, especially in rural America. It will make a material impact on Americans' ability to access 5G services quickly, and it will return billions of dollars to the American taxpayer.

So in closing, I want to thank you again, Chairman Kennedy, Ranking Member Coons, Senator Moran, for holding this hearing, and I look forward to your questions.

[The statement follows:]

PREPARED STATEMENT OF HON. BRENDAN CARR

Chairman Kennedy, Ranking Member Coons, and distinguished Members of the subcommittee, thank you for the opportunity to testify. It is a privilege to appear before you.

I want to begin today with an update on the steps we are taking at the FCC to accelerate the buildout of 5G and other high-speed Internet infrastructure in communities across the country.

Just a few short years ago, in 2015 and 2016, we were at serious risk of ceding U.S. leadership in 5G to China. We were in jeopardy of losing the good-paying American jobs and the half trillion dollars that 5G can add to the U.S. economy to our overseas competitors. We have now flipped the script and secured the strongest 5G platform in the world here in the U.S.

We now need to sustain this momentum. Time is of the essence, because we know what is at stake with 5G. \$275 billion of private sector investment, with not a penny of new taxes. Three million jobs. \$500 billion in economic growth. What is more, the country that builds strong 5G first will reap the benefits of early adopter jobs and services. The trillion-dollar club—those companies with market caps above \$1 trillion—has just four members: Apple, Microsoft, Amazon, and Google. They're all American, and they all ride on our world-leading mobile networks. That's not a coincidence, and when the next Amazons and Apples are invented, we want them to be invented here on our 5G networks. We want the jobs, the services, and the opportunities they will create to be realized right here in the U.S.

Beyond global competitions and unfathomable dollar figures, we act with a sense of urgency on 5G because we know what a connection means to American families. Every day that a family lacks adequate Internet access may be a day a doctor's appointment is missed, a picture to loved ones goes unsent, or homework remains unfinished.

The FCC has acted to secure the benefits of 5G for all Americans. We have done so in two main areas: infrastructure and spectrum.

On infrastructure, we modernized the outdated rules that only slowed down Internet builds and drove up costs. By cutting red tape, we helped accelerate infrastructure builds, including in rural and remote parts of the country that had been left on the wrong side of the digital divide for too long.

On spectrum, we have pursued an all-of-the-above strategy. On high-band, we completed the first auction of millimeter wave spectrum in the world last year and have now held several more. On low-band, the U.S. started pushing this spectrum out into the commercial market more than a decade ago. On mid-band, though, the U.S. had fallen behind. In 2017, when leadership changed at the FCC, the agency had no mid-band spectrum in the pipeline. Although mid-band is a key input for securing U.S. leadership in 5G, the prior FCC left the mid-band cupboard empty.

We have worked diligently since then to correct this mistake. At 3.5 GHz, we ensured mid-band spectrum will work in the real world, and we will now auction it off this summer. With EBS, which had not been assigned in roughly half the country, we are pushing mid-band out into the commercial marketplace. At 2.5 GHz, our decision in Sprint/T-Mobile enables the combined company to build out this valuable mid-band nationwide. At 2 GHz AWS-4, we now have a binding commitment from DISH to build broadband using its mid-band licenses—an intensive use of the spectrum that DISH was not planning on absent the transaction and our demands. We are pressing ahead with 5.9 GHz and 6 GHz, as well.

The FCC's actions have delivered results. Internet speeds in the U.S. are now up 85 percent since year end 2016. Internet providers have been building out more miles of high-speed fiber than ever before—smashing prior records. Just last year, providers built out over 450,000 route miles of fiber, which is enough to wrap around the Earth 18 times. The digital divide—the percentage of rural and other Americans that lack access to high-speed Internet services—narrowed by about 30 percent over the first 2 years of this administration alone. Competition has increased, too, with the percentage of Americans with more than two options for high-speed Internet services increasing by 52 percent between year end 2016 and year end 2018.

We must continue to build on the success we are seeing. We need to extend America's winning streak. That means continuing our work to free up more spectrum and streamline outdated infrastructure rules.

Our decision last month on C-band is a key part of that effort. Unlocking the C-band has been a tremendously complicated and important policy puzzle to solve. It involves nearly every industry that the Commission regulates, and the outcome was not obvious. The best minds at the FCC ground away at it for 2 years, relying on all of our capabilities: engineering, economics, and law. The Chairman and the FCC's dedicated staff deserve immense credit for their work.

All of that work will deliver tangible results to the American people. We will clear 300 MHz of C-band spectrum, which is more than incumbents ever thought they could give up and is enough to enable a number of providers to offer truly mobile 5G services. Americans will start benefiting from these services next year with a full clearing coming in 2023—ensuring that our communities need not wait any longer than necessary to access high-speed services and all of the opportunities it enables. And we will do all of this using the FCC's tried and true auction process, using rules that are fair and known, and which will result in tens of billions of dollars being returned to the American taxpayer.

Our approach strikes the right balance. It creates incentives that can bring C-band spectrum to the market quickly while protecting the hundreds of millions of Americans who currently rely on C-band services. Incumbent satellite providers are not going to see the level of accelerated relocation payments that they sought—not even close—but the figure we arrived at is based on the law, the facts, and the FCC's extensive rulemaking record. It is derived from economists' estimates of the value that early spectrum clearing creates. And it relies on an extensive technical assessment of our alternatives should the satellite companies not cooperate—namely to provide for the design and construction of satellites, fiber, or other technological means to ensure continuity of video delivery, especially to rural America.

Let's consider where we started and where we ended. Two years ago, the major satellite companies proposed selling 100 MHz of C-band to a wireless company or companies in a private sale. That proposal would have made enough room in the C-band for perhaps only one wireless provider, it would not have assured a fair and transparent bidding process, and it would not have returned a single penny to the taxpayer. Satellite companies may have pocketed \$30 billion or more. We said "no." Over the course of the next year, the satellite companies increased their spectrum target to around 200 MHz, quickened their pace of clearing, and offered a 50–50 split to Treasury—a split that Senate Commerce Committee leadership tracked in their own legislation. Again, we said "no." Instead, we ruled that the amount of spectrum cleared will be 300 MHz, that we will conduct the auction using the ordinary public process, that the public will start to use the spectrum next year, and that the satellite companies could receive single-digit billions of dollars—if and only if they earn it. In response, at least one of the satellite companies subsequently has threatened lawsuits and bankruptcy, hoping the FCC would cave and offer them billions more in cash. We said "no." We stuck with a final decision that is supported by the facts and the law—not by the desire of any satellite company to improve its balance sheet.

I am proud of the entire Commission's multi-year work on the order because it will preserve vital broadcasting services, especially in rural America where technological alternatives to satellite are costly or infeasible. It will make a material impact on Americans' ability to access 5G services quickly. And it will return billions of dollars to the American taxpayer.

* * *

I want to thank you again Chairman Kennedy, Ranking Member Coons, and distinguished Members of the subcommittee for holding this hearing. I welcome the chance to answer your questions.

Senator KENNEDY. Commissioner Rosenworcel.

STATEMENT OF HON. JESSICA ROSENWORCEL, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION

Commissioner ROSENWORCEL. Yes. All right. Good morning, Chairman Kennedy, Ranking Member Coons, Senator Moran. Thank you for having me today. I believe the future belongs to the connected. No matter who you are or where you live in this coun-

try, you need access to modern communications to have a fair shot at 21st century success.

That is why we need a strong FCC acting in the public interest. But right now the agency is falling behind on its responsibilities under the Communications Act, and going forward, it has a whole lot of new duties heading its way from Congress. So it is cause for concern that the FCC is requesting a budget of \$343 million, an amount that when inflation is taken into account, leaves us with less than before. At the same time, the agency is operating with one of the lowest staffing levels in its history.

So I have some ideas about how to fix this but I first want to address a specific proceeding that could use your help, one that cuts directly to the heart of the agency's mission. You see, throughout our history, there have been opportunities big and small to sway the course of United States spectrum policy, and Congress and this agency have a proud tradition of rising to the challenge. Decades ago, we took the academic ideas of Ronald Coase and ushered in a new era of competitive spectrum auctions.

More recently, we blazed a trail for two-sided incentive auctions with the first of its kind repurposing of broadcast spectrum. And then we did something creative. We took the revenues we raised in that auction and answered the call of the 9/11 Commission by helping to develop a national public safety network for First Responders. And last month, the FCC tackled another spectrum frontier with the repurposing of the C-band for 5G service.

But rather than working with Congress, the FCC went out on its own and there are three things that are flawed with the FCC's C-band plan. First, the FCC's decision is wrong on the law. It exceeds our statutory authority under Section 309J of the Communications Act because we divert significant proceeds beyond relocation expenses from the United States Treasury. Second, the FCC's decision is wrong on the economics. The amount of the FCC's nearly \$10 billion acceleration payment is plucked out of the air. There is no math behind it.

Third, the FCC's decision is wrong on policy. Working with Congress we can use the billions of dollars in revenues this auction could raise to do the very infrastructure projects that this country so desperately needs. We could start by using this auction as a vehicle for Congress to repeal legislation that requires the FCC to take away T-band spectrum used by police and fire officials across the country. Then we could fund a new initiative to help with rural broadband, next generation 911, close the homework gap so that students who struggle with Internet access and can't do their nightly schoolwork have options so they don't have to write their papers in the parking lot at the library or while nursing a soda at a fast food restaurant with free Wi-Fi.

Of course, this proceeding is not the only place where the agency needs to do better. So let me highlight two other issues that deserve your attention, robocalls and broadband. At the beginning of this administration there were roughly 2 billion robocalls a month. That number is now routinely 6 billion a month. But the FCC has just 12 staff fully dedicated to robocall enforcement and it takes an average of 649 days to complete a robocall enforcement action. That is insane. It is like trying to empty the ocean with a teaspoon.

And with broadband, it is a fact that the FCC's broadband maps are totally inaccurate. They have been panned by cabinet secretaries, Members of Congress, and of course consumers. Nonetheless, the agency is moving ahead with the plan to spend the vast majority of our broadband funding for the next 10 years, which is \$16 billion, without first doing a thing to improve our maps or fix the data we have today. That is a mistake. We first need to know where broadband is and is not. We should have maps before money and data before deployment.

Finally, now is absolutely the time for the FCC to talk about the coronavirus disruption and how technology can help. Nationwide, we are going to explore the expansion of telework, telehealth, and teleeducation. In the process, we are going to expose some really hard truths about the scope of the digital divide.

The FCC should be convening broadband providers right now to prepare. It should be identifying how it can use its universal service powers to support connected care for quarantined patients and how Wi-Fi hotspots can be available for loan for students who have schools who have shut and find that their classes have migrated online.

Chairman Kennedy, Ranking Member Coons, Senator Moran, thank you for holding this hearing. When the FCC is appropriately funded and focused, there is a lot we can do to harness the power of our communications technology for good. I look forward to answering any questions you might have.

[The statement follows:]

PREPARED STATEMENT OF HON. JESSICA ROSENWORCEL

Good morning, Chairman Kennedy, Ranking Member Coons, and Members of the subcommittee. Thank you for the opportunity to appear before you today.

I believe the future belongs to the connected. No matter who you are or where you live, you need access to communications technologies to have a fair shot at 21st century success. That's why it's never been more important to have a strong Federal Communications Commission acting in the public interest.

Nevertheless, I believe the budget request before you proposes to underfund the FCC. At a time when the agency is already struggling to fulfill its core responsibilities under the Communications Act, and when it is on the cusp of significant new work directed by Congress, the FCC has requested a budget of \$343,070,000—an amount that when inflation is taken into account leaves the agency with less, not more. In addition, it proposes to maintain one of the lowest staffing levels in the FCC's history. We request nearly a thousand fewer FTEs than the agency had at its peak in 1995. Since then, the U.S. population has grown by 24 percent, our national GDP has nearly doubled, and our jurisdiction has expanded to cover one-sixth of the Nation's economy. But our size has not kept pace with all this activity.

This choice is irresponsible because according to the most recent Federal Viewpoint Survey more than one-third of the FCC's staff report they do not have the resources they need to do their jobs. I look forward to discussing with you my ideas for how the FCC can start to reverse this trend. But first I'd like to take this opportunity to address a specific proceeding that could use your help too—one that cuts directly to the heart of this agency's mission.

You see, throughout the course of our history, there have been opportunities big and small to sway the course of United States spectrum policy. For the most part, both Congress and this agency have a proud tradition of rising to the challenge. Decades ago we took the academic ideas of Ronald Coase and ushered in a new era of spectrum auctions. Since then, this agency has delivered immense value to the American people. We held more than 90 auctions, issued more than 50,000 licenses, and raised over \$116 billion for the United States Treasury.

More recently, we blazed a trail for two-sided incentive auctions with the first-of-its-kind repurposing of broadcast spectrum. Today this effort is regarded as a resounding success—because we reoriented ourselves from what was to what could be.

Instead of just solving the spectrum problems of a few companies, we took the revenues we raised in the incentive auction and built the Nation's first interoperable public safety network for first responders.

Last month, the FCC tackled another frontier with the repurposing of C-band spectrum for 5G service. It may be among the most challenging slices of spectrum the FCC has ever taken up. It has unique features that were not on congressional radar when this agency was given authority to repurpose spectrum.

But rather than working with Congress to find a way forward, this time we try to solve the problem the wrong way. There are three things that are fundamentally flawed with the FCC's plan.

First, the FCC's decision is wrong on the law. Section 309(j) of the Communications Act requires that all deposits the FCC may require to bid in an auction, as well as proceeds from the use of an auction, are deposited in the United States Treasury. The FCC tries to run around this requirement by suggesting it can create a third category of auction-related payments that are neither deposits nor proceeds. But by doing so, the FCC is reducing revenues that statutorily must go to the Treasury and undermining congressional power of the purse. Indeed, if we accept the FCC's argument here, it is hard to imagine any limitation on the agency's ability to require payments for any purpose that even loosely can be connected to some spectrum-related goal as a condition of auction participation—and that simply cannot be the case. Moreover, if this precedent is allowed to stand, every spectrum clearing effort at the agency going forward will be reduced to "let's make a deal."

Second, the FCC's decision is wrong on the economics. The amount of the FCC's acceleration payment is plucked out of thin air. Comb through the FCC's decision and you will not find a rational basis for it. It's not the result of data-driven decisionmaking. We don't try to square it with the court's finding in *Teledesic LLC v. FCC* that any voluntary incentive payment must be proportionate to the cost of providing replacement facilities. At best, it's back-of-the-envelope math. It looks a lot like an effort to justify backroom deals and promised payoffs. That's not the kind of decision a Federal agency should be making. That's a question more appropriately answered by Congress or the markets.

Third, the FCC's decision is wrong on policy. The FCC substitutes its will for the will of Congress. By acting unilaterally the agency is not only exceeding its authority under the law, it is denying the legislative branch the ability to produce a statute that gets us where we want to go on 5G and mid-band spectrum. It also denies us all the ability to take the funds from the auction of these public airwaves and put them to broader public purpose than those contemplated in the existing statute.

Working with Congress we can use the billions of dollars in revenues this auction could raise to do the very infrastructure projects this country so desperately needs.

We could start with using this auction as a vehicle for Congress to repeal the provision in the Middle Class Tax Relief and Job Creation Act that requires the FCC to auction off T-band spectrum 1 year from now. This auction will jeopardize the communications of police and fire officials in New York, Philadelphia, Pittsburgh, Washington, Chicago, Dallas, Houston, Los Angeles, San Francisco, Boston, and Miami. We should be looking for every implement in our policy toolkit to help prevent this public safety mess, including support from the revenues associated with this spectrum auction.

Next, we could use the billions of dollars raised in auction revenue to do other big things. We could do audacious things. We could fund a new initiative to help with rural broadband. We could fund the Nation's transition to next-generation 911, which is sorely needed and would benefit public safety in every State. Or we could use some of the revenues to seed a Homework Gap Trust Fund to help our Nation's students stuck in the digital divide. It could support wi-fi hotspots for loan in every school library—and virtually eliminate the Homework Gap overnight.

Our C-band proceeding is important, but it is not the only place where the agency owes more to Americans than it has been able to deliver. So let me finish by highlighting a few other issues that deserve your attention: universal service, consumer protection, public safety, and competition.

UNIVERSAL SERVICE

Our high-cost universal service program is how we ensure that all Americans have access to broadband. But these resources are finite. We need to be responsible stewards to stretch these dollars as far as possible and deliver on the promise of broadband opportunity for all. This should be our north star.

Yet it's no secret that the FCC's broadband maps, which help us decide where to spend universal service funds, are inaccurate. Right now, if a single subscriber in a census block is identified as having broadband, we conclude broadband is avail-

able throughout. That's not right. It masks so many people who are unserved and erroneously suggests our broadband mission has been accomplished where we still have work to do. According to the FCC's flawed data, roughly 21 million Americans do not have access to high-speed Internet service. But one independent study has found that as many as 162 million people across the country do not use Internet service at broadband speeds.

Nonetheless, last month the agency decided to move ahead with a plan to spend the vast majority of our universal service funds for the next 10 years—\$16 billion!—without first doing anything to improve our maps, survey service accurately, or fix the data disaster we have about the state of service today. That means if your home is marked as served by the FCC's maps today and it is not, then for the next decade you are on your own. Good luck. It means millions of Americans will slip deeper into the digital divide.

