

**OVERSIGHT OF THE
FEDERAL COMMUNICATIONS COMMISSION**

HEARING

BEFORE THE

**COMMITTEE ON COMMERCE,
SCIENCE, AND TRANSPORTATION
UNITED STATES SENATE**

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

—————
AUGUST 16, 2018
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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED FIFTEENTH CONGRESS

SECOND SESSION

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OVERSIGHT OF THE FEDERAL COMMUNICATIONS COMMISSION

THURSDAY, AUGUST 16, 2018

U.S. SENATE,
COMMITTEE ON COMMERCE SCIENCE, AND TRANSPORTATION,
Washington, DC.

The Committee met, pursuant to notice, at 10 a.m. in room SR-253, Russell Senate Office Building, Hon. John Thune, Chairman of the Committee, presiding.

Present: Senators Thune [presiding], Wicker, Blunt, Cruz, Moran, Sullivan, Capito, Gardner, Young, Nelson, Cantwell, Klobuchar, Blumenthal, Schatz, Markey, Udall, Baldwin, Duckworth, Hassan, Cortez Masto, and Tester.

OPENING STATEMENT OF HON. JOHN THUNE, U.S. SENATOR FROM SOUTH DAKOTA

The CHAIRMAN. Good morning and welcome to today's hearing on Oversight of the Federal Communications Commission.

At prior oversight hearings, I've stressed the importance of reauthorizing the FCC, something that hadn't been done in nearly 30 years. Reversing more than a quarter century of legislative action took time and effort, but I'm glad to say that with bipartisan, bicameral support, we've now accomplished this goal. Signed into law in March as part of the spending bill, the RAY BAUM's Act not only reauthorized the FCC, but it also included important spectrum, infrastructure, and broadband deployment provisions, including the MOBILE NOW Act, that will help pave the way for American leadership in the race for 5G.

Under Chairman Pai's leadership, the FCC has also taken action in a number of areas to help free up more spectrum for wireless use, streamline broadband deployment, and bridge the digital divide, particularly in rural states like my home state of South Dakota. I commend the Commission for these reforms and look forward to discussing your vision for building on these important steps. Yet, as we all recognize, work remains to bring service to those areas that lack access to a viable broadband option.

Among other challenges, rural areas of the country face continuing uncertainty and reductions in Universal Service Funding. I appreciate that under Chairman Pai, the Commission has finally undertaken the long overdue task of trying to ensure adequate support for the deployment of broadband in such areas.

Nevertheless, providers need certainty as they plan for the deployments that will bring service to rural America now and in the decades to come. Put simply, the Commission needs to act this year

to address funding for legacy and model-based, high-cost support. Looking ahead, providers also need access to additional spectrum in the global race to deploy next-generation wireless technology.

As this Committee heard just a few weeks ago, the United States is engaged in a high-stakes race with China, South Korea, and others for leadership in 5G. It's critical that the United States win this race and the jobs and investment that will come with victory. The Commission has made real progress with high-band spectrum, and we look forward to related auctions beginning this year.

At the same time, the Commission must act quickly to make more mid-band spectrum available for 5G before we fall further behind. And, as important as additional spectrum allocations will be for the next-generation broadband networks such as 5G, streamlining deployment processes is also critical.

I applaud the Commission and, particularly, Commissioner Carr's efforts to remove barriers to broadband deployment. A number of states have adopted legislation to streamline the deployment of small wireless facilities, but the inherently borderless nature of broadband internet access warrants discussion of a national framework.

The bipartisan Streamline Act that I introduced in June with Senator Schatz is meant to stimulate the discussion. Striking the right balance between accelerating broadband deployment and preserving local authority will be an ongoing focus of this committee. I look forward to hearing about the Commission's complementary efforts to accelerate deployment and how uniform national processes can help bring the benefits of 5G to all areas and not just those where the cost equation makes deployment easier.

In the end, American consumers will be the beneficiaries of these efforts. They are and must remain at the forefront of the FCC's decisionmaking across its many responsibilities. For instance, it's important that the FCC put consumers first as the media landscape continues to dramatically change and grow. The FCC must also continue its efforts to protect consumers from fraudulent and unwanted robocalls, which remain among the top consumer complaints.

Now that the D.C. Circuit has found many Wheeler-era Telephone Consumer Protection Act rules unreasonably expansive, arbitrary, and capricious, the real work of protecting consumers and restoring reason to TCPA rules has begun. Consumers must have meaningful rights to control who can call them using automated calling technology. We must also ensure that those trying in good faith to comply with the law in reaching their patients and customers have a reasonable means of doing so without facing potentially devastating litigation. And we must make sure the Commission and law enforcement have the tools and incentives that they need to go after the scammers and thieves bombarding us with illegal and unwanted calls.

Finally, before I close, I want to acknowledge the unprecedented measures that the Commission has taken under Chairman Pai's leadership to improve the openness and transparency of Commission processes. Publicly releasing drafts of items the FCC plans to vote on weeks prior to doing so has made both the process and

products at the FCC better and more available to the American people.

The same applies when the Commission makes mistakes. Along those lines, a recent FCC Inspector General report about an alleged attack on the Commission's comment filing system found that—and I quote—“the FCC relying on then Chief Information Officer David Bray's explanation of the events misrepresented facts and provided misleading responses to congressional inquiries related to this incident,” end quote. As you know, it is absolutely critical that the information provided to Congress and the American people be correct. I look forward to hearing how the Commission will prevent such mistakes in the future.

I want to thank our distinguished witnesses for being here today and for working with the Committee on many of these important issues, and I look forward to a robust discussion. I'll now turn to Ranking Member Nelson for any remarks he'd like to make.

Senator Nelson.

**STATEMENT OF HON. BILL NELSON,
U.S. SENATOR FROM FLORIDA**

Senator NELSON. Thank you, Mr. Chairman.

The FCC majority has certainly been busy in the last year and a half. You've been busy abdicating the agency's statutory authority to protect consumers on the internet. You've been busy paving the way for unprecedented broadcast consolidation. You've been busy proposing to eliminate rules to make quality educational content for kids readily available on free over-the-air television. You've been busy gutting a program designed to help low-income Americans afford phone and internet services. The bottom line here is that the FCC has been busy removing consumer protections in almost every industry that you regulate.

What we haven't seen is progress in actually closing the digital divide. Access to broadband is often the number one issue in rural counties like so many of the counties that I have just visited all across north central and north Florida, as well as in urban communities. Floridians still do not all have access to the affordable, high-speed Internet service, and in these areas, students lack the ability to complete their homework, small businesses can't compete, and social and political engagement is hampered, and these Floridians deserve the same opportunities as do Americans across the country that other Americans have with high-speed broadband.

So on behalf of those Americans and those Floridians who are part of the 24 million on the wrong side of the digital divide, we need real solutions for getting quality affordable broadband in those areas, and I hope the FCC will move with dispatch. It's going to take more than lip service to solve the problem, and it's definitely not going to be solved by repealing essential protections to preserve the free and open internet. I want to remind you that those rules were popular with millions of Americans and were upheld in their entirety by the courts.

Now, you all are observers of the political scene. You know that a bipartisan majority of the United States Senate has decisively repudiated that action through a congressional resolution of disapproval led by Senator Markey. That formal censure should give

the FCC pause. It should spur regulatory humility in all actions taken by the agency. The American people expect more from our independent regulators.

The FCC's actions directly impact the lives of so many. The FCC can make a difference when you focus on the greater public interest, not on fulfilling the wish list of a few large companies. The FCC has always had a supremely important role in our society, and we ought to be optimistic about the future, particularly as we go on and as you receive oversight by this committee.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Nelson.

I look forward to hearing from the members of the Commission. We'll start on my left and your right with the Chairman, Ajit Pai, followed by Commissioner Mike O'Rielly, Commissioner Brendan Carr, and Commissioner Jessica Rosenworcel. So thank you all so much for being here, and we certainly look forward to hearing from you and having the opportunity to interact with you a little bit at the conclusion of your remarks.

So, Chairman Pai, please proceed.

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

Chairman PAI. Thank you, Chairman Thune, Ranking Member Nelson, and members of the Committee. Thank you for holding this hearing. I appreciate this opportunity to update you on the work of the FCC.

But before doing so, I would like to thank this Committee for the assistance it has given our agency. Earlier this year, as part of the Consolidated Appropriations Act, Congress passed the MOBILE NOW Act, which originated in this Committee. MOBILE NOW requires the FCC to move forward with freeing up 255 megahertz of Federal and non-Federal spectrum for mobile and fixed wireless broadband, including spectrum for unlicensed use. This new spectrum will be critical for the rollout of 5G services, the next generation of wireless connectivity.

The FCC is taking your lead when it comes to 5G. This year, we are starting the 28 gigahertz band auction, followed immediately by an auction of the 24 gigahertz band. In the second half of 2019, we intend to hold an auction of spectrum in the 37, 39, and 47 gigahertz bands. Combined, these auctions will make almost 5 gigahertz of spectrum available and advance America's global leadership in 5G, and none of this would have been possible without this Committee's leadership.

The FCC is also hard at work addressing our top priority, closing the digital divide. We are doing this in two basic ways: reforming our subsidy programs and modernizing our regulations. With respect to the first, last month, we kicked off our Connect America Fund, Phase II, reverse auction, which will provide up to \$2 billion in the next decade to bring fixed broadband to unserved parts of rural America. Earlier this year, we dedicated \$500 million in additional funding to assist small carriers deploying rural broadband, and we boosted telemedicine's promise by increasing funding in our rural healthcare program by \$171 million a year, a 43 percent in-

crease, as well as adjusting the cap going forward to account for inflation.

With respect to modernizing our rules, we are cutting through the regulatory red tape and making it easier for broadband providers to invest in next-generation networks. We have exempted small cells from the Federal historic preservation and environmental review processes that were designed for traditional large towers. We've updated our business data services regulations. We have reformed our network transition rules to make it easier for companies to upgrade from the fading networks of the past to the resilient networks of tomorrow. We are making it easier and cheaper for providers, especially competitive entrants, to get access to utility poles with one-touch, make-ready rules, and we have returned to the successful, light-touch regulatory framework under which the Internet flourished in the United States from 1996 until 2015.

Overall, our policies to promote broadband deployment and close the digital divide are working. According to a recent study, in 2017, more commercial buildings in the United States added fiber connections than in any year since at least 2004. Another recent report showed that broadband network investment in the United States increased by \$1.5 billion to \$3 billion in 2017 alone, reversing the declines that occurred during the last 2 years of the prior administration. This increased investment is having a tangible and positive impact on American consumers.

To give you just one example, VTel is a small internet service provider based in Springfield, Vermont. The company reported recently that it, "committed \$4 million to purchase equipment and services to upgrade its LTE core, to enable voice roaming and Wi-Fi calling to all of Vermont rural subscribers, and to simultaneously begin rolling out faster mobile broadband that will start our transition to 5G." VTel concluded—and I quote again—"We are quite optimistic about the future, and the current FCC is a significant reason for our optimism." In short, we are on the right track.

Finally, I would like to address a story that has received a lot of attention over the past 24 hours. Last Friday, the U.S. Government sued in a Texas Federal district court to enforce a \$15,000 forfeiture order issued by the FCC's Enforcement Bureau in 2014 against a pirate radio station in Austin, Texas. Normally, our pirate radio enforcement efforts don't make national news, but this one has, because the pirate radio station in question was airing Alex Jones' show. Some have criticized the FCC for removing Mr. Jones from the airwaves in Austin, allegedly because of the content of his program. Many others have praised us for allegedly taking that same action.

It is important to make clear that our pirate radio enforcement efforts, including this one, have nothing to do with the content that pirate radio stations air. We act against pirate radio stations because they are violating the law by broadcasting on the FM airwaves without a license. Indeed, in this case, the operators of the FM stations received a warning from the FCC that they were broadcasting without a license, yet refused to come into compliance with the law. We will always follow the law.

Chairman Thune, Ranking Member Nelson, members of the Committee, thank you once again for holding this hearing. I look forward to working with you and your staffs in the time to come on these important issues.

[The prepared statement of Chairman Pai follows:]

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

Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you for holding this hearing. I appreciate this opportunity to update you on the work of the Federal Communications Commission to advance the public interest.

But before doing so, I'd like to thank this Committee for the vital assistance that it has provided the FCC. Earlier this year, as part of the Consolidated Appropriations Act, the MOBILE NOW Act was combined with the House's RAY BAUM'S Act and enacted into law. That legislation—in particular the MOBILE NOW Act portion, which originated in this Committee and was introduced by Chairman Thune—contained a host of provisions that are already having a positive impact on the Commission's work. As for the MOBILE NOW section, we are required to move forward with freeing up 255 MHz of Federal and non-Federal spectrum for mobile and fixed wireless broadband, including spectrum for unlicensed use. This new spectrum will be critical for the rollout of 5G services. Additionally, by addressing coordination between the FCC and the National Telecommunication and Information Administration, the legislation helps facilitate 5G infrastructure deployment on Federal lands and encourages more efficient deployment in rights-of-way. In the next section, I'd like to describe what the Commission has already done to follow up on many of these measures.

United States Leadership in 5G.—Perhaps one of the most important provisions in the Consolidated Appropriations Act was a correction to a technical problem involving deposits for spectrum auctions that prevented the Commission from moving forward with large auctions. With this fix in place, the FCC is moving forward aggressively to hold auctions and move a substantial amount of spectrum into the commercial marketplace. On November 14, we plan on beginning our 28 GHz band auction, which will be quickly followed by our 24 GHz band auction. Then, in the second half of 2019, I intend to hold a single auction of spectrum in the 37 GHz, 39 GHz, and 47 GHz bands. Combined, these auctions will make 4.95 GHz of spectrum available to the private sector and advance America's global leadership in the deployment of 5G, the next generation of wireless connectivity. None of this would have been possible without this Committee's leadership.

The FCC is also moving forward on other fronts to ensure that America leads in 5G. In July, we proposed to make more mid-band spectrum in the 3.7–4.2 GHz band available for flexible terrestrial use. In June, we proposed making spectrum in the 26 and 42 GHz bands available for flexible terrestrial use. In May, the Commission proposed to allow more efficient and effective use of spectrum in the 2.5 GHz band by increasing flexibility for existing Educational Broadband Service licensees and providing new opportunities for educational entities, rural Tribal Nations, and commercial entities to access unused portions of the band. Earlier this year, we proposed in our *Spectrum Horizons* proceeding to allow for greater experimentation in very-high spectrum bands above 95 GHz. Commissioner O'Rielly is taking the lead in working with staff to conclude the 3.5 GHz proceeding in the coming months. And I've committed to putting forth a proposal in the fall to make greater use of the 6 GHz band.

With respect to low-band spectrum, the transition in the 600 MHz band following the incentive auction is proceeding apace. We've granted wireless licenses to the vast majority of auction winners, and T-Mobile has already started offering service in the band in more than 900 cities and towns in 32 states. Moreover, the additional funding that Congress recently provided the Commission in the Consolidated Appropriations Act will ensure that we are able to fully reimburse full-power and Class A television stations for their reasonable relocation expenses and provide funding to LPTV stations, television translators, and FM stations that are adversely affected by the repack, as well as funding for consumer education.

Of course, American leadership in 5G is not just about spectrum policy; getting infrastructure policy right is critical as well. We can make all of the spectrum in the world available for 5G service, but it won't make a difference if the physical infrastructure isn't in place to carry this traffic. And the private sector will need to

install a lot of physical infrastructure because the wireless networks of the future will be much more densified than the networks of today.

That's why I asked Commissioner Carr to lead the Commission's efforts to modernize our wireless infrastructure rules. Many of our regulations were designed for 200-foot towers, not small cells that can be the size of pizza boxes. That needed to change. And thanks to Commissioner Carr's leadership, that is changing. Earlier this year, for example, we decided that small cells would no longer have to go through the same Federal historic preservation and environmental review processes that were designed for traditional large towers. This common-sense step will expedite the deployment of small cells, cut the cost of deployment, and allow for the faster rollout of 5G. I'd also like to thank Commissioner O'Rielly for his strong support of this important initiative.

Our wireless infrastructure efforts dovetail with our initiatives to promote the deployment of wireline infrastructure, which is essential to carry the massive amounts of 5G traffic that we anticipate. I'll now turn to the latter.

Closing the Digital Divide.—From the beginning of my tenure as head of the agency, I've made clear that my top priority would be to close the digital divide. I take this issue personally, having grown up in a small town in rural Kansas. And in order to inform our efforts on how to connect unserved areas, I've travelled to 32 states and two U.S. territories—I'll visit three more states next week—and have logged nearly 9,000 road miles to learn about the communications needs of communities around the country. I've seen places that are using the Internet to open new doors of opportunity as well as towns that are being bypassed by the digital revolution. In the time to come, I'll continue to visit these areas and keep the Commission's eyes focused on how we can find innovative ways to address this critical challenge.

I'm pleased to report that the FCC has been taking significant steps to expand broadband deployment in previously unserved parts of our country. In particular, we're modernizing our regulations and reforming our Federal subsidy programs. I'll take each in turn.

First: regulatory modernization has been a hallmark of this Commission. Broadband networks don't have to exist. The heavier the regulatory burden, the less likely it is that companies will take the risks, raise the capital, and hire the crews to build high-speed networks. We simply have to cut through the regulatory red tape and make it easier for these companies to invest in those networks.

And that's exactly what we're doing. Among other things, we've updated our rules to make it easier for companies to transition away from maintaining the fading copper networks of yesterday and toward investing in the resilient networks of tomorrow. We're also taking action to make it easier and cheaper for providers to get access to utility poles and conduits. At our August 2 meeting, for example, we adopted a bold, forward-thinking proposal called "one-touch-make-ready." This proposal will substantially reduce the time and expense of preparing poles for new attachments by making it easier for one entity to do the work necessary to attach new broadband equipment to utility poles (as opposed to having multiple entities do so sequentially). Many broadband providers, particularly competitive entrants, have told the FCC that the time and expense of attaching equipment to poles are significant barriers to broadband deployment. Adopting one-touch-make ready rules—rules recommended by our Broadband Deployment Advisory Committee—is a significant step toward solving that problem.

The Commission has also given the green light to companies that want to send a large number of satellites into low-Earth orbit to provide high-speed broadband. These new networks promise much faster and more reliable satellite broadband services and could help us reach the hardest-to-serve areas.