This is a mistake. The agency tasked with ensuring that every American is connected should know with precision where connectivity is and where it is not. We should finish the important work of fixing our maps *before* we blindly spend money based on what we all can agree is faulty data. We need maps before money and data before deployment. Anything else just does not add up.

CONSUMER PROTECTION

Robocalls are the number one complaint this agency receives. At the start of this administration, Americans were receiving roughly 2 billion robocalls a month. The number now routinely reaches between 5 and 6 billion each month. But in a recent response to Congress, the FCC stated it has just 12 staff dedicated primarily to robocall enforcement. Cobbling together time from other staff bumps that number up by four or five. That's it.

That's not enough to keep pace with this growing problem. While the FCC has made news over a few big fines, our enforcement actions don't seem to be stemming the tide of these unwanted and intrusive calls. On average, it takes this agency 649 days to complete one robocall enforcement action from start to finish. In that time over 100 billion new robocalls might be placed. Our efforts are like trying to empty the ocean with a teaspoon.

Thanks to your efforts, Congress approved the TRACED Act late last year, giving the FCC new tools and expanded enforcement authority to combat robocalls. This was welcome. Consistent with the requirements of the TRACED Act, the FCC announced last week that it will move ahead to require call authentication—after first proposing to do so more than 3 years ago. But there's a lot more work to do. The many proceedings that are required under the new law will demand resources and effective oversight. I hope that we are up to the task.

PUBLIC SAFETY

Communications technologies are essential when the unthinkable occurs. But on too many recent occasions when disaster has struck, our communications have failed. The evidence is all around us, in season after season of hurricanes in the south and wildfires out west. And the names stay with us—Maria, Irma, Harvey, Michael, Camp, Woolsey, Kincade—long after the water has receded, the flames have done their damage, and the communities affected begin the hard slog of repairing and replacing so much essential infrastructure.

It has been over 2 years since the Government Accountability Office released a report criticizing the agency for its failure to promote network resiliency and urging it to do more. In response, we have issued four public notices seeking comment on changes. It's time to stop kicking this can down the road. We need enforceable rules on network resiliency before the next disaster strikes.

Relatedly, the FCC has a lot more to do and needs to move a lot faster when it comes to cybersecurity and specifically securing 5G networks and supply chains. If you spin through this budget request, we don't commit any resources to tackling this growing problem. Moreover, our present efforts to remove and replace insecure equipment are not bold enough. Here's what we can do to fix that.

First, we need an approach to supply chain security that considers how we can build secure networks that can withstand insecure equipment abroad—because no network stands by itself. So I believe the FCC should explore opportunities to unlock and diversify communications by supporting efforts with open radio access networks, or open RAN. This idea has garnered support from staff of the Department of Homeland Security, the Department of Commerce, the Department of State, and now my colleagues at the FCC. In fact, the FCC has proposed a workshop next month to discuss open RAN. That's good. Now we need to take it a step further and incorporate open RAN testbeds in our ongoing efforts to authorize city-wide 5G inno-

vation zones, which exist today in New York and Salt Lake City. Doing this now will help ensure that this technology develops here, on our shores.

Second, with the advent of 5G we are going to see billions and billions of new connected devices. To ensure that this growing Internet of Things is secure, the FCC should use its equipment authorization process creatively and encourage all device manufacturers to build security into new products. But less than 1 percent of our budget is set aside for new technology for our Office of Engineering and Technology that could help with this effort.

COMPETITION

Competition benefits consumers. It is the reason why the United States has birthed some of the most dynamic companies in the world. But last year the FCC gave short shrift to competition by giving its blessing to the largest wireless merger in our Nation's history. Now, despite this agency's assurances to the contrary, we are already seeing press reports about layoffs and I fear consumers could see price increases next.

I objected to this transaction because I think it harmed competition. But now that this merger is underway, it is on the FCC to ensure that consumers are not saddled with the consequences. That means the agency needs to carefully monitor wholesale access, enforce price commitments, and oversee network builds. But real questions remain about the FCC's willingness to do this work. In the year before last, the FCC let another company off the hook for new, competitive broadband networks that it agreed to deploy to get approval for its merger. So I hope we are up to the task this time around. Because when it comes to holding companies accountable for their pre-merger promises, I fear this FCC will look the other way.

Consumers deserve better than this. With communications technologies touching every aspect of our lives, the FCC should be doing less to bless transactions like this and more to expand competition and the benefits it brings, like lower prices and greater innovation.

Finally, I think it's time for the FCC to talk about coronavirus disruption and how technology can help. Nationwide we are going to explore the expansion of telework, telehealth, and tele-education. In the process, we are going to expose hard truths about the digital divide. The FCC should be convening broadband providers right now to prepare. It should be identifying how it can use its universal service powers to support connected care for quarantined patients and wi-fi hotspots for loan for students whose schools have shut and classes have migrated online.

Chairman Kennedy, Ranking Member Coons, and Members of the Subcommittee, thank you once again for holding this hearing. When the FCC is appropriately funded and focused, there is a lot we can do to harness the power of communications technology for good. We can improve access to scarce resources, streamline the delivery of important services, improve quality of life, and grow the economy. And we can make sure that the United States leads in the next generation of wireless technology just like it did in the last. Thank you for providing me with the opportunity to offer my views. I look forward to any questions you may have and to working with you and your staff in the days ahead.

Senator KENNEDY. Thank you, Commissioner. Commissioner Starks. Welcome.

STATEMENT OF HON. GEOFFREY STARKS, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION

Commissioner STARKS. Thank you, Chairman Kennedy, Ranking Member Coons, Senator Moran, Members of the subcommittee. Thank you for inviting me here to view the FCC's fiscal year 2021 budget. Today, I want to highlight three areas where the FCC must do more to advance the goal of ensuring that all Americans can access and benefit from modern communications networks, responding to COVID-19, rural broadband deployment, and the C-band. First, the FCC and communication networks have an integral role to play in responding to coronavirus.

In times of emergencies, Americans always pull together and certainly help those most in need. This will no doubt be true of COVID-19. With quarantines being required, as they may be soon in many communities, broadband connections will become ever

more vital. Everyone in the telecommunications sector must step up and the time is now.

Americans are going to need broadband in their homes to help telework to keep the economy strong, to help understand medical information and potentially connect with medical care via telemedicine, and to help our youngest learners continue to grow.

The FCC must join immediately with efforts that bring broadband into homes and into communities impacted by COVID-19, including considering expediting waivers and experimental licenses that will expand our network capabilities, creating additional Wi-Fi capacity by temporarily authorizing the 5.9 gigahertz band, awarding grants for capacity upgrades in underserved communities, and encouraging providers to offer low-cost options that extend basic Internet connections to millions of Americans and also deploy their emergency assets such as cell sites on wheels to unserved communities.

The FCC must also deploy a connectivity and economic stimulus plan to leverage and expand the effectiveness of the billions of dollars that we administer through the universal service programs, emergency distribution of funds to rapidly increase the number of lendable hot spots through schools and libraries. We should also urgently consider temporarily increasing the money that lifeline provides for basic connectivity for low-income Americans, raising the data caps on lifeline and easing the enrollment burdens. This wouldn't be the first time that the FCC has done so in a crisis.

In the George W. Bush era, FCC expanded the lifeline program to include prepaid wireless service following *Hurricane Katrina*. And as the coronavirus forces more people to stay home, I know that many Lifeline beneficiaries who would otherwise qualify based upon their participation in SNAP, may not be able to meet that program's working requirements. Keeping all SNAP beneficiaries connected to a Lifeline phone is a problem that the FCC can and must fix.

Yesterday's stock market activity made clear this health crisis is going to have dramatic economic consequences. The FCC's emergency connectivity and stimulus response needs to start today. Second, we must maximize the impact of our universal service dollars so that all Americans have access to high-quality affordable broadband. Earlier this year, the FCC created a \$20 billion fund for rural deployment. I grew up in Kansas and I support the infusion of resources for rural broadband, but I fear that this fund was not well designed with careful stewardship.

Two major concerns. First, this fund distributes money based on broadband maps that we all know are absolutely terrible, and I remain troubled that we chose to send over \$16 billion out the door before our maps are in order. Second, in designing this fund, the Commission made a last hour decision to exclude areas that receive funding from State broadband subsidy programs. That impacts more than 30 States that have some sort of broadband program that distributes well over \$1 billion. The Commission must coordinate with these affected States and remedy that fundamental error.

Third, and finally, last month's vote on the C-band put the interest of foreign satellite companies ahead of American taxpayers in

my mind. Everyone now appears to agree with the position that Chairman Kennedy and I champion last year that any transfer of this spectrum must be done via a public auction and not in a private transaction conducted by the companies set to gain the most. But I fundamentally disagreed with Chairman Pai's approach on the C-band which is why I voted against the \$15 billion proposal that stretches our law too far, in my mind, and unjustly enriches foreign satellite operators who may not even keep their end of this bargain.

I fervently hope that Congress will pass legislation like the SMART Act, which will clarify our authority, ensure that auction proceeds stay in the United States, and ensure that any money is spent on vital needs like rural broadband deployment and next generation 911.

I do look forward to your questions on these and any other issues. Thank you again for the opportunity to appear before you here on this subcommittee's work.

[The statement follows:]

PREPARED STATEMENT OF HON. GEOFFREY STARKS

Chairman Kennedy, Ranking Member Coons, and Members of the subcommittee, thank you for inviting me to your review of the Federal Communications Commission's (FCC's) fiscal year 2021 budget. Budgets are, at their core, statements of priorities. At the FCC, our top priority should be ensuring that all Americans can access and benefit from modern communications networks. Today, I want to highlight three areas where the FCC must do more to advance that goal: responding to COVID-19, rural broadband deployment, and the C-Band.

First, the FCC and communications networks have an integral role to play in responding to the coronavirus. In times of emergency, Americans always pull together and help those most in need. This is no doubt true of COVID-19. With social distancing and even quarantine being required, as they may soon be in many American communities, broadband connections will become even more vital. Everyone in the telecommunications sector must step up. The time is now. Americans are going to need broadband in their homes—to help them telework to keep the economy strong; to help them understand medical information, and potentially connect with medical care via telemedicine; and to help our youngest learners continue to grow.

The FCC must join that effort immediately with emergency steps that bring broadband into homes in communities impacted by COVID-19. We should consider expediting waivers and experimental licenses that will expand network capabilities; creating additional Wi-Fi capacity by temporarily authorizing use of the 5.9 GHz band; awarding grants for capacity upgrades in underserved communities impacted by the coronavirus; and encouraging providers to offer low-cost program options that could extend a basic Internet connection for millions of Americans and to deploy their emergency assets, such as cell sites on wheels, to unserved communities.

The FCC should also deploy a "connectivity and economic stimulus" plan to leverage and expand the effectiveness of the billions we administer annually in existing universal service programs. We should consider an emergency distribution of funds to rapidly increase the number of lendable hotspots available through schools and libraries. We should also urgently consider increasing the amount of money Lifeline—the only Federal program designed to bring affordable communications to our most vulnerable Americans—provides for basic connectivity, raising data caps, and easing enrollment burdens. This wouldn't be the first time the FCC has done so in a crisis—the George W. Bush-era FCC expanded the Lifeline program to include prepaid wireless service following Hurricane Katrina.

As the coronavirus forces more people to stay home, I know many people in the communications sector are concerned that some Lifeline beneficiaries who qualify based on their participation in the Supplemental Nutrition Assistance Program may no longer be able to meet that program's work requirements. We will need to work through points like these that regard our larger social safety net, to be sure, but keeping SNAP beneficiaries connected is a problem the FCC can and must fix.

By increasing access to broadband, we can help ensure that people who need treatment can seek it safely and those who need to be at home can stay there. As

yesterday's stock market activity made clear, this health crisis may have dramatic economic consequences. By deploying this "connectivity and economic stimulus," the FCC's funding programs can contribute to and amplify the stimulus packages that policymakers are now considering. We should start the FCC's emergency response today.

Second, we must maximize the impact of our universal service dollars so that all Americans have access to high-quality, affordable broadband. Earlier this year, the FCC created a \$20 billion fund for rural deployment, the Rural Digital Opportunity Fund. I grew up in Kansas, and support the infusion of resources for broadband, but I fear this fund was not designed with careful stewardship in mind. I have two major concerns. First, this fund distributes money based on broadband maps that we all know are terrible, and I remain troubled that we chose to send over \$16 billion out the door before we got our maps in order. Second, in designing this fund, the Commission made an eleventh-hour decision to exclude areas that have received funding from a State broadband subsidy program. While the FCC has so far offered only scant information on how this will work, we do know this: more than 30 States have some kind of State broadband program, and together these programs distribute well over one billion dollars. Before distributing the funds, the Commission must coordinate with affected States and remedy this fundamental error.

Finally, last month's vote on the C-Band put the interests of foreign satellite companies ahead of taxpayers. Everyone now appears to agree with the position that Chairman Kennedy and I championed last year: any transfer of this spectrum should be done via a public auction and not in a private transaction conducted by the companies with the most to gain. I fundamentally disagree with the Chairman's approach on the C-Band, which is why I voted against the nearly \$15 billion proposal that stretches our law too far and unjustly enriches foreign satellite operators who may not even keep their end of this bad bargain. I fervently hope that Congress will pass legislation like the SMART Act, which will clarify our authority and ensure that most auction proceeds stay in the United States and are spent meeting vital needs like rural broadband deployment and next-generation 911.

I look forward to your questions on these and other issues. Thank you again for the opportunity to raise these important issues before the Committee.

Senator KENNEDY. Thank you, Mr. Commissioner, and thanks to all of you. Not with us today is Commissioner O'Rielly, and that is my fault. I wanted to limit our panel to four people, two Republicans, and two Democrats. I didn't specifically say don't invite Commissioner O'Rielly. I would love to have him come down. He is welcome here anytime. When we have another hearing on the FCC, I hope he will honor us with his presence.

[CLERK'S NOTE: Commissioner O'Rielly supplied the following letter appearing on the next two pages to be included in the hearing record.]



FEDERAL COMMUNICATIONS COMMISSION
WASHINGTON DC

Mike O'Rielly
Commissioner

March 10, 2020

The Honorable John N. Kennedy
Chairman
Subcommittee on Financial Services and General Government
U.S. Senate
Washington, DC 20510

Dear Chairman Kennedy:

Thank you for your service to the American people, and especially to your Louisiana constituents. As always, but particularly given the challenging times facing our nation, it is all the more important to carefully consider the operations of each federal department and agency. Accordingly, the Subcommittee will today be reviewing the budget request of the Federal Communications Commission (FCC or the Commission). As part of this effort, I would humbly encourage the Subcommittee to give all due consideration of the pressing need to combat pirate radio operations and the significant work it will take to implement the recently enacted Preventing Illegal Radio Abuse Through Enforcement Act (PIRATE Act).

Pirate radio is an extremely harmful practice that involves unauthorized individuals illegally broadcasting radio programming over the air, using channels that are either already occupied or located nearby existing licensed channels within the radio band. The interference caused by these "stations" is detrimental to licensed radio broadcasters seeking to reach their listeners. Having proliferated in certain parts of the country, especially in the key markets of Boston, New York/Northern New Jersey, and Miami, pirate operators threaten the livelihood of legitimate stations, suppressing audience reach and advertising revenues. Most importantly, pirates—and those who facilitate their operations—prevent listeners from receiving important life-saving and legally-required emergency alert messages. Further, they operate impervious to the regulatory fees consistent with the Appropriations process and to consumer protection requirements applicable to lawful broadcasters.

With passage of the PIRATE Act, Congress has demanded that increased attention be paid to radio pirates and that enforcement action by the Commission against pirate radio be as aggressive as possible. This mandate was a welcome charge, as the Commission sought more tools to combat pirate radio, which has affected markets both large and small. In fact, the issue was raised in conversations I had with local broadcasters during my visit a few years ago to the Louisiana Broadcasters and Mississippi Broadcasters Annual Joint Convention in New Orleans.

The Commission has its work cut out to meet expectations under the PIRATE Act in order to attack the estimated 300-plus pirate operators nationwide. Thankfully, by substantially increasing allowable penalties and requiring annual sweeps, among other changes in law, the Act provides us with potential tools at our disposal to address this issue. Whether it is through new funding or a

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reallocation of existing resources, I respectfully request that the Subcommittee appropriately prioritize the harm caused by pirate radio, and the increased effort expected of the Commission to combat it.

Thank you for your consideration.

Sincerely,



Michael O'Rielly

Chairman KENNEDY. The second thing I am going to say is how sometimes we all disagree on issues, but how impressed I am with this FCC. I didn't go over everybody's resume because it would take too long, which is a good thing. You know, the Chairman, Harvard College, Chicago Law School, Commissioner Carr, Georgetown Catholic University Law School, Commissioner Rosenworcel, Wesleyan and NYU Law School, Commissioner Stark's, Harvard College and Yale Law School. And Commissioner O'Rielly, we know his background. And I won't even start to talk about your accomplishments.

FOREIGN SATELLITE COMPANIES

So I want to thank you all for what you do. I know you could do a little better in the private sector, but thank you for your service. I want to talk quickly and I am going to limit myself to 5 minutes and then go to my colleagues and we can have a second round if we need. We came that close to doing a private sale, private auction. I am talking about the 5 GHz band. Just allowing the incumbent foreign satellite companies to pretend that they own it, let them auction it off, and putting in their pocket between \$60 and \$80 million.

And I know you were pushed hard to do that. I was pushed hard to shut up. But thank you for not doing that. The argument that I kept hearing, oh, Kennedy you are against 5G. No, I am not but the spectrum belongs to the American people. And they said, well, you are going to kill 5G and slow everything down. And you know what I kept thinking about, I know how to get along with Russia tomorrow and improve our relations. Just do whatever they tell us, whatever Putin tells us we will agree to, and then we will have great relations. But I want to thank you for standing tall and doing a public auction.

FOREIGN SATELLITE COMPANIES C-BAND RELOCATION COSTS AND INCENTIVE PAYMENTS

Now the good news is we are going to do the public auction and you are going to do it this year. I think December 8. You have decided to incent, I am trying to look for a neutral word, incent the

foreign satellite companies to cooperate, and in my understanding, you are going to give them between \$3.3 billion and \$5.2 billion for relocation costs to move to another part of the C-band and you are going to give them \$9.7 billion as incentive payments to do what they required to do anyway. That is the way I see it. Explain to me how you came up with \$9.7 billion. Mr. Chairman.

Chairman PAI. Thank you for the question, Chairman Kennedy. And first to let me express my gratitude and I am sure the gratitude of my colleagues for your kind words about both our credentials and our public service. The details of the accelerated relocation payments are outlined from paragraphs 211 to 254 of the Commission's order from pages 88 to 103.

Contrary to my colleague's suggestion, the math is literally there in paragraph 217 with the formula. But in essence what we tried to do was estimate the amount that overlay licensees would be willing to pay for quicker clearing of the C-band absent to the holdout and free-rider problems that would otherwise attend the clearing.

So what we did was to estimate the time value of that spectrum, essentially. If you had a profit stream yielded from quicker freeing of that—

Senator KENNEDY. Let me stop you, Mr. Chairman. You tried to estimate what, the people who are going to bid on this 5G, what it was worth to them to have the incumbents, the foreign satellite companies get out. Is that right?

Chairman PAI. To clear quicker, correct.

Senator KENNEDY. Okay. Did you sit down with the foreign satellite companies and negotiate this?

Chairman PAI. We sat down with everybody to hear their views on—

MEETINGS AND NEGOTIATIONS WITH FOREIGN SATELLITE COMPANIES

Senator KENNEDY. Yes, but did you sit down with the foreign satellite companies and say, okay, let's talk turkey here and negotiate?

Chairman PAI. We heard their views on what that should be but we rejected it, mostly.

Senator KENNEDY. But did you have private meetings with them to negotiate the \$9.7 billion?

Chairman PAI. We had—every meeting we had was documented in ex parte following—

Senator KENNEDY. I am not saying you did anything wrong. I am just saying, did you have private meetings to negotiate the \$9.7 billion?

Chairman PAI. Not to negotiate the specific number and such but we did sit down with them and discuss what the numbers should be.

Senator KENNEDY. Okay, who did you sit down with?

Chairman PAI. I have—I mean they are documented in the ex parte. I can't remember off the top of my head, but the C-band alliance companies, Intelsat, Telesat, Eutelsat were in some of the meetings, SES—

Senator KENNEDY. Did they put a number on the table? Did they come in and say, okay, we are incumbents, we want x number of dollars? What was their opening offer?

Chairman PAI. The opening offer, as I recall, was a 50—well, first they said, we want do the private sale, of course, but after we announced the public auction, they came in with a proposal for a 50 percent split.

Senator KENNEDY. And you countered what?

Chairman PAI. We countered with saying, look, we don't believe that a 50 percent split is appropriate. What we are trying to do is tailor the accelerated relocation payments to the nature of the work that is done——

Senator KENNEDY. I am trying to understand the negotiations. They countered 50 percent of the auction proceeds. You said, when donkeys fly. I ain't doing it. Okay.

Chairman PAI. Not in so many words.

Senator KENNEDY. Right. You were more articulate. What did you counter with?

Chairman PAI. We ultimately countered with \$9.7 billion. We said, look, we believe that this is the correct amount that reflects the amount that overlay licensees would be willing to pay.

Senator KENNEDY. Okay. I am going to hush and call on Senator Coons. Y'all settle in, we are going to be here a while because I got a bunch of questions. Senator Coons.

Senator COONS. Thank you, Mr. Chairman. To continue along what I think is this line of questioning, hopefully, hopefully, will it work? So the central question behind offering a \$9.7 billion incentive essentially for relocation is, are there clear and binding commitments from these incumbents that will prevent litigation over an argument advanced by at least one of your fellow Commissioners that this decision exceeds the authority of the FCC?

So my impression of your decision, of the action of the FCC as a whole, is that you are providing an incentive that is based on the time value of earlier release of the spectrum. Tell me how certain we are that it will work and that they will release the spectrum in a timely fashion, not pursue litigation, and promptly clear up this spectrum because the race to 5G is the key, both strategic and economic issue. Will it work? How certain are we? And then I will seek comment or rebuttal from your colleagues.

LEGAL FRAMEWORK AND RELOCATION PAYMENT CONDITIONS

Chairman PAI. So I discern two strands to your question. First, will it work. Second, the legal framework. With respect to will it work, we believe it will. We believe the accelerated relocation payments we are offering the satellite companies, and they will have to make that election as to whether to accept those offers by May 29 of this year, will provide them a strong——

Senator COONS. And the payments are conditional? They only receive them once they move?

Chairman PAI. They only receive them after phase one if they complete the clearing of 100 megahertz, and after phase two, if they complete the clearing of the additional 280 megahertz of spectrum. And there are very specific guidelines as to what steps they have to take in order to clear, what clearing actually means, etcetera. The second question is very important. What is the legal framework for doing this?

SECTION 316 AND CONGRESS'S BROAD AUTHORITY TO MODIFY
LICENSES

Under Section 316, Congress has granted us broad authority to modify licenses. Starting in 1992, the Commission, through its emerging technologies framework, started a framework under which we encouraged companies wanting to essentially have overlaid licensees to compensate the incumbents for the cost of relocation and include specifically accelerated relocation payments.

Under its Community Television decision, the DC Circuit affirmed that we can do so, so long as the incumbents are providing substantially the same service. Under the Teledesic ruling, the court specifically approved the FCC saying that they could increase the amount of payments to the incumbents to accommodate the nature of the disruption. Also under the APCO case in particular. There are many other precedents.

ACCELERATED RELOCATION PAYMENTS VERSUS LITIGATION

Every single decision we made in terms of the C-band squares with section 316 and the emerging technologies framework. And so, the other question, Senator with all due respect, is what is the alternative? My colleagues' alternative would have a slowdown, in fact stop, until Congress legislates whenever that is, or put out some offer on the table. Presumably they disagree with accelerated relocation payments as a concept, which would guarantee litigation not just from the small satellite operators that don't have service in the United States and are unlikely to sue anyway, but from the very companies that are critical to clearing out the spectrum quickly.

If you want them to participate, you have to offer accelerated relocation payments to compensate them for the filtering, for the satellite launch, and the other work that is necessary to do. And I have never heard an explanation as to how they propose to get from A to B without substantial litigation and delay.

Senator COONS. Perhaps I can help facilitate that conversation?

Chairman PAI. I would love to hear it.

Senator COONS. Commissioner.

DEVELOPING A FRAMEWORK TO INCENTIVIZE THE REPURPOSING OF
COMMERCIAL SPECTRUM WITH HELP FROM CONGRESS

Commissioner ROSENWORCEL. Alright. Thank you, Senator. You asked what we know with certainty. I know two things with certainty. First, under the framework just passed by the FCC, we are headed fast to litigation. We are going to the courts. It is going to slow things down. The second thing I know with certainty is that if Congress helps us here, we will develop a framework to incentivize the repurposing of commercial spectrum in a way that is straight forward and effective. We need your assistance with that and the sooner the better.

Senator COONS. And what confidence do you have that that legislation is prepared, is moving, and is clearable in a less than geologic timeframe.

Commissioner ROSENWORCEL. Well, I do. Here is why. I think we can do a lot better than glacial. Here is why.

Senator COONS. I said geologic.
[Laughter.]

REPURPOSING BROADCAST SPECTRUM

Commissioner ROSENWORCEL. In 2012, Congress did something just like this in the Middle Class Tax Relief and Job Creation Act. It repurposed broadcast spectrum and took the revenues and used it to set up a First Responder network. And it came up with a theory of price discovery. This was incredibly effective. It was a model for how we should repurpose airwaves that have been over allocated for old uses and we should do it again.

Senator COONS. So I am almost out of time. Let me be—let me just be clear. Mr. Chairman, if Congress were prepared to quickly legislate in a way that directed this result and then took some of these proceeds and repurposed them to things we could all agree on, this is a big if, reducing digital divide, providing more support for First Responders, being part of the response to COVID-19, if that happened, would that be a more desirable outcome in terms of the predictability and the reduction of litigation risk?

Chairman PAI. Two points, Senator. First, I have said from the beginning that I would welcome Congress legislating on the question of what to do with the proceeds that go to the Treasury. When I was a Commissioner. I specifically proposed a rural dividend to allocate a percentage of auction proceeds to go towards rural broadband back in 2016.

COMPLEX LEGISLATION AND FORFEITURE OF AMERICAN LEADERSHIP IN 5G

But second, in the political reality that we are in, the notion that we should sit around and wait for Congress to come up with complex legislation on a topic that divides virtually every sector of the industry is crazy, and I for one am not going to forfeit American leadership in 5G on the hope that political actors from across the spectrum with differing incentives come together in passing a bill that is unlikely to succeed.

Senator COONS. I would like to believe—I will wrap up. I would like to believe, Mr. Chairman that at least the Chairman and I could work this out relatively quickly. I take no offense at your observation that Congress legislates slowly and infrequently. Thank you, Mr. Chairman. I have got lots more to ask.

Commissioner STARKS. If I could chime in very quickly.

Senator COONS. Yes.

THE RISK OF STRONG LITIGATION OVER MANDATORY PAYMENTS UNDER TELEDESIC

Commissioner STARKS. Because I do share many of the same concerns of Commissioner Rosenworcel. The authority for mandatory payments under Teledesic is not in accord with Section 309J. And so I very much believe that there is a strong litigation risk here. Voluntary payments that are relocation based is only what is required under our current precedent and under our current authority.

And I do know there are already whispers that the parties that have already negotiated, in particular Intelsat and SES, have already had a divorce under their alliance. And so I do think there is significant litigation risk, and that either we needed to proceed based upon our current precedent or we do need to have congressional action.

Senator KENNEDY. Senator Moran.

Senator MORAN. Well Chairman, I was operating under the assumption this was an appropriation subcommittee budget hearing, despite your admonition.

Senator KENNEDY. It is whatever you wish it to be.

[Laughter.]

Senator MORAN. You are kind to say that.

Senator KENNEDY. You can do whatever you want.

Senator MORAN. I am very interested. I used to be the Ranking Member of this subcommittee, and for the very first time in a decade, we asked the FCC to come testify. And I appreciate that. That has become pretty much an annual event. It hadn't happened for a long time since prior to 2011.

Senator KENNEDY. We will probably do another meeting.

Senator MORAN. It sounds like it is going to become common, maybe twice or more every season. Let me, I am interested in this topic, and it seems to me that both arguments here are about how to expeditiously get us to the point that we want to be, I don't necessarily know why this is a Republican or Democrat issue and I hope it is not. I hope—I like Commissions in which we cannot determine who nominated the person who serves.

It doesn't seem to me that this Commission is getting back to the days that I despise in which the Commission could not get along at all. And there is nothing wrong with having disagreement. I generally think that Commissioner Pai has been thoughtful. The goal of finding this solution expeditiously and responsibly seems to be shared by all.

The conversation about litigation, I can't tell who has the best argument about where litigation is most likely to result. And knowing lawyers and you all being lawyers, my guess is all the circumstances result in litigation. The question is, the challenge is, and Senator Coons and Senator Kennedy and I can certainly agree, on the difficulty of getting Congress to legislate on something that we understand and is simplified, this would be a tremendous challenge for us to make decisions and I regret saying that. It really ought to be more congressional involvement not less.

GETTING 5G TO AMERICA QUICKLY AND REDUCING THE RISK OF LITIGATION

But Commissioner Pai, Chairman Pai, I have sponsored legislation, the 5G Spectrum Act, with Senator Wicker and Senator Thune. This is—it similarly addresses the issue as the Commission is doing to date, and so I want to move on to something that matters to me as well, but I am interested in continuing the conversation that the Chairman is pursuing on how best we accomplish the goal of getting 5G to America as quickly as possible and reducing the risk of litigation that would delay that.

MAPS

I want to pick up on what the two Commissioners on the right side of the table, right to me, talked about it. It is the maps. The maps have been an issue of mine since I first saw them. I can see them as I drive my State and recognize how flawed they are. I think it is a mistake to make decisions with flawed data. I worry that once the money is spent in the wrong place, we have invested incorrectly, then we are looking for more money because we still have the problem we were intending to solve.

5G FUND AND 4G

I want to focus my comments on this data question, at least this morning, on the issue of—well, first of all I would say Congress has legislated and I would expect maybe that this month the Broadband Data Act will become law and hopefully that is a process by which the maps are fixed. I want to talk a moment though about the 5G fund. The Commission announced that 5G fund would replace the mobility fund.

This is an opportunity, I think, to collect more reliable data, ultimately to succeed where the mobility fund failed, and to meet the mandate for the better data found in the Broadband Data Act. Let me, I suppose, address this to the Chairman. Can I have a commitment to updating the underlying coverage data for the unsubscribed 4G LTE mobile service before determining the eligible areas for the new 5G fund?

Chairman PAI. Senator, thank you for the question. We are going to be looking at a notice of proposed rulemaking with respect to the 5G fund that tees up all of the questions you have identified with respect to determining eligible areas, allocating funding accordingly, and the like.

4G RELATED MAPS

At the same time, we are always looking to update the 4G related maps that we have. And so the two are separate but important initiatives to make sure that we understand where coverage is and where it is not, and the reason why we scrapped the Mobility Fund II, which of course as you know, targeted 4G. It is precisely the reason. It is one thing to have coverage in Olathe and Overland Park, but by the time you get to Iola Frontenac and Parsons, you realize that map is not necessarily accurate.

So we didn't want to build on top of that flawed structure. We wanted to create a new structure that was far more accurate and granular.

Senator MORAN. Well, my colleagues and I sent to you and others a letter yesterday on this topic asking that you work with us in getting the—to address our concerns related to 5G fund. Let me, Mr. Chairman, if I can ask the Commissioners, both Commissioner Starks and Commissioner Rosenworcel talked about this issue, what do I need to know about where we are on flawed data and how it is being used?

MAPS

Commissioner ROSENWORCEL. Thank you for the question, Senator. You are absolutely right. We need maps before money and data before deployment. The American public would be shocked to find that we are giving out billions and billions of dollars to improve broadband and to improve wireless services without having any grasp of where service is and is not in this country. You can't manage problems you don't accurately measure and it is time for the FCC's measurement activities to improve. They need to come first.

Senator MORAN. And are we doing that?

Commissioner ROSENWORCEL. No, candidly, we are not. Right now we are about to give out \$16 billion for broadband without first fixing our maps. We have it exactly backwards. We are doing it in what looks a lot more like a broadband publicity stunt than true policy. If it was true policy, we would go and fix the maps, you would take those maps back to everyone in your States and you would ask the public to challenge them so we know with accuracy and granularity where service is and is not. We are not doing that now.

Senator MORAN. Chairman, I wouldn't mind hearing from Commissioner Carr but my time is well spent.

Senator KENNEDY. Sure.

Commissioner CARR. Thank you, sir. I think, you know, maps before for money has some alliteration to it, but it is not good policy. Here is why. We know already where there is not coverage. So what we have done is a two-phase approach. Phase one, those areas where we know where our maps are right but there is no service, let's get money there right now. Not tomorrow, not next week, because connection makes a huge difference in someone's life.

For those areas where we our maps aren't good at differentiating where there is service and where there is not, let's do a deep dive. Let's fix that problem, which is what we are doing, and that is going to be the phase two process. But where we know where there is good coverage with the maps today, let's get moving.

I am from Virginia. I can drive there today with no map. I have never been a Parsons, Kansas. I would have to wait for a map to go there, but that doesn't mean we shouldn't go where we already have maps that are accurate.

Commissioner STARKS. Senator, if I could jump it. I know that you asked to hear my opinion as well, if I may. In particular based upon the \$16 out of \$20 billion is going to go out the door under what we know are 477 maps that are deeply flawed. And so I do have grave concerns that we are going to get a super majority of the money out the door based upon data that we know is flawed.

And the real fundamental issue there is that if one household is served on a census block, then that whole area is considered served. The second problem that I really see with 477 data is that we asked where could you serve as a provider rather than where do you serve right now. We need to know actually where people serve. And so—

Senator KENNEDY. Could you wrap up for me?