Additionally, we've returned to the successful light-touch regulatory framework under which the Internet flourished in the United States from 1996 to 2015. Under the heavy-handed regulations adopted by the prior Commission in 2015, network investment declined for two straight years, the first time that had happened outside of a recession in the broadband era. But we've now abandoned that failed policy. In the *Restoring Internet Freedom Order*, which was adopted last December, we stopped regulating the Internet with 1934 rules designed for the Ma Bell telephone monopoly. We strengthened our transparency rules so that broadband providers are required to disclose more information about their network management practices. And we restored the authority of the Federal Trade Commission, our Nation's premier consumer protection agency, to police the practices of Internet service providers—authority the prior Commission had stripped from the FTC in 2015.

At the time that the *Restoring Internet Freedom Order* was adopted, there were many hysterical predictions of doom. We were told that it would be the destruction of the Internet, or as some outlets put it, "the end of the Internet as we know it."

And the official Twitter account for Senate Democrats made the following assertion (one word per line in the actual tweet): “If we don’t save net neutrality, you’ll get the Internet one word at a time.” This claim was baseless when it was made. The *Washington Post’s* Fact Checker gave it Three Pinocchios and found that it “conveys the false impression that a slowdown is imminent unless net neutrality rules are restored,” adding that “we can’t help but feel that we’ve spilled a lot of pixels here analyzing something that simply hasn’t happened.”

The claim remains false today. It has now been 67 days since the repeal of the previous Administration’s utility-style Internet regulations took effect. Far from ending or being delivered one word at a time, the Internet remains open and free. Both the FCC and the FTC are protecting consumers—the former through its transparency rule and the latter through its enforcement of Section 5 of the FTC Act (which prohibits “[u]nfair methods of competition” and “unfair or deceptive” business practices). And we now have a regulatory framework that is encouraging the private sector to make the investments necessary to bring better, faster, and cheaper broadband to more Americans.

The overall positive impact of our regulatory modernization efforts was brought home recently by VTel, a small Internet service provider based in Springfield, Vermont. Unsolicited, VTel recently wrote that it “can assure that regulating broadband like legacy telephone service would not create any incentives for VTel to invest in its broadband network. In fact, it would have precisely the opposite effect.” And as a result of recent FCC policies, VTel “committed \$4 million to purchase equipment and services from Ericsson to upgrade its LTE core to enable voice roaming and Wi-Fi calling to all our Vermont rural subscribers and to simultaneously begin rolling out faster mobile broadband that will start our transition to 5G.” The company concluded that it “is quite optimistic about the future, and the current FCC is a significant reason for our optimism.” I have attached VTel’s letter to this statement so that you can see for yourself how our decisions, including light-touch Internet regulation, are helping boost investment and close the digital divide.

Second: we’re reforming our Federal subsidy program, known as the Universal Service Fund. On July 24, for example, the Commission kicked off its Connect America Fund Phase II reverse auction, which will provide up to \$2 billion over the next decade to bring fixed broadband to unserved areas in rural America. Through this first-of-its-kind multi-round reverse auction, a wide variety of providers, including rural electric cooperatives, fixed wireless providers, incumbent local exchange carriers, cable companies, and satellite providers are competing for universal support funding to expand broadband deployment. The reverse auction mechanism will ensure that this money is distributed efficiently and that we get the most bang for our buck. A lot of work went into getting this auction off the ground, and I’d like to thank the Rural Broadband Auctions Task Force for all its efforts on this essential project.

On the universal service front, we’ve also taken other significant steps. Earlier this year, for example, we provided about \$500 million in additional funding to assist rate-of-return carriers in expanding broadband deployment in rural America and sought public input on the future steps we should take so that these carriers have sufficient resources to build out broadband. We also raised the cap in our Rural Health Care program by \$171 million a year and agreed to adjust the cap in future years to account for the impact of inflation. And at our most recent Open Meeting on August 2, we unanimously adopted a Notice of Inquiry to examine a \$100 million pilot program to expand telemedicine, spearheaded by Commissioner Carr. These steps will enable more rural patients, specifically low-income Americans, to access telemedicine through high-speed broadband.

Incidentally, one aspect of the digital divide that we are working to solve involves rural call completion. Too often, rural Americans can’t be confident that calls made to or by them will be completed. Whether consumers experience false ring tones, dropped calls, inaccurate caller ID information, or other problems, rural call completion issues can have serious repercussions, potentially impacting quality of life, economic opportunity, and public safety in affected communities. That’s why this week the Commission adopted an order to tackle this problem by continuing to implement the Improving Rural Call Quality and Reliability Act of 2017. Specifically, it creates a registry for intermediate providers transmitting voice communications and requires that providers who select the initial long-distance route typically only use registered intermediate providers. The FCC’s aim reflects yours: to ensure that every call in this country is completed, including those made to and from rural America.

Public Safety.—In recent months, the Commission has taken many important steps to improve public safety. A principal focus has been on improving our Nation’s alerting systems: the Emergency Alert System (EAS) and Wireless Emergency

Alerts (WEA). Earlier this year, for example, we adopted new rules to improve the geographic targeting of WEA alerts. The Commission heard from many public safety officials that alerts being transmitted to an overly broad geographic area were undermining the efficacy of the WEA system. Either public safety officials were unwilling to send certain alerts because they could not be sufficiently targeted, or consumers were beginning to ignore alerts because too many they received were not relevant to them. In order to address this problem, we will require wireless providers participating in WEA to improve geographic targeting so that alerts do not overshoot the affected area by more than one-tenth of a mile. Participating wireless providers must also now support the use of “clickable” embedded links in alerts so that consumers are able to easily access additional emergency information. And we have adopted rules to add a new “Blue Alert” to the EAS to notify the public about threats to law enforcement and help apprehend dangerous suspects.

As you know, in January, the Nation received a stark reminder about the dangers posed by false emergency alerts when the State of Hawaii issued a false ballistic missile alert on a Saturday morning. Such false alerts are entirely unacceptable because they cause widespread panic and undermine public confidence in our alerting systems. Immediately following this false alert, our Public Safety and Homeland Security Bureau leaped into action and launched a thorough investigation of what went wrong and what could be done to stop such an incident from happening again. Earlier this year, the Bureau issued a report that contained a variety of important recommendations for preventing false alerts and minimizing the impact of those that do occur. Since that time, the Bureau has been taking steps to make state and local alert originators aware of these recommendations. And just this past July, the Commission adopted new rules implementing some of the Bureau’s recommendations and seeking comment on others. I know that this body, too, has been active on this front, and specifically want to thank Senator Schatz for his leadership to ensure that no community endures the panic that gripped his state months ago.

Another important public safety priority is disaster response and recovery. Last year’s hurricanes caused substantial damage in many parts of our country. And the impact was particularly severe in Puerto Rico and the U.S. Virgin Islands. The FCC immediately recognized that the situation on the islands would be unlike other hurricane recovery operations and therefore took unprecedented efforts to assist with the restoration of communications networks. Most notably, we made available over \$70 million in frontloaded universal service funding for carriers in Puerto Rico and the U.S. Virgin Islands to expedite recovery efforts in the immediate aftermath of Hurricanes Irma and Maria. Earlier this year, the Commission voted to create two funds—the Uniendo a Puerto Rico Fund and the Connect USVI Fund—to continue to provide much-needed funding for restoration efforts. In the short term, we agreed to make available another \$64 million for the restoration of communication networks and to convert the advanced funding we provided last year into new funding by declining to recover those amounts from future universal service payments. We also sought comment on providing almost \$900 million in medium-term and long-term funding to expand fixed and mobile broadband connectivity in Puerto Rico and the U.S. Virgin Islands. Our goal should not be just to restore the communications networks that served the islands prior to last year’s hurricanes. Instead, we want to create networks that will be more resilient when future storms hit and to expand high-speed Internet access to more Puerto Ricans and Virgin Islanders. In March, I was pleased to visit Puerto Rico and the U.S. Virgin Islands to meet with public and private sector leaders and see first-hand the status of recovery efforts. I look forward to continuing to coordinate the FCC’s efforts with our partners in Puerto Rico and the U.S. Virgin Islands as we keep working on this important issue.

Finally, I want to mention the Commission’s efforts to end 911 fee diversion at the state level. Over this past year, Commissioner O’Rielly has taken the lead in highlighting the problem of 911 fee diversion—a practice that saps funding from the ongoing work of public safety answering points and first responders and undermines our Nation’s investments in next-generation 911. His use of the bully pulpit has already gotten real results, leading some states to change their practices and others to grapple with the steps needed to end diversion. Unfortunately, not all states have followed; some have continued to divert public safety funds for causes other than public safety, and New York has refused even to provide the FCC information on how it is treating these funds.

Before concluding, I would like to thank the outstanding, professional, and hard-working staff at the Commission. In the year and a half that I’ve led the agency, the FCC has been exceptionally productive. For example, we’ve adopted 125 items at our monthly meetings, compared to 100 items in the three years before I became Chairman. None of this would have happened without the hard work, expertise, and professionalism of our staff. Whether we are discussing making more spectrum

available for advanced wireless services, reforming our infrastructure rules, closing the digital divide, protecting public safety, or promoting American leadership abroad, our staff are the ones who deserve the credit for all that we've been able to achieve in just 19 months.

Chairman Thune, Ranking Member Nelson, and the Members of this Committee, thank you once again for the opportunity to testify this afternoon, and I look forward to the opportunity to answer your questions.

ATTACHMENT

May 25, 2018

Senator PATRICK LEAHY,
United States Senate,
Washington, DC.

Dear Senator Leahy,

I hope this note finds you and Marcela well.