Commissioner STARKS. Yes, and so I do also have serious concerns about a significant amount of money going out the door based upon that data.

Senator KENNEDY. Okay. Good questions, good answers. Senator Van Hollen.

[Laughter.]

Senator VAN HOLLEN. Thank you, Mr. Chair. I would be happy to become a member of the Commission. And thank you, Senator Moran, for raising that issue, and thank you all for your responses, but as Commissioner Starks pointed out, my understanding is that if you have a census block, right, and if one home and that census block is served, the entire census block is considered served. Is that correct?

Commissioner STARKS. Yes, sir.

Senator VAN HOLLEN. Okay. And the other concern I have is States being penalized for having taken their own actions to try to expand broadband to certain areas. Commissioner Starks joined a group of us in Western, Maryland, and I want to thank you for that. And one of the big things we heard was the fact that the maps were off. So I look forward to continuing that conversation. I had not planned to lead with that but I am glad that it is covered.

HOMEWORK GAP AND THE HOMEWORK GAP TRUST FUND

I also, I wanted to raise the issue of the digital divide and the homework gap, and I want to thank Commissioner Rosenworcel. Thank you for your work in this space. And all of you, I know, have spoken to it. I introduced a piece of legislation to establish a homework gap trust fund taking some of the proceeds from the 5G auctions, dedicating some of those to immediately helping close this homework gap. Obviously, the coronavirus has further highlighted that gap. You have some schools around the country that have closed. They are trying to arrange sort of distance learning and homework over the Internet.

Obviously those students who are not connected are put at a huge disadvantage and then there are additional students who simply don't have a computer at home. So if you could speak to that a little bit, Commissioner Rosenworcel, and others as well about the urgency of tackling this issue.

And then I know Chairman Pai, I believe that Senator Cantwell sent you a letter on Thursday about your ability to potentially deploy emergency, use emergency authority to address this issue as well. If we could start, Commissioners Rosenworcel.

Commissioner ROSENWORCEL. Sure. You are absolutely right about the homework gap because when I was growing up, I needed a paper, a pencil, and my brother leaving me alone to do my homework. And you know, gone are the days. Kids today need Internet access and the Senate joint economic committee says that 12 million students in this country do not have the Internet access they need for nightly schoolwork. They fall into the homework gap and that is a crisis.

But now with the coronavirus, we have real duties to figure out how to help get those kids online, because when their school shut-down and classes migrate online, they are at the greatest risk of

being left behind. So your bill provides a framework for helping assist those students and they are everywhere and we need to do it.

Senator VAN HOLLEN. Thank you. If I could just get the thoughts of other panelists really quickly on the bill and supporting the use of some of the proceeds from 5G sale for this specific purpose. And quickly, you know, there are some things we can do right away by getting creating hot spots as we continue to try to build out the whole system for high-speed Internet.

Commissioner CARR. Thank you, Senator. And I thank you for your leadership on this issue. I would support that type of effort. I think this discussion highlights why we struck the right balance with the maps.

To my colleagues' point, if we have a school in a census block that our maps today say are unserved, it is unserved and we should move quickly whether it is through the Rural Digital Opportunity Fund (RDOF) or through this bill to move funding to that unserved area. The challenge is we have areas that we are not sure if they are unserved or not. My colleagues' approach was a—to say, those people that we know aren't served today shouldn't get new broadband for telehealth, shouldn't get it for teleeducation until we resolve this complicated issue over here. That is plainly the wrong approach. So I am glad that we haven't gone down that path.

WI-FI HOTSPOTS

Senator VAN HOLLEN. Alright. So they are two separate issues here, right? I think one is we want to, as rapidly as possible, build out high-speed Internet and that goes to how we deploy the \$20 billion and when, but there is an immediate issue that we can address through creation of hotspot access, right? I mean, it doesn't necessarily cover every student if they can't get even hotspot access, but the hotspot can immediately address these concerns. Is that right?

Commissioner ROSENWORCEL. That is absolutely right. I have been to schools where they have Wi-Fi hotspots for loan for students whose families can't afford the broadband they need for Internet access for homework. It changes their lives. And with your program, we could have loaner programs in every school in this country and we would get rid of the homework gap virtually overnight.

Commissioner STARKS. I will be brief, Senator. I very much support your idea, your legislation. I do think making sure that C-band money is earmarked for homework gap is a good idea. But with the coronavirus, I think it is going to be important that the FCC and the communications networks really support everyday Americans. There should be no American that is cut off from connectivity because of cost. And so it is going to be really important that we lean into getting hotspots, dealing with Lifeline, making sure that there are low cost options for Americans.

Senator VAN HOLLEN. Got it. I appreciate it. Thank you for all your support. Maybe—did hear, you, Mr. Chairman, say there will be a second round of questions or? Alright. Thank you.

Senator KENNEDY. Senator Lankford.

GETTING NEW UPDATED MAPS

Senator LANKFORD. Thank you, Mr. Chairman. Thank you all for your service. Let's continue on this conversation about maps for just a moment. Getting updated maps would take how long?

Chairman PAI. Senator, it is part of the digital opportunity data collection, which was adopted last August. We have been updating the framework to get more granular information with respect to the maps. In addition, we have been updating our overall framework for 5G as we mentioned.

Senator LANKFORD. So getting new maps would take how long?

Chairman PAI. Well that is one of the things we are working with the staff to determine. I can't give you a specific—

Senator LANKFORD. Is it 6 months? Is it 2 years? Is it 5 years? The mobility fund was a start, research it, prepare it, fail, cancel it, start all over again, be able to go from there. How long would it take to get maps?

Chairman PAI. I think it is more an issue of months than of years.

Senator LANKFORD. Okay, do you agree?

Commissioner ROSENWORCEL. Absolutely. We need to make it a priority—

Senator LANKFORD. No, I understand. I am talking about the time. How long do you think it would take?

Commissioner ROSENWORCEL. I think between 3 and 6 months we could radically improve the State of our maps.

Senator LANKFORD. And the maps would be done in 3 to 6 months nationwide?

Commissioner ROSENWORCEL. I think they will be done but they are a continually evolving product.

Senator LANKFORD. Right, I understand. But some of the conversation right now is about, do we start before we have everything in place? If your statement is we have got to have everything in place when we start, will we be completely done in 3 to 6 months?

Commissioner ROSENWORCEL. I believe we can be completely done within 3 to 6 months and that would be an incredible improvement over the maps we have today, and we distribute the dollar smarter if we did that.

Senator LANKFORD. So the challenges for rural areas in my State and everybody else's State is trying to be able to get to the point that we have action here because we waited on the mobility fund and waited and waited and waited. Part of my challenge is companies that clearly put in false information, clearly, so they have more coverage. I don't know that any of them been fined at this point for giving blatantly false information to you. And I think there should be some accountability in that process, if they gave blatant false information to you, that there should be some accountability to those providers that gave false maps.

CONTRABAND CELL PHONES AND THE CTIA

But then to also say for the areas that we know we don't have service, which we can all drive through our States and know it, I don't see a reason why we wouldn't want to start engaging and try to actually get to finalize maps in the days ahead. Let me back up

to the song that I have sung to every one of you at some point and that is about contraband cell phones.

Whether we met in the office to be able to talk about it there, or I think I randomly caught you one day on the train to be able to talk about it. This issue of contraband cell phones is a nationwide issue. 2013, there was a notice of proposed rulemaking. 2017, there was an order. There has yet to been a single proposal out there that the CTIA—The Wireless Association has ever not opposed. So whatever discussion is out there on any kind of contraband cellphone, CTIA is going to say no, block it, we don't any—we want contraband cell phones to be out there.

As far as I can tell, they have never supported any proposal to stop contraband cell phones. We have riots happening in prisons, coordinated riots that happen in my State, with multiple prison simultaneously having a riot because of contraband cell phones and multiple prisons and the gangs there, actually taking it out. Literally people are dying because we have got CTIA and other organizations blocking the work every time we actually take on the work on this issue.

PRISON STALKING FROM CONTRABAND CELL PHONES

We have individuals in a prison that are in a prison stalking individuals that they are in prison for stalking, still stalking them from a contraband cell phone. I can't begin to explain how important this is to be able to take this on and now we are approaching a decade of talking about it. I am trying to figure out how we actually get to a resolution.

So in a couple things, Chairman Pai, I have invited you. You came by my office this week. Thank you for doing that. I invited you to come to Oklahoma. You have been Oklahoma multiple times before to be able to come into a prison. I would welcome any of you to be able to come and to be able to actually see what is happening on the ground in this, but we have got to figure out how to be able to move.

Now, there is a lot of things that the previous orders that y'all put out have recommended or have tried to get comments on, things like beaconing, trying to have quiet zones, find areas of geolocation exclusion. All of those things have been put out for comment, but I don't know when we actually take action, what part is ours and what part is yours, and how we actually solve this. Chairman Pai, you want to jump in on that?

Chairman PAI. Sure, Senator. I share your frustration as we discussed. I have been to multiple correctional facilities around this country and including Jess Dunn Correctional Center in Taft, Oklahoma. I have met with correctional officers who have been shot, who have been stabbed. They worry when they turn on their car in the driveway in the morning because they know that the most important piece of contraband for an inmate is a cell phone, more than drugs, more than money.

And that is part of the reason why I flagged this issue as a Commissioner and why I have been happy to work with you and others on this as the Chairman. What we have done is to push CTIA to enter into agreements with manage access service related operators, and my understanding is that the staff is preparing a report

which we would be happy to share with you. But I share your frustration. This is the public safety issue.

Most people, when they learn about it, would be horrified to learn that this is what is going on in prisons, but there is a massive spillover effect to witnesses, to judges, to prosecutors, to average citizens that needs to be addressed and it needs to be addressed now.

Senator LANKFORD. Well, my fear is that the cell phone companies are playing good cop, bad cop with me, that when I talk to leadership in the cell phone companies are all like, yes, we want to address this, and then within 2 weeks CTIA comes out and says, no, this is all a terrible idea.

And so we have got to figure out how to be able to solve this. There are solutions that are out there. So thanks for your engagement. I would continue to encourage all of us. This is not a partisan issue. We have got to figure out how to be able to solve this and actually how to be able to move on it. Mr. Chairman, thank you.

FIXING THE PROBLEM WITH CONTRABAND CELL PHONES IN STATE PRISONS

Senator KENNEDY. Does the FCC, notwithstanding what our friends in the cell phone industry say, do you have the authority just to fix this yourselves, the problem that Senator Lankford is talking about?

Chairman PAI. Mr. Chairman, part of the issue is that current law severely restricts our ability to authorize certain types of applications and services that would address the issue that Senator Lankford—

Senator KENNEDY. So you need a bill passed?

Chairman PAI. Pardon me?

Senator KENNEDY. You need a bill passed?

Chairman PAI. Legislation would have to be passed in order to have a full range of options on the table.

Senator KENNEDY. Do you agree with that, Senator Lankford?

Senator LANKFORD. Mr. Chairman, there are options that are out there cell phone companies could take right now, geolocation banning, all kinds of different options that are out there that cell phone companies could do currently to be able to work with State prisons.

For a full fix, as you mentioned before, to be able to do jamming devices, micro jamming, all of those things, that would have to have a legislative fix. Every time we talk about a legislative fix, CTIA comes to this Hill, bombards Commerce Committee, explains to them what a terrible idea this is, and everyone backs off in the confusion.

Senator KENNEDY. Is there anything, Senator, is there anything in your judgment that the FCC can do right now without passing a bill to help with this?

TESTING IN FEDERAL PRISONS

Senator LANKFORD. Getting actually the study completed that everyone's on board on and to be able to get the details of it to be able to say here is a set of solutions that cell phone companies can

do right now. Because Federal prisons, as Senator Boozman was saying, Federal prisons are allowed to do jamming, just State prisons are not.

Most Federal prisons are also not doing jamming, though there is some testing happening in Federal prisons. So to go from Federal prisons actually doing it, getting the devices, putting them in place, being the precursor to State prisons, being able to do it, would be exceptionally helpful.

But getting all those parameters out and getting them on board to do a Federal prison and to say, this is approved in the urban, this is approved in the rural, and then the States can actually—

Senator KENNEDY. Yes. They need to finish the study, is that—

Senator LANKFORD. They need to finish the study, have everybody on board on it, and then—

Chairman PAI. And that is report that I was referring.

Senator KENNEDY. Yes, when can you finish the report?

Chairman PAI. The staff told me they are working on it. We should be able to get it done in short order. I don't have specifics—

Senator KENNEDY. When can you finish the report?

Chairman PAI. I can check with them and give you that specific timeframe. I know it is in the final stages.

Senator KENNEDY. By June 1?

Chairman PAI. Again, sir, I don't want to—

Senator KENNEDY. Is there someone in the audience working on the report?

[No response.]

Chairman PAI. Our career staff is back at the office, I suspect.

Senator KENNEDY. Okay. Would you ask them to get it done by June 1?

Chairman PAI. I will. I will see if that is doable—I would anticipate it would be but I'll check with them.

[CLERK'S NOTE: The FCC submitted the Report to the Committee on April 27, 2020.]

Senator KENNEDY. Okay. Or May 1 even.

[Laughter.]

Chairman PAI. Accelerated relocation payments would be helpful in that regard.

Senator KENNEDY. Senator Lankford is right, we have got to do something about this, and when we do our budget, we need to put something in to try to address it. Governor, Senator Manchin.

Senator MANCHIN. Thank you, Mr. Chairman. Chairman Pai, in December 2018, you put the brakes on \$4.5 billion mobility fund program because of questions about the accuracy of the maps. And Senator Lankford just went into that in detail. You said and I quote, "it is critical that we know where the access is and where it is not.

RURAL DIGITAL OPPORTUNITY FUND AND THE 5G FUND

"We must ensure that the data is accurate before we proceed." But over the course of the last year, you seem to have had a change of heart. And the reason I say that, you now want to distribute \$16 billion through the Rural Digital Opportunity Fund and \$9.5 billion

through the 5G fund as soon as possible because you say there is simply no excuse for the Commission to wait.

If you can't get the \$4 billion out, how the heck you want to get \$9.5 billion out without having anything more accurate?

Chairman PAI. Senator, a few things. First, those are two different funds. We are talking to the mobility fund which was——

Senator MANCHIN. Well the maps are wrong on both.

UNSERVED LOCATIONS ACROSS THE COUNTRY

Chairman PAI. Actually, Senator, they are not with respect to phase one of the Rural Digital Opportunity Fund. We know there are millions of locations across this country, everybody agrees no matter what map you have consulted, that are unserved. We know there are 230,000 estimated locations in West Virginia alone that are unserved.

We know that those people deserve digital opportunity just like anybody else, and so the suggestion is that we put off phase one or wait until the maps are accurate for different areas is sort of like saying we are not going to treat a sick patient unless we know every other person in the community who could possibly be sick. We know that these people in West Virginia and around the country do not have broadband. We know that for a fact. To make them wait until other areas——

MAPS

Senator MANCHIN. Well, you didn't know that before because in my State, I can tell you, your maps were showing that they did——

Chairman PAI. That is the mobility side, Senator.

Senator MANCHIN. That is the mobility side but no difference, I mean from the standpoint.

Chairman PAI. No, on the fixed broadband side, Senator, we know every map shows that there are parts of West Virginia that are unserved——

Senator MANCHIN. Let me ask Commissioner Rosenworcel on this, you came to the State and I appreciate very much, you saw we never even had 1G.

Commissioner ROSENWORCEL. I did.

Senator MANCHIN. Okay. You saw how horrible it was. How do rural areas, whether it be West Virginia, whether it be Oklahoma, wherever, would everyone gets served?

BUSINESSES LIMITED WITH NO BROADBAND

Commissioner ROSENWORCEL. You know, I remember being in Romney with you and talking to the folks that had assembled in the town hall. And they were worried about the futures of their communities, they were upset about how business was going to be limited because they didn't have broadband, and they were angry that the FCC maps showed that they did. And it demonstrated to me in incredible clarity that our maps are wrong, and if we give away so many dollars right now without fixing them first, we are going to leave communities, like the one I visited with you in West Virginia, behind.

Senator MANCHIN. When we are talking about mobility fund, we know that the maps are wrong there. Now, we are talking about the Rural Digital Opportunity Fund and we are saying they are right?

Commissioner ROSENWORCEL. Yes, they are just wrong across the board. I mean, that is what I learned in my trip with you. So many people in West Virginia saying that the FCC said they had service when they do not, so let's fix it.

Senator MANCHIN. That is \$16 billion ready to go out the door.

Commissioner ROSENWORCEL. Let's fix it first.

Senator MANCHIN. I know, but \$16 billion, Chairman Pai, you are ready to go out the door, and he said everything is ready to go. And I am just saying and pure simple language, this is pure politics. You have got an election coming up. I want to make sure I don't get left behind, my State, and other States want to make sure they don't get left behind, but we shouldn't let politics get in the way of doing it right. If the maps aren't done and they are asking you for times, the chairman says, May, June, whenever, we just want to know before you let money start going out.

SERVING UNSERVED LOCATIONS VERSUS SOLVING WRONG MAPS

Chairman PAI. Senator again, there are millions of locations we know for a fact are unserved based on any map that you consult. Waiting to serve those areas until we solve the maps in completely different areas is irresponsible. Now, if my colleague wants to propose formally making those millions of Americans wait, that is perfectly fine. I would be happy to work with them of if she wants to go out with you to West Virginia, that is fine but—

Senator MANCHIN. I think she is saying to do the job.