I feel compelled to write after seeing a video clip of your questions to FCC Chairman Ajit Pai during the recent Senate Appropriations Subcommittee hearing. While I understand your interest in seeking to quantify the effects of the FCC's policies on broadband investment and deployment—no easy task to be sure—I can offer the experiences of Vermont Telephone and VTel Wireless (collectively, VTel), which Chairman Pai mentioned in his testimony, as a testament to the positive impacts of the current FCC's regulatory policies.

As you know, VTel was the first company to offer Internet access in Vermont. We were first in Vermont with GigE to homes. We built America's first 100 percent 4G LTE wireless broadband network, integrating voice and data while also supporting E911. We routinely post some of the fastest Internet speeds and highest customer satisfaction ratings in the State.

Each year, VTel must invest to operate and grow its wireline and mobile broadband networks. The FCC under Chairman Pai's leadership has created a positive regulatory climate for VTel to make such investments. For example, the FCC has taken steps to reduce regulatory barriers to the installation of cell towers and smaller cell sites. These policies encouraged VTel to commit to build a new cell tower in March 2018, which will improve wireless broadband service to Whitingham, Vermont. Similarly, in April 2018, VTel turned up three new 500 Mbps microwave paths to boost wireless backhaul to Wardsboro and Dover, Vermont.

Later this year, the FCC will conduct its Connect America Fund Phase II reverse auction in which VTel seeks to participate. If successful in that auction, VTel will be able to use auction funds to help subsidize the cost of extending the reach of its networks to deploy higher speed broadband and voice services in additional rural areas of Vermont that are otherwise uneconomic for most wired and wireless carriers to serve. Importantly, there are relatively few areas in rural Vermont where broadband service is not currently available, primarily because of the Federal American Recovery and Reinvestment Act of 2009 (ARRA), pursuant to which VTel received awards allowing the company to deploy state-of-the-art wireline and mobile broadband networks where such deployment would not otherwise be possible.

Chairman Pai's FCC also has eliminated the overhang associated with a number of heavy-handed regulatory initiatives launched by the FCC under then Chairman Wheeler, such as regulating competitive business data services and imposing onerous service discontinuance rules. These initiatives frustrated the deployment of IP technologies and required that VTel spend significant sums on regulatory lawyers and personnel to ensure compliance—sums that would be unavailable to VTel to invest in its broadband network and services.

As far as net neutrality is concerned, which was a subject of your questioning of Chairman Pai, VTel is committed to an open Internet. However, whatever your views on the need for or wisdom of net neutrality rules, I can assure that regulating broadband like legacy telephone service would not create any incentives for VTel to invest in its broadband network. In fact, it would have precisely the opposite effect.

You asked Chairman Pai to give tangible examples of investment into rural broadband as a result of recent FCC policies. I can tell you that, just days ago, VTel committed \$4 million to purchase equipment and services from Ericsson to upgrade its 4G LTE core to enable voice roaming and Wi-Fi calling to all our Vermont rural subscribers and to simultaneously begin rolling out faster mobile broadband that will start our transition to 5G. This commitment represents VTel's largest single technology investment since the capital invested in connection with VTel's ARRA awards, and one of the largest in the history of our company.

There is never enough capital, and the challenges of competing against larger and more established companies in rural Vermont remain enormous. However, VTel is quite-optimistic about the future, and the current FCC is a significant reason for our optimism.

I hope it is clear this note is sent with the deepest respect I have long held for you personally, and for your decades of commitment to the development of rural Vermont broadband. If you would like to discuss any of these matters, it would be a pleasure to come to Washington at your convenience.

Sincerely,

DR. MICHEL GUYTE,
Chairman and CEO,
Vermont Telephone Company, Inc.

The CHAIRMAN. Thank you, Chairman Pai.
Commissioner O'Rielly.

**STATEMENT OF HON. MICHAEL O'RIELLY, COMMISSIONER,
FEDERAL COMMUNICATIONS COMMISSION**

Commissioner O'RIELLY. Thank you, Mr. Chairman.

Let me start by extending my thanks to Chairman Thune, Ranking Member Nelson, and the members of the Committee for the honor to engage with you about the decisions and workings of the Federal Communications Commission. Today, I'd like to highlight a few critical issues that have been a focus of mine.

First, I firmly believe that the ongoing problem with 9-1-1 fee diversion by certain states and territories must end once and for all. Such diversion, beyond deceiving the rate payers, has real consequences for the public safety community and the American people in need of critical emergency assistance at some of the darkest moments of their lives.

While the work Commissioner Rosenworcel and I have led has resulted in several states and territories clarifying their reported diversion or making commitments to prevent a reoccurrence, not every state or territory has been a success story. Accordingly, I suggest additional action such as Federal legislation will be necessary to address recalcitrant states. I understand this Committee may be looking at crafting such a bill, and I would be pleased to help in any way possible.

Second, the Commission is focused on taking every step necessary to provide all Americans the opportunity to access broadband services. At the same time, the Commission's efforts should be examined in parallel with programs by other Federal agencies. While efforts to provide other agencies such as the Rural Utility Service at the Department of Agriculture with new Federal money are commendable, there is a potential for certain problems to arise.

Fundamentally, I believe that Federal funding should be targeted to those 14 million-plus Americans without broadband today. As Congress concludes the farm bill this fall, I hope you will consider additional safeguards, including strict prohibitions on duplication with other existing programs, alignment of speed requirements, and a focus on the truly unserved.

Third, I previously brought to this Committee's attention my concerns regarding the inter-workings of the ITU. Based on my first-hand experiences and many conversations with experts very engaged in ITU issues, the organization faces real problems, ranging from mission creep and bureaucratic overreach to basic inefficien-

cies and blatant cronyism. I believe the ITU can be beneficial for U.S. interests, and I think it can serve an important function. But as I outlined in my written testimony, change is needed to ensure it remains a viable institution.

In the end, the United States must pursue the best course of action to meet its own spectrum needs. It is up to the global community to either increase the likelihood of ITU's success or risk further fragmentation and like nations pursuing spectrum policy elsewhere.

Last, turning to spectrum policy, the Commission has been hard at work ensuring that sufficient spectrum is available for the next-generation wireless services. I recognized years ago that there was a need for a solid mid-band play for wireless carriers to offer 5G services both domestically and internationally. The 3.7 to 4.2 gigahertz band or the C-band downlink is an attractive option for this purpose as it provides sufficient, contiguous spectrum and the largest satellite operators are receptive to reducing their spectrum footprints using a market-based spectrum reallocation approach.

Additionally, I have previously proposed several ideas to improve the efficiency of government spectrum users. While I hope they will be given appropriate consideration, both Commissioner Rosenworcel and I have proposed, at minimum, putting a market value on current Federal spectrum holdings to ensure they are appropriately quantified. If implemented, it would allow policymakers to consider it an additional factor when reviewing the spectrum holdings of the Federal Government.

Finally, I want to commend the Committee for introduction of legislative efforts related to communications policy that, if enacted, would be incredibly helpful. These include Chairman Thune's and Senator Schatz's STREAMLINE Act, Senator Gardner's and Senator Hassan's AIRWAVES Act, and Senator Wicker's and Senator Schatz's SPECTRUM NOW Act.

I thank the Committee for holding this hearing, and I look forward to answering any questions that you may have.

[The prepared statement of Commissioner O'Rielly follows:]

PREPARED STATEMENT OF HON. MICHAEL O'RIELLY, COMMISSIONER,
FEDERAL COMMUNICATIONS COMMISSION

Thank you for the honor to appear before you today. My thanks to Chairman Thune, Ranking Member Nelson, and the members of this Committee for the opportunity to engage with you on many important issues and answer any questions you may have about the decisions and workings of the Federal Communications Commission.

At the outset, I want to commend Senators Thune and Schatz on their introduction of the "Streamlining The Rapid Evolution And Modernization of Leading-edge Infrastructure Necessary to Enhance Small Cell Deployment Act." This bipartisan bill will help set the stage for 5G deployment by putting in place exceptionally reasonable processes and timeframes to review small cell applications and ensuring that any fees charged are based on actual and direct costs. Earlier this month, the Commission took its third step in our larger effort to expedite broadband deployment by approving our one-touch make-ready (OTMR) order, and I look forward to additional actions later this year on Commissioner Carr's work to further extend wireless buildout relief. The STREAMLINE Small Cell Deployment Act sends a strong, bipartisan signal to the entire communications community that we must continue to remove unnecessary construction and application barriers in order to greatly aid the private sector expansion of broadband services throughout America, producing a more competitive and capable nation.

This, of course, is not the only important legislation that Committee members have put forth this Congress. I also commend the Committee for its part in the passage of the RAY BAUM'S Act of 2018, which included the MOBILE NOW Act.

Let me also take this opportunity to applaud Senators Gardner and Hassan, as well as their cosponsors on this Committee, Senators Johnson, Cortez Masto, Young, and Tester, on the AIRWAVES Act. The bill's firm spectrum deadlines and call for auctions of key bands is of critical importance. Moreover, I congratulate Senators Wicker, Schatz, Moran, and Udall for introducing the SPECTRUM NOW Act, which would ultimately fund spectrum research, development, and planning activities.

ITU Reform

Back in 2016, I brought to this Committee's attention my concerns regarding the workings of the International Telecommunications Union (ITU), which were based on my first-hand experiences at the 2015 World Radiocommunication Conference. As I attended other international conferences since then, it became more apparent that the ITU faces real problems, ranging from mission creep and bureaucratic overreach to basic ineffectiveness and blatant cronyism. I believe the ITU can be beneficial for U.S. interests and think that it can serve an important function. But, change is needed to ensure it remains a viable institution. I recently suggested several ITU reforms in an Op-Ed, which I outline here.

First, the ITU needs to focus on its main missions—and primarily on global spectrum harmonization—instead of allowing member states to veer the discourse and regulatory activity towards the shiny new technologies of the day, such as the Internet, cybersecurity, and drones. For example, the recent ITU “Global Symposium for Regulators” focused on the issues of privacy, data security, IoT, and artificial intelligence. While important, these are outside on the ITU's mission. Meanwhile, there appeared to be little discussion of spectrum policy, which should be of great importance to a group of global telecom regulators. Therefore, I suggest that there should be some primacy established—either in terms of financial resources and/or mission attention—with regards to issues explored by the ITU. Specifically, no fewer than eighty percent of all expenditures or events must be centered on spectrum policies.

Second, the ITU has a staffing problem. Staff dictates the priorities of the ITU to perpetuate their personal views and to preserve their own jobs, operating without sufficient oversight or control by elected leadership. They choose the projects to pursue; hire the technical consultants who tend to reconfirm their desired outcome; frame debates to be held; and so much more. These issues can be easily corrected through such procedural safeguards as preventing staff from, among other things, self-dealing, making decisions in an isolated manner, or committing funds without oversight; requiring detailed budgeting; and ensuring that more decisions are made by member states rather than through delegation.

This leads me to my third point: new, visionary leadership is needed. Elected leadership positions at the ITU operate on the get along and get promoted premise. Instead of electing the most qualified person, member countries tend to vote for the next person in line from the perceived lower rung. Talented outsiders with fresh perspectives are needed to rectify management flaws, provide new ideas on its fundamental charges, and do the hard work to get critical spectrum bands realigned and put to their highest use. To accomplish this, the ITU needs to adopt a policy that I strongly disagree with when it comes to domestic politics: defined term limits for leadership positions.

In the end, the United States will pursue the best course of action to meet its own spectrum needs. It is up to the global community to either increase the likelihood of ITU success—by adopting many of the ideas presented above and others as well—or risk further fragmentation and like nations pursuing spectrum policy elsewhere.

Federal Broadband Efforts & Potential Pitfalls

As I recently stated, the Commission is focused on taking every necessary and appropriate step to provide all Americans the opportunity to access broadband services. According to the last FCC report, at least 14 million Americans do not have access to broadband of sufficient quality to meet our standards. From our subsidy programs to removing deployment barriers to reducing unnecessary regulatory burdens, the Commission is working very hard to address these unserved households.

At the same time, the Commission's efforts should be examined in parallel with programs by other Federal entities. Today, there are three primary Federal agencies that provide funding to aid the private sector expansion or maintenance of broadband offerings: the FCC, the Department of Agriculture's Rural Utility Service (RUS), and the Department of Commerce's National Telecommunications and Information Administration (NTIA). On an annual basis, the Commission provides, from

ratepayer collected funds, over \$4.5 billion for the Connect America Fund (CAF) to support direct and measurable broadband buildout in high-cost areas. Meanwhile, Congress recently allocated, as part of last year's Consolidated Appropriations Act, 2018, an additional \$600 million for a new broadband pilot program, governed by certain conditions, to be administered by RUS. Finally, additional broadband funding is being considered as part of both Senate and House Farm bills.

While efforts to provide RUS with new Federal money are commendable, there is a potential for certain problems to arise. Part of the problem stems from the potential to allow RUS funding to be used for fully served or what some consider underserved areas. Regrettably, "unserved" is essentially defined as an area already having service or multiple broadband providers. Having travelled this great nation, I have met with Americans living in truly unserved areas with zero providers, not one or two existing ones hoping the Federal Government will fund another. To accurately reflect this reality, I urge Congress to consider modifying this definition.

Moreover, there is a major disagreement over what should qualify as broadband for purposes of Federal funding. I certainly would like for all Americans to have sufficient broadband speeds for whatever tasks they seek to accomplish. However, there is simply not sufficient funds to subsidize "fiber" broadband builds, either wired or wireless, to every household nationwide, which would cost hundreds of billions of dollars. This is why the Commission has focused its CAF funds on broadband projects with speeds above 10/1 Mbps, and even at that level there is tremendous demand to add additional budgetary resources to reach more households. Although not ideal, the intent is to, at least, ensure every household has this level of service before focusing on increasing speeds further. Allowing the different funding programs to have their own speed requirements greatly increases the likelihood that a tremendous effort will go to overbuilding areas with service today, including areas funded or expected to be funded by the Commission.

Fundamentally, Federal funding should be targeted to addressing those 14 million-plus Americans without any broadband today. Among other ideas, I have advocated having RUS, NTIA, and the Commission coordinate actual implementation of the differing programs. In sum, the program rules need to be written with strict prohibitions on duplication with other existing programs, alignment of speed requirements, and a focus on the truly unserved. As Congress concludes the Farm bill this fall, I hope you will consider these safeguards.

9-1-1 Fee Diversion

I firmly believe that the ongoing problem of 9-1-1 fee diversion by certain states and territories must be addressed. Such diversion has real consequences for the public safety community and the American people. Underfunding Public Service Answering Points (PSAPs) can lead to significant public safety problems, including longer wait times, fewer or overworked personnel, and outdated or inferior equipment to handle the call loads. It can also prevent 9-1-1 call centers from modernizing to NG9-1-1 technologies. At a minimum, allowing states to deceive consumers into paying fees for the 9-1-1 system and transferring the money elsewhere undermines the system's integrity. I thank my colleague, Commissioner Rosenworcel, for working with me to address this issue. Just last month, we sent a letter together to both the Republican and Democratic Governor Associations, urging their leadership to ensure that states collaborate with the FCC on our data collection and recognize the public safety harms associated with diverting these vital funds.

In December, the Commission submitted its ninth annual report to this Committee showing that, in 2016, five states and territories diverted almost \$130 million away from 9-1-1 enhancements and towards other, unrelated purposes. Unfortunately, the FCC must rely on self-reporting by states and territories. This can lead to underreporting or a complete failure to respond altogether. In fact, seven states and territories did just that. It seems some states have figured out that instead of being labelled a diverter, they would rather just be known as a state that didn't submit the necessary paperwork. Take New York, for example, which failed to submit a report in response to the Commission's data collection, but sufficient public record information existed to support a finding that New York diverted "substantial" funds for non-public safety purposes. Moreover, since looking into this matter, my office has uncovered that Puerto Rico and Guam—both of which failed to respond to Commission inquiries—diverted 9-1-1 funds in 2016.

Fortunately, there is some good news to report. It turns out that Illinois, though labeled a diverter in 2016, actually did not divert 9-1-1 funding that year and has certified to my office that it does not plan to divert such funding in the future. Further, New Mexico, one of the largest diverters in 2016, has explained that its diversion was due to a unique situation in which the state faced extreme insolvency that has since been resolved. New Mexico had not diverted funds prior to 2016 and has

explained it will not divert these funds again. Oklahoma and the Northern Mariana Islands also confirmed to me that they did not divert funds in 2016, despite failing to submit initial documents to the Commission. Finally, Puerto Rico, in receiving additional USF support to rebuild its communications networks, has committed to rectify its diversion by the Commission's 2018 report.

But, not every state has been a success story. While initial momentum in Rhode Island was encouraging, the state ultimately doubled down on its diversion practices and simply renamed its 9-1-1 fee. Moreover, in New York and New Jersey, state officials have shown no interest in eliminating this practice. And, in Guam, state officials appear more interested in debating the legality of their fee diversion than actually recognizing the harm diversion causes to its people and discussing ways to eliminate the practice.

On this note, we must be more aggressive with recalcitrant states, as, for the most part, identifying and shaming such states has not sufficiently worked. Legislation has been offered in the House of Representatives to assign the process of designating acceptable purposes and functions for 9-1-1 funds to the Commission, rather than the states as allowed under current law. This is a key first step, as states like Rhode Island, New York, and New Jersey, and territories like Puerto Rico and Guam, have passed statutes over the years actually requiring the diversion of 9-1-1 funds for non-public safety related purposes. In the case of New Jersey, lawmakers have claimed it will take a constitutional amendment to end the practice. I understand that Members of this Committee are also working on a legislative solution to this atrocious practice, and I stand ready to work with anyone interested in bringing consistency and clarity to this matter.

Spectrum Policy

The Commission has been hard at work ensuring that sufficient spectrum is available for next-generation wireless services. While I applaud and support the Commission's plans to hold auctions in the 24, 28, 37, 39, 47 GHz, and hopefully other high bands in the very near future, the Commission is also hard at work seeking to make additional mid-band spectrum available. As you are well aware, there are no greenfield mid-band frequencies available for 5G. The 3.7 to 4.2 GHz band, or C-band downlink, is attractive because it provides significant contiguous spectrum and the largest satellite operators are receptive to reducing their spectrum footprint using a market-based spectrum reallocation approach. The Commission must conclude the proceeding for determining how to reallocate this band promptly given its importance both domestically and internationally for future wireless offerings. In doing so, I believe that any reallocation plan must be completed fairly quickly; release a sufficient amount of spectrum, such as 200 to 300 megahertz or more; and ensure that current users of the C-band satellite services—primarily broadcasters and cable providers—will be accommodated on the remaining C-band, other satellite spectrum, or through different technologies.