Chairman PAI. That is exactly what we are doing, Senator. We know there are areas that are unserved, completely unserved. I do not want those Americans to wait for digital opportunity.

Senator MANCHIN. You have those—do you have a list of those locations where you plan on putting money in?

Chairman PAI. Yes, we do, Senator.

Senator MANCHIN. Can we get the list of that? Can we see where you are going to put this \$9 or \$16 billion? It could go up to \$25 billion with the 5G fund.

Chairman PAI. Senator, staff is developing that list and we would be happy to get it to you.

Senator MANCHIN. Well, can we see it before you let it go out the door?

Chairman PAI. We go through the standard process, notice, and comment, etc., so we would be happy to provide that.

[The information follows:]

5G FUND FOR RURAL AMERICA

On April 9, 2020, the Federal Communications Commission released a staff report detailing how a plan for establishing the 5G Fund for Rural America could make as much as 67 percent of land in 49 States and 3 U.S. territories eligible for 5G Fund support. The report was provided to Senator Manchin as well as all other Members of the FSGG Subcommittee.

On April 23, the FCC sought comment on Proposed 5G Fund Program to Distribute Up to \$9 billion for Next-Generation Wireless Broadband Connectivity in

Rural America. The release was provided to all FSGG Subcommittee Members. The Notice of Proposed Rulemaking provides two different approaches to the 5G Fund: one using currently available data to start an auction in 2021, and a second option which would wait for new mobile broadband coverage data and begin the auction no earlier than 2023.

Senator MANCHIN. Commissioner Carr, do you have any comments on this?

HAMLIN AND MADISON, WEST VIRGINIA

Commissioner CARR. Senator, thank you. I have been in Hamlin and Madison, West Virginia. I have seen for myself the challenges. I think the Chairman has it exactly right. We have to move away from this top level political messaging of there is bad maps. There are bad maps. We have to parse that. The maps are bad because they tell you there is service when there is not. Where the maps tell you there is no service, there is in fact no service.

PUTTING MONEY INTO UNSERVED AREAS

So I think what the debate is, let's identify those areas, which the Chairman has done, those are locations in West Virginia, and let's go today as quickly as we can to put money into those areas while we move in parallel to solve this area. But to say the maps are bad, we can't go, stays up here and it doesn't meet the reality on the ground.

Commissioner ROSENWORCEL. So, let me be clear.

Senator MANCHIN. Very quickly.

Commissioner ROSENWORCEL. I agree with my colleagues but here is what we shouldn't do. We have got \$20 billion to spend in the next 10 years, and in the next few months we are going to spend \$16 billion of it without first fixing our maps. That we are going to spend most of our money in the next few months without first fixing our maps for the next 10 years.

Senator MANCHIN. Commissioner Starks.

STATE BROADBAND SUBSIDY PROGRAM PITTED AGAINST RDOF DOLLARS

Commissioner STARKS. Yes. The real point is that the maps are so fundamentally flawed, we really do not even know where broadband is and is not. And so there are a lot of communities that are going to get left behind, are going to miss this \$16 billion train because the maps are so bad. The other point that I would interject here really quickly is that because of a last-minute change that we made, there are 30 States and billions of dollars that are going to have their money pitted against—a State broadband subsidy program is going to be pitted against our RDOF dollars.

I think this was fundamentally bad policy. It is going to hurt States. It is going to hurt Americans to have an offset of Federal and State dollars in a way that we have never had in what has always been a joint program to solve universal service.

Senator KENNEDY. The Chairman is trying to weigh in here. Go ahead, Mr. Chairman.

Chairman PAI. So the political sleight of hand you have just seen is exactly the problem. We know there are areas that are unserved. We know there are areas where the maps are flawed. What they are saying is essentially do not serve these areas through phase

one, even though we know they are unserved, they are costly to serve, until we fix this problem.

Point number two, with respect to the problem that Commissioner Starks has identified, broadband providers should not be paid twice to do the job once. If a State has said to a broadband provider, here is funding to provide 25 megabits per second service.

I do not want the FCC coming over the top and double funding that company or funding another company to do the exact same thing. That is an irresponsible use of taxpayer funds. If you were to do that and run for re-election, people would ask you, Senator, why on Earth do you fund these companies twice to do the same thing once? That is exactly the same principle.

SPENDING MONEY AND LEAVING BEHIND UNDERSERVED AREAS

Senator MANCHIN. The only other thing I would say to any of this that you are talking about, I hope you are taking into consideration where there is dire poverty in these underserved areas, because if you say, you know, the maps already assured that this area is underserved right now and you know that they have no coverage whatsoever and the money goes there, but you have a poverty, stricken poverty which is dire and they are showing that the maps are flawed and you haven't fixed the maps, we are going to be left behind because you will be spending all the money. There is nothing left.

Chairman PAI. Senator, I couldn't agree more. A few weeks ago, I was Ethete, Wyoming, a very poor part of the Wind River Reservation in rural Wyoming. These folks who are on the wrong side of the digital divide, but thanks to our policies of getting that funding out the door because we knew they were unserved, gigabit fiber is being provided to the members of the Northern Arapaho nation and the Eastern Shoshone.

Papers are never going to brag about it, cable news is never going to talk about it. The digital divide closing because we are not willing to wait to extend digital opportunity to every American we know is unserved.

Senator KENNEDY. We are going to have to move on here. But Senator Manchin asked for a list. When do you think you will have that provided for him and for rest of us?

Senator MANCHIN. Mr. Chairman, if I could clarify that. What I was asking for is all of us should be able to see, they are wanting to put \$16 billion out the door, okay, and that is the areas that you already know that there is absolute—the maps are not in flaw. You are saying it already identifies those areas that need coverage.

I am not disputing that. I am just saying, when that goes, we know the areas that are in dire poverty in Appalachia aren't going to get a darn thing because the money is gone. We want to know where you are putting this money before you let it go out. Don't send out the door and then say, here is where we sent it to.

Senator KENNEDY. Well said. That is the list I am talking about. When do you think that will be ready?

Chairman PAI. There too, I will check with the staff that is working on the Rural Digital Opportunity Fund to get you the eligibility list for you.

Senator MANCHIN. Before you send the money out.

Senator KENNEDY. By June 1?

Chairman PAI. I will check on that, Senator. I can't commit to the time. It depends——

Senator KENNEDY. Okay. Would you share a copy of that——

Chairman PAI. Oh, absolutely.

Senator KENNEDY [continuing]. With us before you cut the checks?

Chairman PAI. The list will be public.

Senator KENNEDY. But will you share a copy of that with us before you cut the checks?

Chairman PAI. Yes, sure. I will be happy to.

[The information follows:]

RURAL DIGITAL OPPORTUNITY FUND PHASE I AUCTION 904

On March 17, 2020, all FSGG Members were provided with an emailed release of the following information: The FCC's Wireline Competition Bureau has released a preliminary list of census blocks that have been deemed initially eligible for the Rural Digital Opportunity Fund (RDOF) Phase I auction (Auction 904). Interested parties had an opportunity to identify by April 10, 2020, any of the listed census blocks that should not be eligible for support.

To help prospective auction participants, the Bureau also released list of associated census block groups and reserve prices, and a list of the associated census tracts and reserve prices. The list of census blocks, census block groups, and census tracts can be found on the Auction 904 website: www.fcc.gov/auction/904. A map of initially eligible areas is available at <https://www.fcc.gov/reports-research/maps/auction-904-preliminary-eligible-areas>.

ELIGIBLE AREAS LIST

Commissioner CARR. Senator, one other——

Senator KENNEDY. Do you think it will be very soon?

Chairman PAI. Well, I mean the list—we are talking about millions of potential locations so I can't guarantee it is going to be simple but what I will say is, it will be publicly available and we would be happy to share that with you when it is complete.

Senator KENNEDY. Before you spend the money?

Chairman PAI. Correct. Absolutely. The entire purpose is for our purpose too. To come up with the eligible areas list, we need to give certainty to people as to where to bid so——

Senator KENNEDY. Okay. I am sorry, Mr. Commissioner, but Senator Boozman has been waiting patiently and I want to call on him and point out that we claim him in Louisiana because he was born in Shreveport.

Senator BOOZMAN. Thank you, Mr. Chairman, very much. I think one thing that we can agree on is that there is going to be lots of money pushed out in the not-too-distant future really by your agency. USDA has gotten involved. You know, you have got lots of different entities, all kinds of public-private mixes in the sense the cops, whatever.

COORDINATION WITH AGENCIES ABOUT FUNDING

And I guess the question I would have is what kind of coordination? What we don't want is over building in whatever area, you know, in the sense of the agency not working together. This is, you know, a problem that I have seen for countless years. It is endemic to Government. Can you talk a little bit about that?

Chairman PAI. I appreciate the question, Senator, and I couldn't agree more. The Federal Government needs to be on the same page when it comes to administering the programs by virtue of the authority that you granted to us. And I can tell you that I have personally spoken many times when Secretary Purdue at the U.S. Department of Agriculture.

Our team has worked with his team and with the other staff in the rural utility service to make sure we are on the same page. And that goes with other agencies too that might have a bite of the apple, so to speak. We want to make sure that we are coordinating so that we don't duplicate funding or otherwise direct investment to a place that it shouldn't be directed to.

6 GIGAHERTZ FOR WI-FI

Senator BOOZMAN. Again, these are things that I think we all can agree on. FCC is looking at opening up a new band of spectrum in the 6 gigahertz for Wi-Fi. Electric utilities and broadcasters are allowing part of that spectrum. Can you tell the panel what other type of users are currently in that band and what the plan would be to make sure that any new Wi-Fi devices don't interfere with license users in that band?

Chairman PAI. I appreciate the question, Senator. And it is very important, as I said from the beginning, that our goal here is two-fold. Number one, to explore whether further unlicensed operations in the 5925 to 7125 band can be accommodated, but second, importantly, to protect incumbents from harmful interference.

EDISON ELECTRIC INSTITUTE AND THE 6 GIGAHERTZ BAND

And I just spoke late last week to the Edison Electric Institute, which serves approximately 200 million Americans with power across this country. They want to make sure that the FCC knows about the importance of the 6 gigahertz band to those electric incumbents and what I told them is what I will tell you. Our decision here is driven not by politics, not by press releases, but by physics and that is why I have sat down extensively with our Office of Engineering and Technology to understand the variety of use cases, indoor versus outdoor, power level and the like, to ensure that to the extent we allow unlicensed operations in any part of that band, the incumbents are going to be protected from harmful interference.

And I look forward to continuing those conversations with our colleagues in the electric and other industries along with the Department of Energy and the Federal Energy Regulatory Commission (FERC) and other agencies.

C-BAND SPECTRUM AND THE DEPLOYMENT OF 5G

Senator BOOZMAN. 5G is a good story. You have all worked hard and that has been difficult. Can you elaborate on how the FCC's current strategy to reallocate C-band spectrum will accelerate the deployment of 5G, and explain the actions the FCC is taking to make additional spectrum available for 5G services.

5G FAST PLAN

Chairman PAI. Very grateful for the question, Senator. We have been executing very aggressively on the 5G FAST Plan, and nowhere more so than when it comes to spectrum. We successfully completed auctions of the 28 and 24 gigahertz band. We are in the middle of an auction of the upper 37, 39, and 47 gigahertz band. Those auctions alone have supplied the Treasury of \$10 billion.

MID BAND SPECTRUM FOR 5G

Now through the C-band auction, we have an incredible opportunity to push 280 megahertz of prime mid band spectrum into the marketplace for 5G. It is going to deliver billions of dollars of value to the American consumer, allow innovators to pursue 5G here as opposed to other parts of the world that want to seize 5G leadership, and importantly, it gets mid band spectrum into the bloodstream.

When I became Chairman, there was nothing on the shelf, nothing in the cupboard at all, with respect to mid band initiatives. We changed that through the 2.5 gigahertz initiative, the 3.5 auction which starts in June 25, the C-band auction. We are also looking at the 4.9 gigahertz band. These are major initiatives that are going to deliver U.S.—value to American consumers and advance American leadership in 5G in coming years. I am really excited about what this means for our economy and for our consumers.

Senator BOOZMAN. Very good. Thank you, Mr. Chairman.

FOREIGN SATELLITE COMPANIES OPERATING IN THE C-BAND

Senator KENNEDY. Thank you. Let me ask a real quick question. I will start with Commissioner Starks. Do our friends, the foreign satellite companies, who are now operating in the C-band have a license from the FCC?

Commissioner STARKS. Yes, they do.

Senator KENNEDY. Okay. Let me give you an overview of one person's point of view and then I will ask you to react to it rather than trying to go through this question by question. Many years ago, the FCC gave our friends, the foreign satellite companies, the right, the privilege of using the C-band. They have been using it. They have spent a lot of money on satellites and other operational costs to use the spectrum. They paid nothing for the spectrum. To their credit, being a smart business, women in smart business, men in smart business that they are, they made a lot of money off of it.

I think it is Section what, 316? Or 336? FCC can modify license at any time if, "such action will promote the public interest, convenience, and necessity." Everybody knows that the FCC, even though you grant a property interest and I am uncertain about what kind of property interest the C-band satellite companies have, but if you need to, you can take it back at any time.

I don't blame you for trying but the foreign satellite companies came up with this well idea to let them handle the auction and they would keep the money and they would pocket between \$60 and \$80 billion that we could use, among other things, for rural broadband. You got a lot of pressure to do that. They pounded on

you. They hit in the shrubbery at your house, came home trying to get you to do it.

To your credit, you said nuh-uh. We are not doing this. This is taxpayer money. We are going to do what we always do, bid it out. You have decided to bid it out. You have come up with a figure of I will call it \$10 billion as incentive payments and between \$3 and \$5 billion to cover the costs of the incumbents moving. And I don't understand how we came up with the \$10 billion dollars? I understand the reason for it. You want to avoid litigation. You are going to get sued anyway. The small satellite companies are going to sue the bejesus out of you.

Our friends, the foreign satellite companies, aren't happy with the way you split the money. They are going to sue you. The issue is not whether you get sued, the issue is whether somebody is going to get an injunction and stop you. So why I mean, why do you worry about the litigation? Why don't you just go forward and they are going to litigate anyway. I agree with you that Congress acts slowly and I don't know, I think we can come up with a bill, but as I have said publicly, I don't understand where we got the \$10 billion figure. That is a lot of jack. And the satellite companies aren't even going to accept it. It is what it looks to me like.

And we are setting a precedent here. I mean spectrum is finite resource. We are going to be moving around a lot. You know what is going to happen when the next time you have to go to somebody and move them, they are going to put—I don't blame them. It is good business. They are going to say, pay me or trade me. And I think that is why it is very important that we get this \$10 billion figure right.

I have got a bill that says \$1 billion, which I think is a lot of money. And I just don't understand how we came up with \$10 billion figure and I don't understand your authority to do it. As I read the case law, it just says you have the authority to force the bidders to pay for reasonable location costs. And anyway, that is one point. I used the whole damn 5 minutes.

[Laughter.]

Senator KENNEDY. I would just like you too quickly to give me your reaction, am I wrong or am I right? Let's start with Commissioner Carr.

FCC LEGAL AUTHORITY AND TAKING THE SPECTRUM BACK

Commissioner CARR. Senator, thank you for your leadership and for your advocacy on this. I think it has helped in terms of where we ended up. Look, I think we do have significant legal authority at the FCC to have just said, as you pointed out, this isn't a real property interest. We are taking the spectrum back. There would have been several practical problems if we had gone down that path though.

Senator KENNEDY. Do they have a property interest?

Commissioner CARR. They do not have a real property style interest.

Senator KENNEDY. Do the foreign satellite companies have a property interest?

Commissioner CARR. No. That is why we have the authority to take these licenses back because they aren't treated with the same dignity as a property interest.

Senator KENNEDY. Okay. So how did you come up with the \$10 billion? Why didn't you go to them and say, gentlemen, ladies, we can do this the easy way or the hard way. We are going to offer you \$1 billion, please take it. It is better than zero dollars.

Commissioner CARR. I like that approach. What we did in the decision was because we are——

Senator KENNEDY. And they are going to say we are going to sue you, and at that point you say, here is my iPhone, look up the courthouse on Google.

[Laughter.]

Senator KENNEDY. And you can go, because we are going to get sued anyway.

Commissioner CARR. Right. Like you, I am comfortable easy way or hard way. But what the order walks through is we relied on four to five different factors and variables in terms of——

Senator KENNEDY. I know all that but how did we come up with the \$10 billion?

Commissioner CARR. That is how we can with the \$10 billion. We looked at those four to five separate variables. We have some equations that we walked through, and part of it is, you know, my colleagues have suggested——

Senator KENNEDY. Yes, I get it. You have got an incredible staff and you sat down and you did a quantitative analysis of the potential value to the bidders of what they would pay to get the incumbents off. And that is all well and good. Okay. When I go by car, I can go to Blue Book and go over here and say what they pay and I have researched it exhaustively but nothing stops me from going in and taking the figure that the experts say and cut it in half. We are negotiating here. Why didn't you do that?