This plan must also permit unlicensed use of the C-band uplink spectrum, or 6 GHz band. As Chairman Thune recently noted to the Commission, the 6 GHz band is a necessary ingredient to address the need for more unlicensed spectrum. This spectrum, along with the potential opening of the 5.9 GHz band and combined with the existing 5 GHz band, will provide the unlicensed community with access to a significant swath of spectrum, creating wide channels for Gigabit services. Moreover, it will enable us to meet our statutory obligations under the MOBILE NOW Act.

The last piece of the mid-band puzzle is permitting additional wireless operations in the frequencies below 3.5 GHz. Fortunately, the review to ensure that the 3.5 GHz licensing structure is attractive to as many users and use cases as possible and the work on the databases that will enable maximum use of 3.5 GHz is wrapping up. Last month, the FCC announced the procedures and deadlines for conditionally approved Spectrum Access System Administrators to file initial commercial deployment proposals, setting the stage for the first SAS-enabled 3.5 GHz markets hopefully later this year. Moreover, I have formulated recommendations on a way to modify our existing rules for PAL licenses and hope that this will be ready to be considered at an Open Meeting soon. Assuming the item is adopted, I hope that we can move to an auction early next year.

We must now turn to 3450–3550 MHz, which NTIA is currently reviewing for reallocation for commercial wireless use. NTIA should complete this work expeditiously and clear this band. But, we also cannot stop at just 100 megahertz. We must look to those frequencies right below 3450 MHz, along with any others that can be put to more efficient use.

To facilitate the reallocation of Federal Government spectrum, I have suggested adding appropriate sticks to the current carrot approach contained in law and sug-

gested by others. At a minimum, as both Commissioner Rosenworcel and I have stated, there is an opportunity to put a market value on current Federal spectrum holdings in order to ensure that they are appropriately quantified. Once implemented, it allows policymakers to make judgments based on an additional factor when considering and reviewing the spectrum holdings of the Federal Government. I would argue that any valuations can rely initially on conservative estimates as they will be quickly adjusted over time by market forces. I thank Senator Lee for his interest in this, and, again, am available to provide any needed technical assistance on this matter.

I thank the Committee for holding this hearing and look forward to answering any questions you may have.

The CHAIRMAN. Thank you, Commissioner O’Rielly.
Commissioner Carr.

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

Commissioner CARR. Chairman Thune, Ranking Member Nelson, distinguished members of the Committee, thank you for the chance to testify.

At the outset, I want to commend the Committee on its own notable and bipartisan achievements, from MOBILE NOW and the AIRWAVES Act, which identifies spectrum needed to win the race to 5G, to the SPEED Act, RAPID Act, and the STREAMLINE Small Cell Deployment Act, which would cut red tape that threatens the deployment of next-gen networks.

Those two issues, spectrum and infrastructure, are key to the deployment of 5G. I’m confident that action on these fronts will make a difference in bringing more broadband to more Americans. I’ve seen firsthand the challenges of deploying networks in some of the hardest to serve parts of the country. I’ve spent time in many of your home states and heard from families and small businesses about the opportunities that connectivity enables.

Chancellor, South Dakota, exemplifies those challenges and opportunities. It’s where I met Tyler, a scrappy entrepreneur that ran a tech startup from his home. Tyler needed a better broadband connection, so he created one himself. He asked an ISP to run fiber to an old wooden utility pole near his house. He then set up a fixed wireless link to bridge the gap to his home.

Finding success for himself, Tyler decided to launch his own ISP and bring wireless broadband to his community. One hundred and eighty feet up a nearby water tower, he showed me the antenna he uses to serve his customers, including Duane, who runs a farm nine miles away.

When we met Duane, he immediately volunteered that he used to go to church regularly, and in the moment, I thought it was an unnecessary confession to an FCC bureaucrat. It turns out that without broadband, Duane would use the church’s Wi-Fi almost daily to get his work done. Now, with broadband at home, Duane is quick to point out that he still goes to church, but he can now focus on a higher purpose.

[Laughter.]

Commissioner CARR. Meeting Tyler and Duane only underscores why the work of this Committee and the FCC is so important. We want every community to get a fair shot at the opportunity broadband enables. To do that, we must keep moving forward on

those two key issues, spectrum and infrastructure, and we're making substantial progress on both.

I want to focus this morning on infrastructure. I appreciate that Chairman Pai asked me to lead the FCC's efforts on wireless infrastructure, and we're getting our regulations 5G ready. In March, we exempted small cells, which are the building blocks of next-gen networks, from the costly Federal review procedures designed for much larger 100-foot towers. This one step is expected to cut about 30 percent of the cost of deploying small cells, which can flip the business case for thousands of communities.

One place where this additional deployment can pay off is in healthcare. The FCC has long supported broadband deployment to healthcare facilities. But on a visit to Mississippi 6 months ago, Senator Wicker told me about a local project that demonstrated a new trend in telehealth, a trend toward connected care everywhere. The delivery of high-quality care is no longer limited to the confines of connected brick and mortar facilities. With remote patient monitoring and mobile health apps, technology can now deliver care directly to patients.

Last month, I returned to Mississippi and visited the Delta, which is ground zero for the country's diabetes epidemic. It's where I met Miss Annie. She noticed the first signs of diabetes when she woke up with blurred vision. So she signed up for a remote patient monitoring program.

She showed me the iPad and the Bluetooth-enabled blood sugar monitor that she uses to test her blood from home, and it gives her instant feedback, including steps she can take that day to stay healthy. Miss Annie's A1C levels have gone down, and she says she's never felt better, and research backs up Miss Annie's results, showing significant cost savings and improved patient outcomes with connected care.

So we should align public policy in support of this movement in telehealth. Many members of this Committee have led the way on these efforts, recognizing that there's more the FCC can do. That's why I'm glad Chairman Pai asked me to lead the FCC's new telehealth initiative. Just two weeks ago, the Commission voted unanimously to seek comment on setting up a new \$100 million Connected Care Pilot Program, which would support these types of deployments for low-income patients. I look forward to working with all stakeholders as we move forward in that proceeding.

So, Chairman Thune, Ranking Member Nelson, members of the Committee, thank you again for holding this hearing. I welcome your questions.

[The prepared statement of Commissioner Carr follows:]

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

Chairman Thune, Ranking Member Nelson, and distinguished Members of the Committee, thank you for the invitation to testify.

I want to begin by commending the Committee on its notable and bipartisan achievements—from the MOBILE NOW Act and the AIRWAVES Act, which identify the spectrum needed to win the race to 5G, to the STREAMLINE Small Cell Deployment Act and the SPEED Act, which would cut some of the regulatory red tape that threatens the deployment of those 5G networks.

These two issues—spectrum and infrastructure—are key to the deployment of next-generation networks. And action on these fronts makes a real difference when

it comes to bringing more broadband to more Americans. In my time on the Commission, I have seen firsthand the challenges that come with deploying broadband to some of the hardest-to-serve parts of the country. I have spent time in many of your home states and heard from families and small businesses about the opportunities that connectivity enables in their communities—from better jobs, to 21st century education, to high-quality health care.

Chancellor, South Dakota (pop. 268) is one place that exemplifies those challenges and opportunities. It's where I met Tyler, a scrappy entrepreneur who used to run a tech startup from his home. He lived on part of his family's old homestead, which continues to be used as part of a larger farming operation. Tyler needed a better, faster, and more reliable broadband connection, so here's what he did. He asked a broadband provider to run fiber to the closest accessible point to his house, which happened to be an old wooden utility pole. He had to enter the pole's location as his "home address" to ensure the provider would run fiber to that point. He then set up a high-speed, fixed wireless link to bridge the gap between his house and the fiber connection. Turns out, this setup worked well to bring broadband to Tyler's house. He looked around and realized that he could help bring more broadband to his neighbors around Chancellor by doing similar work. So Tyler decided to go into the broadband business with his brother, Jason. They now run a small Wireless Internet Service Provider or WISP called Leap Communications. Connecting rural South Dakota is not easy work. And you can't be afraid of heights to do it.

Tyler took me on a tour of one of his deployments. We started out 180 feet above nearby Parker, South Dakota, on top of the town's water tower. The view was almost worth the climb up three series of ladders. Once up there, he showed me the antenna he bolted onto the tower that points to a receiver a few miles away, which is where he connects to fiber and, ultimately, the Internet. On the other side of the tower, he has attached another antenna to beam broadband to a farm about nine miles away. We visited that farm and spoke with Duane, who runs the operation. Duane volunteered that he used to go to church regularly to improve his connection. You see, before he met Tyler, Duane did not have broadband at the farm. So he would go to church almost every day to use its Wi-Fi and upload the massive data sets he collects on his connected tractors and combines. Duane was quick to point out that he still goes to church, but with a broadband connection provided by Tyler's company, he can now spend his time there focused on a higher purpose.

For communities across the country, broadband is giving families a chance to change their lives. I saw this during a visit to Indiana with Senator Todd Young. One of our first stops was at Linda Muegge's kitchen table. Linda lives in Blue River Township, a community of fewer than 1,500 people. She told us about the very real difference it makes when rural America gets a fair shot at next-gen connectivity.

Linda's farm and house in Blue River is served by an electric co-op that provides her with gigabit-speed fiber. In fact, Senator Young pitched in that morning by splicing fiber that is being deployed to the community. Linda said that the fast connection this fiber enables means HD Netflix, faster web browsing, and even some visits from neighbors who want to borrow her high-speed hookup.

But what struck me most in talking with Linda is the difference that this connection has made in the lives of her family. Linda's son, Chris, went to grad school at Purdue for a degree in animal nutrition. Chris has used his degree to build a successful consulting business, mostly for cattle owners, with clients as far away as Costa Rica. Chris needs to see the cattle in HD and download large data sets to monitor their feeding and health. Without the high-speed connection, Chris would not be able to live in Blue River. Now, he can stay close to home and pitch in at the farm while continuing to pursue his own high-tech business.

This is why the work of this Committee and the FCC is so important. As legislators and regulators, we can help ensure that every community—from Parker, South Dakota to Blue River, Indiana—has a fair shot at the opportunity that broadband enables. This is particularly important as we make the transition to next-generation networks, which can unleash a new cycle of innovation and entrepreneurship in the country. We do not want to see any community get left behind.

To meet that goal, we must extend American leadership in wireless as we move from 4G to 5G networks. Following the Committee's lead, the FCC's game plan is straightforward: we must free up more spectrum and we must remove barriers to infrastructure deployment. I am proud to report that the Commission has made substantial progress on both fronts.

With respect to spectrum, the Commission has taken a number of concrete steps in the past few months alone. In February, we paved the way for opening up spectrum above 95 GHz. In March, we sought comment on designating the 4.9 GHz band for flexible use. In April, we took a step towards bringing over 1.5 GHz of mil-

limeter wave spectrum to auction. In May, we started a proceeding to put spectrum in the 2.5 GHz band to more productive use. In June, we finalized rules for the 24 GHz band and sought comment on opening up the 26 GHz and 42 GHz bands for flexible use. In July, we sought comment on clearing mid-band spectrum for wireless use, and Chairman Pai announced the auction of spectrum in the 37 GHz, 39 GHz, and 47 GHz bands. And at our last open meeting two weeks ago, we took steps to rationalize the 39 GHz band ahead of next year's auction.

On wireless infrastructure, I appreciate that Chairman Pai asked me to lead the FCC's efforts. And we have already made significant progress in ensuring that our regulatory structures are 5G Ready.

As you know, 5G networks are going to look very different than the 3G and 4G deployments of the past. While hundred-foot towers accounted for the lion's share of prior deployments, up to 80 percent of new cell sites will be small cells with antennas no larger than a backpack plus associated equipment. But a year ago, our regulatory structures were threatening to hold us back—to limit 5G deployments to only the most profitable-to-serve areas. The problem was that our regulations assumed that every new cell site was a hundred-foot tower. So in the intervening months, we have worked with stakeholders to update and modernize our approach—to ensure the United States wins the race to 5G.

In March, for instance, we adopted an order that exempts small cells from certain Federal historical and environmental review procedures that were designed for those large, hundred-foot towers. This decision extended the same regulatory treatment to small cells that the Commission has always applied to the deployment of other types of infrastructure, including Wi-Fi routers and consumer signal boosters. This one step is expected to cut about 30 percent of the total cost of deploying small cells. In fact, an Accenture study determined that our action could save \$1.56 billion, which could be used to deploy 55,000 new cell sites and create more than 17,000 jobs.

This reform alone could flip the business case for thousands of communities, particularly in rural and disadvantaged parts of the country. Almost no matter what we do, 5G and next-gen networks will be deployed in New York and San Francisco. But there are thousands of other communities that might lose out if we do not modernize our approach to broadband infrastructure. So the FCC is continuing to work with all stakeholders as we move to further update our approach to infrastructure deployment.

We know that broadband deployment can create jobs, but it can also save lives. I have seen it in places like Beatty, Nevada, where a rural health care clinic is staying open because a new broadband connection allows patients to visit virtually with a doctor located in a much larger town. I have seen it in the small community of Manokotak, Alaska, where a broadband-enabled otoscope can allow an ENT located in Dillingham to diagnose a child's ear infection before it threatens her hearing. For years, the FCC has been playing a key role in supporting the deployment of broadband to these facilities through our Rural Health Care Program.

But there's a new trend in telehealth—a trend towards connected care everywhere. The delivery of high-tech, high-quality health care is no longer limited to the confines of connected, brick-and-mortar facilities. With remote patient monitoring and mobile health applications that can be accessed on a smartphone or tablet, we now have the technology to deliver high-quality care directly to patients, regardless of where they are located—places like the Mississippi Delta.

The Delta is ground zero for the country's diabetes epidemic. It sees diabetes at rates that are about twice the national average. Ruleville, Mississippi is no exception to this trend. In addition to having one of the highest rates of diabetes in the state, more than half of all children in this area live in poverty. That only adds to the challenge of finding and accessing affordable health care. But the Delta is also a place where remote patient monitoring technology is already making a difference.

Six months ago, I had the chance to visit Mississippi, where Senator Wicker mentioned an innovative pilot program run by the University of Mississippi Medical Center. Using remote patient monitoring technologies, the pilot program was helping to treat and control cases of Type II Diabetes in the Delta.

One of the program's patients is Ms. Annie. She noticed the first signs of her diabetes when she woke up one day with blurred vision. After seeing little progress in managing her diabetes with traditional care options, Ms. Annie signed up for a remote patient monitoring pilot program. She walked me through the blood sugar monitor that she uses at home. The monitor uses Bluetooth to connect to her iPad, which chimes every morning to remind her to check her blood sugar. Ms. Annie then pricks her finger and her A1C level is displayed on-screen. Based on that, the iPad app suggests appropriate actions—from a particular food or exercise, to watching a relevant video. If she forgets to enter her numbers that day, she'll get a phone call

from a nurse. With this technology, Ms. Annie's A1C levels have gone down and she says she's never felt better.

A few weeks earlier, at the University of Virginia's Children's Hospital, Dr. Karen Rheuban talked about the role that these new telehealth technologies are playing in saving lives—new technologies like a connected tablet for parents whose babies have heart problems. An app called Locus Health tracks a baby's weight, heart rate, and oxygen levels and sends the data to the hospital. The data provide early warning signs that can head off problems that might result in ICU stays and invasive procedures.

Finding ways to use remote patient monitoring technologies to manage chronic diseases, which account for over 85 percent of direct health care spending, is a challenge that merits our attention.

The relatively limited trials to date are showing significant cost savings:

- A remote patient monitoring program run by the Veterans Health Administration costs \$1,600 per patient—an 88 percent savings from VHA's home-based primary services.
- Another telehealth project found that every \$1 spent on remote monitoring resulted in a \$3.30 return in savings.
- The Mississippi Delta trial resulted in nearly \$700,000 in annual savings due to reductions in hospital readmissions alone, which, assuming just 20 percent of Mississippi's diabetic population enrolled in this program, Medicaid savings in the state would be \$189 million per year.

And these connected care technologies are improving health outcomes:

- A study of 20 remote patient monitoring trials found a 20 percent reduction in mortality and a 15 percent reduction in hospitalizations related to heart failure.
- The Veterans Health Administration's remote patient monitoring program resulted in a 25 percent reduction in days of inpatient care and a 19 percent reduction in hospital admission.
- Another remote patient monitoring initiative showed a 46 percent reduction in ER visits, a 53 percent reduction in hospital admissions, and a 25 percent shorter length of in-patient stay.

Given the significant cost savings and improved patient outcomes associated with connected care, we should align public policy in support of this movement in telehealth. At the FCC, we can play a constructive role by bringing more health care options to communities through broadband. We can help bridge the "doctor divide" by closing the digital divide. And many members of this Committee, including Chairman Thune, Senator Wicker, Senator Schatz, Senator Fischer, Senator Gardner, and Senator Young, have led the way on these efforts as well, recognizing that the FCC can do more to connect people around the country with high-quality care.

So I am glad that Chairman Pai asked me to lead the FCC's new telehealth initiative. I am pleased to report that two weeks ago the Commission unanimously approved a proposal to seek comment on setting up this program. The Connected Care Pilot Program would provide up to \$100 million for connected care benefiting low-income patients, including those eligible for Medicaid and veterans. It would support a limited number of projects over a two- or three-year period, with controls in place to measure and verify the benefits, costs, and savings associated with connected care. It could take the results we've already seen in the limited trials to date and help replicate those results in communities across the country.

From chronic disease management to pediatric cardiology, from PTSD to opioid dependency, this pilot has the potential to make a real difference for low-income individuals that currently lack access to quality health care. I look forward to working with my colleagues at the FCC, Federal and state partners, Members of this Committee, and all stakeholders as we consider establishing the Connected Care Pilot Program.

Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you again for holding this hearing and for the invitation to testify. I welcome your questions.

The CHAIRMAN. Thank you, Commissioner Carr.
Commissioner Rosenworcel.

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

Commissioner ROSENWORCEL. Good morning, Chairman Thune, Ranking Member Nelson, and members of the Committee. 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 in this country, you need access to modern communications to have a fair shot at 21st century success. Clearing the way for this connected future should be at the heart of everything we do at the Federal Communications Commission. Last week marked a year since I returned to the Commission, and a lot can happen in 12 months. So let me offer you a quick year-end report.

Too many Americans lack access to broadband. Let's put a number on it. Right now, 24 million Americans have no access to high-speed service. This is not acceptable, and we need to do better.