ADMINISTRATIVE PROCEDURE ACT VERSUS NEGOTIATION WITH SATELLITE COMPANIES

Commissioner CARR. Because of the administrative procedure act gets separate from a negotiation like that. My colleagues suggested, for instance, that there was some sort of backroom deal. The reality is there is no deal. What we have to do is we have to go through these factors and this methodology that kicks out a number and that is our offer. And they can take it or they can leave it. At this point, we don't know for certainty what they are going to do because they haven't indicated that they are going to take it.

In fact, one company has suggested they may not take it. I think it is in their interest to but the number was derived from the record, the math, and the analysis because of the Administrative Procedure Act is not an iterative negotiation that would——

Senator KENNEDY. I want to be sure I understand. You are telling me that the law requires you to offer the \$9.7 billion?

Commissioner CARR. There is a range of final numbers that that methodology would have kicked out that probably could have survived——

Senator KENNEDY. You are telling me that the law requires you to follow this methodology?

Commissioner CARR. I am not aware of another methodology that we could have used to arrive on that. I don't want to speak with certainty, but——

Senator KENNEDY. Here is a methodology. Satellite companies, we love you, but you don't own the spectrum. We need it back. We have the authority to take it back. You knew going in that we could do that. We are not dislocating you, we are just moving you to another part of the spectrum and by God, even though you hadn't bought a satellite since God was a Corporal, we are going to even buy you new satellites and on top of that we are going to offer you \$1 billion and we hope you will take it because if you don't, then we are going forward and you can sue us. They are going to sue you anyway. I went over too long. Senator Coons. I will come back.

LEGISLATION THAT WOULD END THE LIKELIHOOD OF LITIGATION

Senator COONS. Mr. Chairman, I have a suggestion. We will have, I presume, another hearing where we will dig into this deeper. I would certainly welcome, since there seem to be competing views, submissions that help us to better understand if we move forward rapidly with an attempt to legislate that would end the likelihood of litigation, success, what would that look like, and how can we best assess our likelihood of success? Because wouldn't it be great to have \$10 billion more that we could invest in universal service fund, access to broadband, killing robocalls, you name it.

I can come up with a lot of purposes and so can you. And in the alternative, your best estimates of what is the approach that minimizes litigation costs and moves as quickly as possible. That seems to me the two choices we are struck between. I have got three other areas I want to quickly ask a question about, if you will forgive me.

Senator KENNEDY. Take all the time you need.

ROBOCALLS

Senator COONS. First, on robocalls. I think I got one literally during this hearing. A number that I have never heard from that looks eerily similar to——

Senator KENNEDY. That was Schumer.

[Laughter.]

Senator COONS. No, those I know. Those are blocked. I am just kidding. You know, I am a co-sponsor of the TRACED Act. There has been real progress in the shaken, stirred approach. I just have some concerns about, many fines that have been leveled against robocallers don't get collected.

COLLECTING FINES LEVELED AGAINST ROBOCALLERS

One Commissioner suggested, you ought to be asking for more staff at FCC to help facilitate that. There is also some possibilities we might be able to help with another Federal agency in terms of their responsiveness. I think there is broad, not just bipartisan but universal, anger and upset among average Americans about the millions, billions of robocalls we are getting.

Briefly, if I can hear from Chairman Pai and Commissioner Rosenworcel, what is the thing we should be doing to help you

lever, impose, and collect fines and services? Is it increasing your head count? Is it increasing your legal authorities?

Chairman PAI. Appreciate the questions, Senator. And this is again our top consumer protection priority. We know it frustrates you as it frustrates us as regulators and consumers ourselves. With respect to collections, we do not have independent statutory authority to institute collection actions. That is done by the Department of Justice and we have emphasized to the Department of Justice the importance of actually collecting on the fines that the FCC has imposed through a forfeiture order. We will certainly consider continuing those conversations and would be happy to have you engaging with them as well.

Senator COONS. We might be helpful.

Chairman PAI. With respect to our own staff, it is not just that team of people in the enforcement Bureau that works on robocalls, there is a huge step in the Wireline Competition Bureau, for example, that works on these as well as well, as staff throughout the agency, the Office of Economics and Analytics, and other parts of the agency. So we do have a big team working on the rulemaking side of the ledger, so to speak, as well as the enforcement side and they do tremendous work.

Senator COONS. If you could increase the enforcement headcount would you take it?

Chairman PAI. Again, Senator, this is part of the reason why it is important for us to think about balancing the other enforcement priorities. For example, with the Pirate Act. That is one of the reasons why—that is an \$11 million requirement that was imposed on the agency. It is not included in our budget. So we would have to balance that important function that you are talking about with the statutory mandate that Congress recently gave us.

Senator COONS. Commissioner Rosenworcel.

Commissioner ROSENWORCEL. Sure. Robocalls are so annoying and consumers everywhere feel that. It is the single largest complaint we get year in and year out. So we need more staff. The public record reflects we only have 12 people full time devoted to this, and the average enforcement action takes 649 days. That is not acceptable. We need a whole division, a task force, and more people fighting this scourge.

Senator COONS. I would welcome a specific suggestion about exactly what headcount would be——

ROBOCALL FINES VERSUS FINES COLLECTED

Commissioner ROSENWORCEL. And in addition, I would say we need to do a much better job when it comes to collecting. The *Wall Street Journal* has pointed out that we have issued more than \$200 million in robocall fines, but collected less than \$7,000. That is not satisfying.

Senator COONS. I would love to hear how we can do it. I think this is an area where we can be helpful in encouraging the Department of Justice and their role in this. Lifeline program. I am interested in both how do we do a better job at responding in this crisis COVID-19, in particular around the homework gap. As a county executive, we had a robust public library network. I am going to a call in a few minutes with leaders of my State and will be asking

them about how we might, in this urgent situation, be more effective.

WORKING FROM HOME, HOMEWORK, TELEHEALTH, AND THE LIFELINE PROGRAM

As you are literally going to have, I think, large numbers of Americans working from home in the next couple of weeks or months, we are going to see serious strains on what the capabilities are of our systems. So whether it is homework, whether it is telehealth, whether it is work from home, never let a good crisis go to waste. I think this might be a timely opportunity for us to re-examine what is possible in terms of emergency response around work from home and study from home. Chairman Pai, why has the Lifeline program decreased so dramatically in the last 2 years in terms of its scope and its reach? I think it has reduced by over 30 percent in the last 2 years.

We have got 20,000 Delawareans that is not a lot in most States but in my State that is an appreciable percentage of the population, who participate. Is there more we could or should be doing? I respect the importance of reducing fraud waste and abuse to Federal programs. Have we hit that target or over-performed on that point?

NATIONAL VERIFIER DATABASE

Chairman PAI. Senator, with respect to the enforcement part of it, we have been very aggressive in making sure that unscrupulous carriers don't bilk the American taxpayer and deny funds that properly belong to low-income consumers. And that is part of the reason why for instance we have gone after companies, and in some cases have bilked the Lifeline program, for subscribers who don't even exist or subscribers with multiple enrollments and the like. And we have stood up the national verifier, which is a national database essentially that when a subscriber wants to sign up, it pings that database.

And now we do have connections with the vast majority of States and Territories to make sure okay, you are who you say you are, and you are in fact eligible. And that is one way of making sure that every dollar that is spent in the Lifelines programs across the country or in Delaware, goes to somebody who actually needs that benefit.

Senator COONS. Any more input on that? Forgive me, Commissioner Starks and Rosenworcel.

Commissioner ROSENWORCEL. We have had problems historically with this program, but we have moved past the point of waste to weaponizing the bureaucracy against those who are most in need. And that is my primary concern. We have got 2.2 million elderly on this program, 1.3 million veterans. We have got half a million people in Puerto Rico who are trying to pull their lives together after earthquakes and storms. Why are we going to such efforts to cut them off? We should be doing what we can to extend the service to those who need it, and now with coronavirus, we should be expanding it.

Senator COONS. Commissioner Starks.

Commissioner STARKS. Yes. I mean, I think we really need to figure out this program that we are going to try to build up or we are going to try to tear down. There was an earlier notice of proposed rulemaking (NPRM) that was suggesting that Lifeline beneficiaries could potentially have to pay more in order to get Lifeline, which I think is exactly the wrong questions we should be asking of our most vulnerable Americans. And again, when we are talking about SNAP and work requirements for SNAP, SNAP being a direct tie that leads into Lifeline, these are issues that are going to have to be worked through on our social safety net with coronavirus.

But Lifeline is going to be an indispensable part to getting connected for some of our low-income Americans. And I have visited a number of homeless shelters. I think part of the answer that we really need to do, because the program is significantly underutilized by some good deal for those who are otherwise eligible for Lifeline, we need to do, especially in times of coronavirus, making sure that our low-income Americans are searching out this program and know about it.

6 GIGAHERTZ AND CONCERNS FROM UTILITIES ABOUT INTERFERENCE

Senator COONS. This is a program I would like to see well serving a broader number of Americans with confidence that it is not being bilked. Last question, C-band, was asked previously by—excuse me, not C-band, 6 gigahertz. Was previously asked by Senator Boozman, but I just—I would welcome a little more detail because there is going to be a huge amount of 5G traffic that if we are going to meet our goals in terms of robust performance, have to be offloaded to Wi-Fi networks.

STRIKING THE BALANCE BETWEEN LICENSED AND UNLICENSED

I too have heard concerns from utilities about interference. I appreciate the comment, Mr. Chairman, about you know, we are going to do this based on physics in terms of low-power, indoor, outdoor, and what it looks like in terms of possible interference should any of this band be reserved for licensed use, and how do you strike the right balance between licensed and unlicensed, between Wi-Fi and license use? Mr. Chairman.

Chairman PAI. That is a very difficult question and it is one of the reasons why this particular band has been very challenging, not only because we want to make sure that we protect incumbents from harmful interference, but the FCC has to make a fundamental decision about the balance between licensed and unlicensed.

The proposal that the Commission went forward with initially was to reserve the entire 1200 megahertz, 5925 to 7125 for unlicensed. We believed, and I think many innovators do too, that those 160 megahertz wide channels would drive tremendous innovation and investment for the benefit of American consumers. And think about gigabit, Wi-Fi, what that means to be able to provide it for free to people in urban areas and rural areas that could really be a game changer. But at the same time we want to make sure that we are thinking about the license side of the equation as well. So that is one of the proposals that has been teed up by wireless companies to essentially split the band lower 600 for unlicensed,

upper 600 for licensed, and we will be able to go through and consider that.

But at the same time, as I mentioned to you, it is very important for us to think about the implications of each of those decisions. If we went to a licensed route for instance, how would we do that? How would we relocate incumbents? What band would the incumbents inhabit? Are there any incumbents in that new band that they would have to deal with? How would the FCC manage that? The auction processes, etc. I mean, it is very, very complicated.

And I really appreciate your putting your finger on the point about physics. I can't say this enough that to me, this is driven by a bunch of Engineers showing us, look this is what happens when you have Wi-Fi indoors at very low power or low power. This is what happens when you have Wi-Fi outdoors. That is not political question. I don't have the answer neatly in my head. It depends on what the lab tests and the other experimentation shows.

Senator COONS. I look forward to coming back to this issue when we have our next hearing. Mr. Chairman, thank you for your vigorous engagement on this issue and I look forward to working with you to respond to several of the issues that have been raised. I think having a clear plan about how we are going to deploy 5G, how we are going to meet or stay ahead of our competitors, and how we are going to deliver value to the taxpayers is exactly why you guys get paid the big bucks and we are just Senators. So, thank you very much, Mr. Chairman.

Senator KENNEDY. Senator Daines.

BROADBAND DEPLOYMENT IN RURAL MONTANA

Senator DAINES. Thank you, Chairman, Ranking Member. I first want to thank the members of the Commission here today. And I want to invite you all to come back out to Montana to see firsthand the issues we are talking about today. In fact, literally here an hour ago I was engaged on Skype with a high school class from Baker, Montana. If you look on a map of Montana, you are not going to find Baker in the middle. It is way off in our southeast corner in Fallon County, but just another example of the importance of connectivity where a U.S. Senator can engage with a classroom that is a long ways away from any urban areas.

And one of the questions the student asked me was, what we do about mental health challenges in rural America. And one of those solutions certainly is telemedicine and telehealth. So this could not be a more important topic today as we think about rural connectivity and so forth. And speaking of rural, I know, Chairman Pai, you grew up in a smaller town in Kansas. Thanks for working with me to prioritize rural broadband deployment and always trying to find a compromise on these important issues.

Everything, whether it is C-band, TV white spaces, you have worked with all those affected and Members of Congress like myself to find solutions. Your pragmatism and leadership is noted and respected. Commissioner Carr, I have been working with Montanans on a bill that will help expedite broadband deployment in rural Montana. This bill requires the Federal Government to expedite approval to deploy broadband in existing Federal right of ways like roads, like canals, railways.

In places like Montana, there are miles and miles of roads between towns, farms, and ranches. Having access to existing infrastructure can be the quickest and the cheapest way to deploy broadband. My question, Commissioner Carr, you recently visited with me in Montana and you saw this firsthand. How important is it that we reduce barriers for rural broadband deployment like access to existing infrastructure so Montanans are able to be connected and participate in this global economy?

Commissioner CARR. Senator, thank you for your leadership on this issue. I have done the drive myself from Missoula all the way up to Great Falls. A couple hours, some of the most beautiful parts of the country, but some of the worst cell phone service that I have had in my time traveling this country. I think your legislation would go a long way to solving that issue. We have been doing a lot of work at the FCC to get our own house in order to cut red tape.

REFORMS TO NEPA AND HIPAA FOR BROADBAND DEPLOYMENTS

We have worked to eliminate outlier conduct at the State level. I think, to your point, targeting now the Federal assets, how we can open those up on a more cost-effective basis, more timely basis, and potentially looking at reforms to NEPA and the HIPAA, the historic environmental laws so they make sense for broadband deployments and aren't unduly slowing those down.

PIRATE ACT AND PIRATE RADIO OPERATORS

Senator DAINES. You got a chance to experience, for some it is, can you hear me now? Where you were at, I can't hear you at all. And sometimes, you have to experience that to see the importance and think about the safety issues as well. You are traveling along there, accidents occur, you hit a deer or something, have an accident. The ability to get First Responders there quickly. Chairman Pai, after years of work, earlier this year President Trump signed my bipartisan Pirate Act. This law gives the FCC additional tools to go after pirate radio operators who interrupt and affect our emergency broadcast system, Air Traffic Control communications, and other legitimate broadcasters.

This disproportionately hurts Montana's rural communities who depend on broadcast communications for news safety information. It is my understanding the bill passed after your budget was already finalized and the Commission may need some additional resources now when thinking about the implementation end. And my question, if you were to give information to this subcommittee, what tools do you need from this committee to implement this important law?

Chairman PAI. Thank you for the question, Senator, and I appreciate your leadership on the Pirate Act. Pirate radio does a harm to consumers and broadcasters alike and we are committed to that goal. From our perspective, it would be helpful to have additional resources from the subcommittee, from this Congress to enforce the Pirate Act. In particular, we estimate it would cost \$11 million to fulfill that mandate.

In particular, we have to hire approximately 30 staff, for example, to conduct sweeps that are required under the Pirate Act, in-

cluding a number of Engineers to be able to detect the Radio Frequency (RF) environment and the like. Additionally, we also have to have equipment, the cars and the other equipment that go on in the cars to do that necessary work, plus a software system. The information technology software does not exist currently to be able to manage that entire process.

So all told, between personnel, equipment, and software, we estimate it would be \$11 million, which is not included in the \$343 million budget request.

Senator DAINES. Okay, that is helpful for us here so we can target to make sure you get the resource you need here after we pass that important bill. Last question, important one. Huawei. I am hearing a lot of uncertainty from my rural carriers. This ties right into this earlier statement I made about how we deploy connectivity here to rural Montana.

H.R. 4998 REQUIREMENT TO IMPLEMENT A RIP AND REPLACEMENT SYSTEM FOR HUAWEI EQUIPMENT

I have rural carriers out there that are homegrown companies that are really providing that last mile, that last hundred yard service here because a lot of our folks live a long ways away from any populations. This is this implantation of H.R. 4998 which will be signed the law shortly. So this bill requires the Commission implement a rip and replace system for Huawei equipment in our rural networks. It is very important, extremely important, that our rural carriers are able to continue to operate and upgrade their system so that customers up in places like Scobey, Montana.

Think about where I talked about Baker I spoke with, go back up to the very extreme northeast part of our State, Baker is down the southeast part. And you have got a community, Scobey, and Plentywood and so forth. From Scobey to Great Falls, they need this upgrade so my Montanans can have access to reliable wireless communications. Chairman Pai, my question, how quickly do you expect to have guidance and regulations in place for our rural operators?

Chairman PAI. I appreciate the question, Senator. This is an important National Security issue. We have an outstanding further notice of proposed rulemaking and an information collection that solicits from the folks you are talking about exactly what types of problematic equipment they have from Huawei and ZTE and the like in their networks now so we can understand the scope of the problem. Secondly, the funding stream is very important.

EXPAND UNIVERSAL FUNDS TO ENABLE RIP AND REPLACE

We do not have the authority to expand universal service funds to enable them to rip and replace it. Those resources would have to come from Congress. And so we would be happy to work with you on that funding stream.

Senator DAINES. And of course now, I will be finished here, Mr. Chairman, but the challenge that we face is, you know, the larger carriers have the financial ability to make that pivot. The small folks don't, and this becomes an existential threat. And the big players often don't go into the areas where my smaller providers are.

And so we have got to find a way to keep them vibrant, viable, and this rip and replace, this mandate without some kind of means for them to make this change, leaves them very exposed. And I appreciate first recognizing the problem and how we can continue to protect not just the big guys here, but it is the little ones that concern me the most.

Chairman PAI. I couldn't agree more, Senator. I mean these are the folks who are doing the hard work and I have seen it for myself in places like Wisdom and St. Ignatius. These are folks who are trying to do the right thing, not just by their consumers by providing digital opportunity, but the right thing by the country. They don't want to compromise our National Security, especially in places in the Mountain West where there might be sensitive military installations or the like.

Senator DAINES. Right. We have a third of the intercontinental ballistic missiles in Montana. So there is another National Security issue there as well, as you mentioned, why you mentioned why this is important, but you warm my heart when you said Wisdom and St. Ignatius. I mean I will tell you what, quoting those Montana towns that is impressive. Thanks.

FCC AND SATELLITE OPERATOR LITIGATION

Senator KENNEDY. Thank you, Senator. I just got a couple more. I realize the C-band alliance has dissolved itself. But let's assume for a second that the former members of the C-band alliance become happy and they accept your offer. Raise your hand if you think nobody else is going to sue the FCC over this?

Commissioner CARR. It is hard to tell.

Senator KENNEDY. I think you are going to litigation anyway. I mean the small satellite operators, they have already announced that they are going to litigate. It says right here and it is in the press. It has got to be true. And I am going to quote. Here it is, Biggest Dallas. "We will ask the courts to overturn this order and to instruct the FCC to start the entire process again."

Now, all I have heard from some of my friends is Kennedy you are holding up 5G. If you don't give the foreign satellite companies what they want, they are going to sue you. Okay, you are going to get sued anyway.

I mean, I think it is a very interesting interpretation of the case law. I am not the experts, you folks are, but I have read the cases and the cases tell me that number one, you can only pay an incumbent for reasonable relocation expenses, and number two, your authority to do these incentive payments is questionable. So if you are going to end up in litigation, the issue is not whether you are going to end up in litigation, the issue is whether somebody is going to get an injunction to stop you from going forward. And I don't think they can. So my point is, forget about the litigation or the scare tactics, just do what you think is right.

And for the life of me, I can understand if they document the \$3.3 the \$5.2 billion to relocate. I think you are being overly generous. I have got a list here of one of the company satellites. I will be glad to share it with you. They are all old. Guess what, they are going to have to replace them anyway. So you are buying them new

satellites. So they ought to be happy with that. They are not being kicked out of the C-band, they are just moving to another part.

The American taxpayer is going to pay their way. You offer them \$10 billion, they say not enough. And I don't understand. This is taxpayer money and this money can be used for rural broadband and other things, and I don't understand why you don't do it by the book. I am not the APA experts that you guys are say. Okay, we hear you. Let me make you a new offer, \$1 billion and go read Section, what was it, 326 that says we don't have to offer you any billion.

And that is where I think we are. Now that is not particularly politically astute. I understand there are some powerful players out there. You throw a \$77 billion in the middle of the rig and the hogs are going to come from everywhere, all competing to be the tallest hog at the trough. I get that.

But if you are going to be sued anyway, I don't understand why you don't just get tough. If you do the auction, and I know you will and I know you will do it by December 8, can one big company, wireless company come in and take all of it down or are you going to try to make sure it is fairly dispersed, including those smaller companies? Mr. Chairman.

ACCELERATED RELOCATION PAYMENTS

Chairman PAI. I appreciate the question, Senator. At first I want to stress that these accelerated relocation payments and relocation payments generally are paid by carriers not by taxpayers—

Senator KENNEDY. No way, Ajit. Money is fungible. For every penny that they give that supposedly goes to the incumbents is a penny less that the American taxpayer gets. Don't try that one on me. I mean money is fungible, okay. Every penny that is paid in incentive payments, so technically by Verizon to Intelsat, is money coming from the American taxpayer. So that dog is not going on to go hunt.

Chairman PAI. Second, Senator, with respect, we believe that these payments would enlarge the size of the pie, so to speak. They are necessary to make the auction more successful by increasing the time value of the spectrum—

Senator KENNEDY. I get it. We may just have to disagree on this, okay. I just think you can get a better deal. I know you can get a better deal. But—are the auction rules such that one, big company can come in and buy it all?

AUCTION AND PARTIAL ECONOMIC AREAS AS A GEOGRAPHIC AREA

Chairman PAI. We opened it to competition from everybody. We specifically picked partial economic areas as a geographic area, which limits the amount of areas that can be aggregated quickly. The bigger carriers wanted economic areas which are huge geographic zones. So one of the reasons we chose PEAs was to enable some of the smaller rural carriers to participate. We are not going to game the auction in advance like some people wanted and say, these people are going to win and put our thumb on the scale. We believe in the free market. We don't believe in picking winners and losers before the auction is even held.

Senator KENNEDY. Madam Commissioner.

Commissioner ROSENWORCEL. Yes, we used to have pre-auction aggregation limits, which would limit the ability of one carrier to sweep in and take it all away. We did not choose to do that here. And I think that is a mistake and could lead to the kind of problem you were alluding to.

Senator KENNEDY. What is the consequence of not doing that?

AUCTION AND THE AFFECTS OF PURE OR LESS COMPETITION

Commissioner ROSENWORCEL. Well, it is a lot easier for the biggest companies to come in, spend money, take their spectrum away, and consumers as a result will see less competition. And less competition means higher prices and less innovation.

Senator KENNEDY. What do you say to the argument that the best way to have real pure competition is let everybody bid what they want, if they want?

Commissioner ROSENWORCEL. Well, we have got a lot of very, very big companies with a lot of resources who can spend a lot of money. I would like to see some smaller companies get in the mix too so our markets get more competitive, more interesting, and more likely to deliver innovative services to consumers.

Senator KENNEDY. Okay. Will the Commission be talking about that issue more? I assume among yourselves you will be discussing the pros and cons of that?

COMPETITION CASE BY CASE REVIEW

Commissioner CARR. Sir, what we adopted in the decision was not carte blanche to any provider to obtain this and any other mid band spectrum they want. We put a process in place on the back end. We are going to do a competition case by case review, and if one provider does have too much mid band or other spectrum, we in the decision laid out that we will run a process and we will analyze the actual impacts of that rather than on the front end trying to set an arbitrary limit.

Senator KENNEDY. Okay. Let me ask you one last question. Find my notes here. There have been some allegations of insider trading made. A member of the Fifth, the FCC Senior Counsel met with Intelsat's Chief Executive. The next day when the stock was trading at, I want to say around \$24, a huge block was sold. And around \$24, as I said, \$246 million block. Today, the stock, I don't know. It is not trading in \$24 bucks, I know that. What was this about?

Chairman PAI. Senator, this is the first I have heard of that. I don't know what that is referring to or what you might be reading from.

INTELSAT'S SALE OF SPECTRUM AND THE MEETING WITH THE FCC SENIOR COUNSEL

Senator KENNEDY. Well, it has been on the paper. The saga kicked off in November when Intelsat's Chief Executive, Stephen Spengler, met with the FCC Senior Counsel, Nicholas Degani, I apologize if I mispronounce the name, to discuss Intelsat's plan to sell spectrum in a deal that had been expected to result in a \$7.4 billion payout to the company. That meeting occurred on November

5. On November 6, a \$10 million share block of Intelsat's stock was sold. Commissioner?

Commissioner ROSENWORCEL. Yes, first I dissented on this so I didn't participate in any of these dialogues and I am not familiar with them, but it demonstrates the fundamental problem here is that proceeding like we are is devolving the FCC's spectrum re-allocation and repurposing into let's make a deal. We need a standard from Congress so we do this fairly, openly, and transparently, not just in the C-band but in all spectrum going forward.

Senator KENNEDY. Anybody else on this? I am not suggesting that any of you are involved in this. I just want to know what happened. Is it normal that your General Counsel meet with, assuming you have meetings all the time?

Commissioner STARKS. I also dissented and know nothing about this, Mr. Chairman, but this gives me some deep concern.

Chairman PAI. Senator, to be clear, I am not aware of any insider trading allegation involving Mr. Degani or anyone else at the FCC.

Senator KENNEDY. You need to look at this.

Chairman PAI. I will be happy to take a look at it. But the notion either approving or dissenting of an order has anything whatsoever to do with an allegation of the type you are describing is repugnant and I definitely would be happy to take a look at whatever allegation is, but I want to strongly defend the conduct both of the Commission staff including Mr. Degani and of our career staff that have worked tirelessly on this entire effort in the public interest, not in any private interest whatsoever.

Senator KENNEDY. Well just to be clear, I don't know what happened. I am not saying anything happened. Here is the article, Intelsat's Biggest Investors Sold Shares Just Before Massive Stock Plunge. I don't know where it is from. But anyways, I have read 10 or 20 articles about it, and supposedly there was a meeting between the President of the company and the FCC General Counsel on November 5. And November 6, a huge block went for sale, sold around \$24, and shortly thereafter the bottom fell out of the stock. I am not making any allegations. I am just asking you what is going on if you know.

Chairman PAI. Well, Senator, this sounds like private conduct which would be the purview of the Securities and Exchange Commission not conduct involving an FCC employee as I understand the story you are talking about.

Senator KENNEDY. Well, except the story says it was your General Counsel that met.

Chairman PAI. Well, Senator, we would be happy to produce an ex parte documenting that and every other meeting with any satellite companies which they had with all four, five Commissioners. There have been many of them. And to link them to any type of, the story that you are referring to—

Senator KENNEDY. I am not making any allegations. I just asked you what happened. You might want to look into it. We will be having another hearing. I want to thank all of you. I want to thank you, especially, for doing a public auction. We came this close to giving away \$60 to \$80 billion, this close. And I know a lot of you got a lot of pressure. And I want thank you for doing the right

thing. I think we could do better than the \$10 billion. You know how I feel.

I understand I am Monday morning quarterbacking. I am not sitting in your seat. I am just saying that the pressure I have received in the arguments I keep hearing are that you are holding up 5G because the satellite companies are going to litigate. You are going to get sued anyway. You always get sued. This is nothing different, and the issue is not whether you are going to be sued, it is whether they can get an injunction. And they are not going to get an injunction.

So if they're not happy with \$10 billion, make them a counter offer, \$1 billion.

Thanks, again. We will do this another time and talk about some of the other issues. I am repeating myself, including Commissioner O'Rielly, who I hope will come next time. And I didn't mean to offend him by not including him. You are all a bunch of smart people and I thank you for your public service. This meeting—oh, wait. What am I supposed to read, Andy? Do you want to read it?

Andy: Nope.

[Laughter.]

ADDITIONAL COMMITTEE QUESTIONS

Senator KENNEDY. I want to thank our witnesses for testifying. If there are no further questions, the hearing record will remain open until next Tuesday for subcommittee Members to submit any statements or questions to the witnesses for the record.

[The following questions were not asked at the hearing, but were submitted to the witnesses for response subsequent to the hearing:]

QUESTIONS SUBMITTED TO HON. AJIT PAI

QUESTIONS SUBMITTED BY SENATOR JOHN KENNEDY

Question 1. In 2019, the FCC issued its 18–155 order to curb access arbitrage and to resolve access rate differences most acutely found between long distance providers and conferencing service providers. However, those disputes seem to still exist as there are numerous stays and legal challenges to the order. Furthermore, as a result of the implementation of the order, we understand that considerable traffic has been shifted from the rural areas that were a focus of the order to nationwide carriers, but this traffic shift has created network congestion and call failures.

Do you consider traffic shifts as an intended or unintended consequence of the order?

- a. What timeframes and carrier network considerations were assessed to ensure this shift to be successful and mitigate service disruptions?
- b. You issued an order that dramatically changed the economics of call routing. Did you assume traffic would not shift?

Answer. In 2011, when the Commission comprehensively reformed the Nation's intercarrier compensation system, the Commission also adopted rules to address the abuse of those intercarrier charges through access arbitrage. The Commission made clear that such arbitrage schemes were not in the public interest because they shifted the costs for conference calling services to all long distance customers, most of whom never used the conference calling services that were being given away to users of those services for free. Notwithstanding these rules, companies continued to find ways to game the intercarrier compensation system.

To address this continuing concern, last year the Commission unanimously adopted an order to make local exchange carriers engaged in wasteful access arbitrage responsible for the costs of having calls delivered to them. When that order was adopted, the Commission expected that providers of high-volume calling services, such as conference calling, and their access-stimulating local exchange carrier partners would likely need to change their business model. Instead, it appears that ac-

cess arbitrageurs are trying to circumvent the new rules by changing their routing practices in an attempt to continue to obtain implicit subsidies from long distance consumers. The calls are still nominally bound to phone numbers originally assigned to carriers providing service in rural areas, but in some instances, the arbitrageurs abruptly changed the locations where they want traffic delivered, picking spots with insufficient capacity to handle the increased load. In other instances, the arbitrageurs changed their routing practices to attempt to require the long distance carrier to bring traffic for conference calls and other non-geographic specific services (as opposed to residential and business customers located in a specific geographic area) all the way to the remote location where the access stimulating carrier is located, in an attempt to avoid the costs of their inefficient routing decisions.

Routing changes occur all the time in our Nation's telecommunications networks and industry practice and procedures—and sometimes contracts negotiated between particular carriers—provide for the seamless completion of those changes. Those practices ensure that adequate notice of network changes is given to all carriers that will handle traffic on the affected routes and sufficient time is allowed so that adequate facilities are in place or constructed to handle anticipated calling volumes. It appears as though access arbitrageurs changed the routing of calls outside of these practices for the purpose of using the facilities of affiliated companies and perpetuating the implicit subsidies that Congress has directed the Commission to eliminate—all too often without regard for the impact of such actions on consumers. The Enforcement Bureau has already received an informal complaint on these issues and is reviewing next steps.

Question 2. We also understand that there have been significant call failures since the implementation of the order and that continue to occur on daily basis. As I'm sure we can both agree, call completion is critical to the integrity of our telephone system, with numerous Commission rules addressing call completion requirements.

What is the Commission currently doing to address ongoing call failures to the carriers and conferencing service providers affected by the order?

- a. Can you assure me that long distance providers, such as AT&T, complete all calls to conference service providers, like FreeConferenceCall?

Answer. We agree that call completion is very important to ensure the continuing confidence of all Americans in our communications network. We understand that as a result of the actions of high-volume calling providers and their access-stimulating local exchange carrier partners, attempts have been, and are being, made to re-route calls to avoid the financial consequences of the Commission's 2019 Access Arbitrage Order. These actions may also be attempts to use facilities of corporate affiliates of access arbitrageurs to unjustly enrich firms that continue to engage in access arbitrage, despite the Commission's clear guidance that such activity violates the public interest.

If high-volume calling providers believe they have a legitimate grievance with another service provider, the Commission's Enforcement Bureau stands ready to adjudicate all complaints brought before them to ensure compliance with the Commission's rules and carriers' statutory obligations, including our access arbitrage rules and our call completion rules.

The Commission's Consumer and Governmental Affairs Bureau collects consumer complaints and during the first 3 months of this year received only six complaints from consumers about difficulty reaching a free conference calling service.

Question 3. We are all living in highly uncertain times, with the Coronavirus pandemic affecting ordinary, everyday life. It has been reported that conferencing service providers like Google, Zoom, and FreeConferenceCall are all seeing significant increases in demand for their free services as a result of this crisis, along with the reduction of travel and increase in social distancing becoming more prevalent.

What is the Commission doing to ensure that the public switched telephone network and its carrier participants are prepared for the uncertain, increasing demands for increased remote work and crisis coordination?

- a. Can you provide assurances that the increase demands on the telephone network will be accommodated without disruption to these critical services?

Answer. Our Nation's communications networks, including the public switched telephone network, have performed well throughout the pandemic. I have encouraged each of the major industry associations to report directly to the public on the impacts they're seeing on their networks from the mass-migration to telework, remote learning, and telehealth, and I have directed Commission staff, in coordination with the Department of Homeland Security's Cybersecurity and Infrastructure Security Agency, to regularly speak with senior officials of the major communications

providers as well as several industry associations. I personally have also held many virtual meetings with broadband and telephone service providers and the trade associations that represent them to discuss these issues.

The agency has granted many special temporary authority (STA) emergency applications to expand access to radiofrequency spectrum resources in support of increased broadband usage. The FCC has granted STAs to AT&T, Sprint, T-Mobile, U.S. Cellular, and Verizon, to over 100 wireless Internet service providers that provide service in rural communities, as well as others, such as those serving the Zuni Pueblo in New Mexico. The Commission continues to process additional STA applications and will work to maximize flexible use of available spectrum resources during the pandemic to support mobile voice and broadband connectivity.

Finally, the Commission also granted a temporary waiver of its access-arbitrage rules to Inteliquent, a competitive local exchange carrier that originates interstate traffic for large, enterprise customers and terminates traffic for other clients, including two of the best known conference calling providers in the United States—Zoom Video Communications and Cisco WebEx. As a result of the COVID-19 pandemic, Inteliquent's preexisting customers are helping to facilitate the massive shift to telework and distance learning. This shift materially altered Inteliquent's normal mix of originating and terminating traffic, such that Inteliquent would likely fall under the Commission's "Access Stimulation" definition even though it is not behaving like an access arbitrageur, which would have triggered significant financial consequences for Inteliquent if it did not receive a waiver. The temporary waiver will allow Inteliquent to continue to provide telecommunication services to its conferencing provider customers (like Zoom and Cisco WebEx), which in turn will enable them to continue to provide critical services to their customers including some of the country's largest universities, healthcare institutions, and non-profit organizations.

Question 4. When you issued the access arbitrage order, you said "You've probably heard the expression, there's no such thing as a free lunch. As it turns out, there's no such thing as a free conference call." However, through this crisis, it is becoming clear just how valuable unrestricted access to these tools are for the coordination of resources through a crisis as well as to the continuity of our everyday life.

Do you still stand by your statement?

Answer. This crisis has given us all a stark reminder how important communications is in our daily lives, and in particular how important telecommunications is during this time when physical contact is so restricted. The Commission will do everything it can to ensure that our telecommunications networks function efficiently and effectively. That is why we will grant waivers of our rules when it is justified and is in the public interest to do so, and why more than 700 companies have signed our Keep Americans Connected pledge to help ensure that all Americans have the communications tools they need at this critical time.

All of that does not mean, however, that the wasteful practice of access arbitrage suddenly becomes legitimate. More than ever, arbitrageurs' attempts to subsidize their own profits on the backs of unsuspecting, hardworking American consumers are against the public interest. And yes, there is still no such thing as a free conference call. Someone still must pay the costs associated with such a call. The only question is who that will be.

Question 5. Mr. Chairman, incumbent licensees, such as refineries, utilize 900 MHz spectrum to carry out day-to-day operations and during emergency situations as part of their emergency response communications plans to protect the surrounding communities and the workers at these facilities, including in my home State of Louisiana. I understand the rule is likely to be finalized soon, but with no clear plan for relocation and protection of incumbents. I worry about this rule being finalized without a clear path forward.

Can you share how the FCC plans to protect incumbent users of 900 MHz spectrum so that they can, in turn, protect the safety of the surrounding communities?

a. Will the FCC have a clear plan in place to provide for the protection of incumbents, prior to finalization?

Answer. The 900 MHz band (896–901/935–940 MHz) currently is designated for narrowband land mobile radio communications by Business/Industrial/Land Transportation licensees and Specialized Mobile Radio providers. These radio systems provide communications networks to support the day-to-day operations of a wide variety of the Nation's businesses, including such industries as refineries, land transportation, utility, manufacturing, and nuclear. While 900 MHz licensees may continue to rely on narrowband deployments to satisfy a variety of communications needs,

some 900 MHz licensees will require additional coverage and capacity to keep pace with the expanding need for enhanced connectivity.

I have recently proposed to my colleagues a Report and Order to reconfigure the 900 MHz band for the deployment of broadband services and technologies. The new regulatory framework would allow 900 MHz licensees, like utilities, to obtain broadband licenses and would include operational and technical rules to minimize harmful interference to narrowband operations. The FCC will be voting on this Order at our May Open Meeting. The draft Report and Order is available at <https://docs.fcc.gov/public/attachments/DOC-363915A1.pdf>.

QUESTIONS SUBMITTED BY SENATOR STEVE DAINES

Question 1. The next big bargain you will need to find compromise on will be the 6GHz band. It is my understanding that the commission is looking at using this band for unlicensed uses such as gigabit WiFi and others that could be the next generation of at home connectivity. This is a big swath of spectrum that is important if the U.S. wants to continue to lead on connectivity and the 5G economy. If we are going to reach rural communities in Montana we are going to need every tool available: unlicensed, licensed, low-band, mid-band and more.

a. Can you give me an update on the commission's work to free up more spectrum to reach our rural communities?

Answer. My top priority continues to be to close the digital divide so that every American, including those living in rural areas, enjoys the benefits of 5G and other advanced wireless services. In my March 10, 2020 testimony, I updated you on the execution of the FCC's 5G FAST Plan, which has already made an unprecedented amount of spectrum available for commercial, flexible wireless use, promoted wireless infrastructure, and modernized regulations to encourage fiber deployment. I reported on the three auctions conducted during the prior 16 months, where we made available almost five gigahertz of high-band spectrum for commercial use, as well as our adoption of rules for the C-band auction, which will provide much-needed mid band spectrum. And at our February Open Meeting, the Commission adopted a Notice of Proposed Rulemaking updating its white space rules to expand rural connectivity.

During our April Open Meeting, the Commission addressed the 6 GHz spectrum you mention. This decision makes a contiguous 1,200 megahertz spectrum block available, enabling the use of very wide bandwidths that support high data rates. The innovative technologies and services that are poised to make use of this band will advance the Commission's goal of making broadband connectivity available to all Americans, especially those in rural and underserved areas. In particular, 850 megahertz of that spectrum could be used for outdoor deployments by wireless Internet service providers, schools, and businesses in rural communities.

I appreciate your continued support for the Commission's all-of-the-above approach to spectrum, and I look forward to continue working with you on this issue.

Question 2. How much spectrum has been and is expected to be cleared for 5G wireless communications? Is it on par with other countries? Outside of licensed spectrum for wireless communications, what else will spectrum be needed for in order for the U.S. to lead in the new 5G economy?

Answer. The FCC's 5G FAST Plan will help ensure the United States' position as the worldwide leader in the 5G economy. During the past 2 years, we have conducted three auctions in which we made available almost five gigahertz of high-band spectrum for commercial use. We are also making licensed mid-band spectrum available for 5G. For example, we have authorized commercial deployments in the 3.5 GHz band (3.55–3.7 GHz) and will be auctioning 70 megahertz of Priority Access Licenses in the band this summer. Our C-Band Order will make available 280 megahertz for 5G (3.7–3.98 GHz).

We are currently in the middle of a Tribal priority access window to 2.5 GHz spectrum and then will auction the rest of the unused spectrum in the band. And we are continuing to work on making available additional spectrum in the 3.1–3.55 GHz band, and the 4.9 GHz band, among others.

Outside of licensed spectrum, the Commission continues to open up new unlicensed opportunities. We made available over 20 gigahertz of new unlicensed spectrum available above 95 GHz in the *Spectrum Horizons* proceeding, and we just opened another 1,200 megahertz for unlicensed use in the 6 GHz band. We also have proposed to reform the 5.9 GHz band to make an additional 45 megahertz available for unlicensed operations.

All of these efforts position the United States to be the world leader in wireless innovation of all kinds. This spectrum, and the innovation it enables, will be needed for a wide variety of purposes: mobile broadband, Internet of Things applications, virtual and augmented reality, and other things we can't even conceive today. And I anticipate that its use will span virtually every industry, including transportation, healthcare, education, manufacturing, gaming, and much more.

Question 3. I have worked with the commission on various new initiatives and look forward to continue to grow the toolbox of solutions for our State. One new technology that is interesting is Low Earth Orbiting satellites (LEOs). While still new and not fully tested, they present an opportunity to reach our most remote areas with much faster speeds than traditional satellite broadband. It is my understanding that the commission is including LEOs in the Rural Digital Opportunity Fund (RDOF).

- a. How do you see LEOs addition impacting RDOF's funding and broadband deployment in rural areas?
- b. Does the commission have pending license approvals for LEOs, what is the process for approvals, and how long until pending licenses are approved?

Answer. The Commission adopted a technology-neutral approach to the \$20.4 billion Rural Digital Opportunity Fund so that a diverse array of interested parties can participate. This includes any satellite company that can meet the required specifications. The Commission's decision requires participating entities to be able to provide voice and broadband services at a minimum speed of 25/3 Mbps, with a priority given to bidders that commit to provide faster service with lower latency. The Commission has sought comment on how to evaluate pre-auction applications from nascent technologies, such as low-earth orbiting satellite constellations, to participate in the auction. Staff is currently reviewing comments received on this issue.

Regarding licensing, the Commission has accepted applications for these non-geostationary orbit (NGSO) constellations, including low-Earth orbiting constellations. The Commission has granted 14 such applications filed by 10 companies seeking to deploy NGSO constellations, both for the provision of broadband and other services (e.g. Internet of Things). In addition, SpaceX has already launched more than 300 satellites of its authorized constellations. Commission staff continues to work on the remaining pending applications.

Question 4. I have heard concerns from Montana's veterans and adults who are hard of hearing about the Commission's addition of Automated Speech Recognition in the IP CTS Program. Every day new technology is created to address more solutions which boost our economy and raises our standard of living. However, it is important that as the FCC looks to add new services for the hard of hearing that we do not see a reduction in overall customer satisfaction. Last year I asked you to continue to work with affected groups in order to make sure their concerns are addressed and I appreciate the commission staff meeting with a number of parties recently.

- a. Can you update me on how the commission is ensuring that accessibility, reliability, cost, choice and competition, is not negatively affected?
- b. Can you update me on the quality and performance measures adopted?
- c. Can you update me on how ASR-only IP CTS will be integrated into the 911 call system and if you expect any issues?

Answer. IP CTS is a critical service for people with hearing loss, and I agree that consumers must receive quality service that is reliable. Notably, most IP CTS providers have relied on ASR for years to provide service to users. However, those providers insert a communications assistant—a person—between the caller and the ASR, requiring the communications assistant to revoice whatever the caller is saying. This substantially slows down transcription and reduces the privacy of users.

That's why the Commission has found that ASR-only service is a viable alternative—it offers improvement in speed, accuracy, reliability, and privacy for consumers because you don't need a communications assistant to participate on the call. Additionally, the Commission found that allowing ASR-only service for IP CTS could provide greater security for the Telecommunications Relay Service Fund and reduce the current cost burden on Fund contributors. Like other IP CTS providers, ASR-only providers are required to comply with functional standards, including submission of data to determine Fund revenue requirements and payments, and comply with rules to safeguard the Fund from fraud, waste, and abuse.

ASR-only service is subject to the Commission's minimum standards for all forms of TRS, such as being required to handle all types of calls, to ensure confidentiality, and to transmit calls verbatim in real time, without intentional alteration to con-

tent. Additionally, providers must meet the Commission's applicable technical standards, including speed-of-answer and redundancy requirements. Importantly, as with all forms of IP CTS, providers using ASR must demonstrate that their services support 911 emergency calls and meet the applicable emergency call handling requirements in Commission rules. Finally, ASR providers must report data to the Commission to help us determine if further measures are necessary.

Consumers continue to be able to choose between multiple providers based on the quality of service and the methods the provider offers, including services that use communications assistants. While most IP CTS providers use ASR as part of their service, four entities have filed applications to provide ASR-only service. Those applications remain under review by Commission staff.

QUESTIONS SUBMITTED BY SENATOR PATRICK J. LEAHY

Question 1. In 2019, the FCC canceled the Mobility Fund Phase II after it was found that the maps submitted by wireless carriers were widely inaccurate. For example, the Vermont Public Service Department had an employee drive every highway in the State to test the signals from the major carriers. The State then submitted the data from that drive test as part of the Commission's challenge process showing wide swaths of the State did not have coverage the carriers claimed. Rather than devise a new program to assist States lacking in 4G service the Commission has pushed forward with a new plan called 5G for Rural America.

- a. Shouldn't the Commission be focusing resources towards those States that lack 4G connectivity rather than redirecting funds that will serve to further the digital divide? What steps will the Commission be taking to help those areas of the country that were expecting assistance from the Mobility Fund Phase II? Can the Commission explain how the 5G Fund for Rural America will help those areas waiting for 4G connectivity?

Answer. We're at the dawn of the 5G era. 5G promises significantly faster speeds, lower latency, and better security than 4G LTE networks. It doesn't make sense to spend our universal service funds to deliver networks using predecessor technologies that will be outdated by the time they're operational and condemn rural wireless consumers to a continual game of catch-up with their urban counterparts. They deserve parity, and they deserve it now, not decades from now. At the same time, I agree that some areas have a greater need for support, which is why the Commission proposed in the 5G Fund Notice of Proposed Rulemaking adopted at our April agenda meeting to prioritize and provide greater support for areas that have historically lacked 4G LTE and 3G coverage.

Question 2. Amid the COVID-19 outbreak, schools across the country are shuttering for weeks—maybe months—at a time. Many schools are turning to online education services. This is helpful to continue education, but proves problematic in regions where Internet connectivity is challenging at best, and sometimes even impossible.

- a. What steps will the FCC be taking to connect with States about challenges their school districts face in providing quality, online education to students out of school?
- b. Will you commit to evaluating those needs, reporting back to this Committee about the needs identified, and propose to this Committee policies and proposals that will address these gaps in coverage, so that we can ensure a level playing field—online—for students out of school due to this public health crisis?

Answer. Since March, I have been working with Congress to appropriate dedicated funding for a remote learning initiative—one that will give students across this country an opportunity to connect with their teachers and online educational resources. Fortunately, the recently enacted Coronavirus Aid, Relief, and Economic Security Act (CARES) Act's Education Stabilization Fund provides one avenue for just such funding. In the CARES Act, the Elementary and Secondary School Emergency Relief Fund provides more than \$13 billion in grants that elementary and secondary schools can use for purposes that include remote learning. In addition, the Governor's Emergency Education Relief Fund makes approximately \$3 billion in emergency block grants available to governors to decide how to best meet the needs of students. Together, these Funds make \$16 billion available to governors and schools, States, and localities to connect students to remote learning resources. The FCC is coordinating with the U.S. Department of Education on this effort, and I

look forward to working with Secretary DeVos, Congress, and States to ensure these funds are properly spent to keep our students connected.

Complementing this effort, we have also taken steps to help those schools that participate in the Commission's E-Rate program transition to online learning by waiving and extending several program rules and deadlines. One such waiver of the Commission's gift rule enables service providers to offer, and program participants to solicit and accept, free broadband connections, devices, and other services that support remote learning, which would otherwise be prohibited under our rules. Similarly, we have extended a number of E-Rate program deadlines to alleviate administrative and compliance burdens on schools and enable them to focus on transitioning to remote learning. This relief includes a 35-day extension of the application filing window for funding year 2020 and, more recently, a 1 year extension of the so-called service implementation deadline for special construction to deploy fiber. Additionally, to facilitate community connectivity during the coronavirus pandemic, we clarified how schools and libraries may permit the general public to use E-Rate-supported Wi-Fi networks.

QUESTIONS SUBMITTED BY SENATOR RICHARD J. DURBIN

Question 1. It's clear that there is bipartisan support for doing all we can to close the Digital Divide and ensure that every child, adult, and small business has the opportunity to access quality broadband speeds. Recently, the Commission launched the \$20.4 billion Rural Digital Opportunity Fund (RDOF) to help improve and expand broadband access. I'm very concerned by the Federal Communications Commission's (FCC) last minute decision to effectively leave out areas where States have invested in their own broadband infrastructure.

- a. Why would the FCC create a disincentive for States to invest in their own broadband infrastructure?

Answer. The Commission has long supported other State and Federal efforts to close the digital divide. Indeed, the very first item I circulated as Chairman was an order to partner with the State of New York to facilitate their State efforts to get more Americans connected. But the question we faced with the Rural Digital Opportunity Fund was a different one, and the basic principle we followed is simple: If a service provider already has been given funding (Federal and/or State) to serve a particular area with at least 25/3 Mbps broadband, the FCC is not going to give them yet more taxpayer funding to do something they're already obligated (by Federal and/or State law) to do. That would be an irresponsible use of limited taxpayer dollars and would bestow a windfall on corporations that should not be paid for the same work twice at the expense of some areas that would otherwise not receive service.

Question 2. It is important that we view broadband expansion as a long-term investment and ensure that the fiber underlying our broadband networks can last for 20 to 30 years, or more.

- a. How does the RDOF program ensure that we are making investments that will stand the test of time and will not require new infrastructure investment in the coming years?

Answer. It is imperative that the Universal Service Fund support sustainable, future-proofed networks that will support tomorrow's broadband applications, as well as today's. That's why, in January, we established final rules for the \$20.4 billion Rural Digital Opportunity Fund that will have a significant impact in promoting the deployment of sustainable networks. The Commission will use a two-phase reverse auction that will provide support for up to gigabit service to millions of unserved Americans who currently lack access to fixed 25/3 Mbps broadband. The rules we adopted made three key departures from the previous CAF Phase II auction so that the Rural Digital Opportunity Fund supports networks that will stand the test of time. First, we more than doubled the minimum speeds that bidders must commit to provide. Second, we modified the weights that apply to bids to favor faster, lower latency networks. And third, as soon as the total price of all bids in the auction falls below the auction's budget, support will be awarded to the remaining bidder with the highest-performing network in each area. In other words, the auction will support the best, longest-lasting network possible in each area given the available budget.

SUBCOMMITTEE RECESS

Senator KENNEDY. The subcommittee stands in recess subject to the call of the chair.

[Whereupon, at 11:55 p.m., Tuesday, March 10, the subcommittee was recessed, to reconvene subject to the call of the Chair.]