Too often during the last year, the agency acted at the behest of the corporate forces that surround it, shortchanging the American people. You can see it clearly with our rollback of net neutrality.

You see it, too, with our efforts to foster the deployment of new networks but failure to fully engage those who need to be with a voice in our policies—the cities and towns that should be our partners in the process, the tribal communities that are entitled to government-to-government consultation, and the Department of Commerce, which just last month expressed concern about how our rush to reform could harm national security and public safety services. Likewise, you see it in proposed reforms that undermine our Lifeline Program, including the 2 million elderly, more than 1 million veterans, and more than half a million residents of Puerto Rico who rely on it today.

Too often, our procedures fall short of what good governance requires. Our mapping practices for broadband do not accurately state what connectivity looks like on the ground. Our claim that the agency suffered a DDOS attack following John Oliver's report on net neutrality is just not credible. And in the meantime, this agency has ignored the fact that this public docket is flooded with fraud, including half a million comments from Russia and 2 million individuals with stolen identities. I believe these things need to be fixed.

I also believe at this table there is a desire to extend the reach of broadband service, lead the world in 5G wireless deployment, and bring the opportunities of the digital age to more people and more places. So here are three quick things we can do to make that happen.

First, we need a new broadband plan, and we need to begin with the end in mind. At the start, I mentioned that there are 24 million Americans without access to broadband right now. There are 19 million Americans who do not have access to high-speed service in rural America, and there are 12 million students who fall into the homework gap because they do not have the broadband at home that they need for nightly school work. Let's commit now to a plan to ensure that every one of them has access to the high-speed service they need by 2020.

Second, we're in a worldwide race to lead the future of wireless. We're making progress, but other nations are moving further and faster. South Korea, the United Kingdom, Spain, Italy, Germany, Ireland, and Australia have held or will hold 5G auctions before we do. China also is poised to dole out key frequencies it has already reserved for 5G wireless service.

Right now, we have a blitz of a dozen and a half bands under consideration, but we only have one big auction scheduled. What we need now is actually something quite similar—simple. We need a spectrum calendar. We need to tell the wireless ecosystem, from carriers to equipment manufacturers to consumers, just how and when the FCC will auction new airwaves to support 5G wireless services.

Third, it's time to set some audacious goals. Let's not settle for the same broadband standard we've used for years. Let's decide to raise it to 100 megabits. Let's make sure every school has gigabit speeds in their sites, and let's ensure every rural healthcare facility has the speed they need for the newest innovations in telemedicine. And while we're at it, let's do something that should not be bold but might feel like it is. Let's reiterate the FCC's support for the First Amendment and commit to media policies that ensure news organizations can report without fear or favor.

Thank you for having me at this hearing. I look forward to any questions you may have.

[The prepared statement of Commissioner Rosenworcel follows:]

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

Good afternoon, Chairman Thune, Ranking Member Nelson, and Members of the Committee. Thank you for the opportunity to appear before you today.

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Last week marked a year since I returned to the Commission. A lot can happen in twelve months. So let me offer you a quick year-end report.

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Too often during the last year the agency acted at the behest of the corporate forces that surround it, shortchanging the American people. You can see that clearly with our roll back of net neutrality. You see it, too, with our efforts to foster the deployment of new networks but failure to fully engage those who need a voice in our policies—the cities and towns that should be our partners in the process, the Tribal communities that are entitled to government-to-government consultation, and the Department of Commerce which just last month expressed concern about how our rush to reform could harm national security and public safety services. Likewise, you see it in proposed reforms that undermine our Lifeline program—and the populations that rely on it, including those served by domestic violence shelters, military veterans, homeless youth, and residents of Puerto Rico who are still recovering from a harrowing storm and grave humanitarian crisis.

Too often our procedures fall short of what good governance requires. Our mapping practices for broadband do not accurately reflect the state of connectivity on the ground. Our claim that the agency suffered a Distributed Denial of Service Attack following John Oliver's report on our net neutrality plans was not credible, as demonstrated by last week's report from the FCC Inspector General. And in the meantime, the agency has ignored the fact that this public docket is flooded with fraud—including half a million comments from Russia and two million individuals with stolen identities.

I believe these things need to be fixed. So many people think that Washington is rigged against them. It saddens me when on too many occasions during the last year this agency proved them right. But good reports do not only look to the past, they offer an eye to the future—and a take on what is possible.

I believe at this table there is a desire to extend the reach of broadband service, lead the world in 5G wireless deployment, and bring the opportunities of the digital age to more people in more places.

So here are three things we can do to make that happen.

First, we need a new broadband plan. And we need to begin with the end in mind. At the start I mentioned there are 24 million Americans without access to broadband. There are 19 million Americans in rural areas who lack this service. There are 12 million students who fall into the Homework Gap because they do not have the broadband at home they need for nightly school work. Let's commit now to a plan to ensure that every one of them has access to the high-speed service they need—by 2020. Call it Broadband 2020.

Second, we are in a worldwide race to lead the future of wireless. We are making progress, but other nations are moving further, faster. South Korea, the United Kingdom, Spain, Italy, Germany, Ireland, and Australia have held or will hold a 5G auction before the United States. China, too, is poised to dole out key frequencies already reserved for 5G use. We have a blitz of bands under consideration, including 2.5 GHz, 3.5 GHz, 3.7–4.2 GHz, 4.9 GHz, 5.9 GHz, 6 GHz, 24 GHz, 26 GHz, 28 GHz, 32 GHz, 37 GHz, 39 GHz, 42 GHz, 47 GHz, 50 GHz, and above 95 GHz. But we have only one auction scheduled. What we need now is something simple: a calendar. We need to tell the wireless ecosystem—from carriers to equipment manufacturers to consumers—just how and when the FCC will auction new airwaves to support 5G services.

Third, it's time to set some audacious goals. Let's not settle for the same broadband standard we have been using for years—let's raise it to 100 Megabits per second. Let's make sure every school has access to Gigabit speeds. Let's ensure every rural health care facility has the speed they need for the newest innovations in telemedicine.

While we're at it, let's do something that should not be bold—but may feel like it is. Let's reiterate the FCC's support for the First Amendment and commit to media policies that ensure news organizations can report without fear or favor.

Thank you for having me at this hearing. I look forward to answering any questions you may have.

The CHAIRMAN. Thank you, Commissioner Rosenworcel.

Let me start off.

Chairman Pai, the Universal Service Fund's high-cost program is a crucial component to broadband deployment in rural areas, and I cannot stress enough the importance of providing certainty to Internet Service Providers as they plan for deployment in rural areas. For instance, in my home state of South Dakota, these projects are scheduled well in advance and builds are often planned around warmer seasons. A decision that provides certainty for years to come will go a long way in helping the deployment of broadband in rural areas.

Mr. Chairman, are you willing to commit here today that the Commission will come to a decision that will provide certainty to rural America by the end of the year?

Chairman PAI. Yes, Mr. Chairman, I am.

The CHAIRMAN. Thank you. I look forward to working with you and your fellow Commissioners on that goal.

Commissioner Carr, a number of states have adopted bills to streamline the deployment of small wireless facilities, and some localities have negotiated private arrangements with providers to facilitate deployment. But these steps are not uniform, and they're not happening everywhere, as the business case for deployment of 5G is often more challenging in rural areas due to lower population density.

Could you discuss why it is important to set a national framework?

Commissioner CARR. Thank you, Senator. I think—you're right. I'm glad to see a number of states that have taken action to modernize their regulations. But winning the race to 5G in my mind is making sure that every community gets a fair shot. A place like New York or San Francisco—they're going to get next-generation opportunity no matter what.

We've heard from elected representatives from South Carolina to Montana that want 5G in their communities as well, and they've talked about the problems that they see with high fees in certain areas, diverting capital and resources, and if we're not giving them a fair shot at next-gen opportunities. That's why I think some of the ideas about guardrails in this process are so important.

The CHAIRMAN. There's a recent analysis of spectrum at 1.3 gigahertz paired with spectrum at 1.8 gigahertz that's shown that this spectrum might be a particularly valuable part of the mix of low, mid, and high-band spectrum used for 5G. In addition, it could reportedly bring more than \$50 billion in revenues for the American people and multiples of that for its contribution to the economy. Also, given its propagation characteristics, this spectrum might be more suitable for less populated areas.

What has the Commission done to assess this spectrum for next-generation telecommunications? Mr. Chairman, if you want to answer that, go ahead.

Chairman PAI. Sure. Thank you for the question, Mr. Chairman. As with a number of different spectrum bands, we and the FCC's career staff are focusing on any bands that could be usable for 5G, including that one. So we hope to make progress in the future on it. In the meantime, our efforts proceed on all kinds of other fronts, from 6 gigahertz to 3.5 gigahertz, on the C-bands to the 24 gigahertz bands. We're active. We're not waiting to finish our analysis of one band before moving to the other, and we're holistic in our approach.

The CHAIRMAN. Commissioner O'Rielly, rural communities need better access to broadband. We have resources such as the Universal Service Fund as well as others like UDSA's Rural Utilities Service broadband loan and grant programs. They can all play important roles in advancing the buildout of rural broadband.

How do we make sure that these programs are working in coordination to avoid overbuilding areas that are already receiving support?

Commissioner O'RIELLY. Thank you, Mr. Chairman. I think there's a lot of really good work that went into the Senate farm bill, so I don't want to be too critical of it. I think there are some places where it can be strengthened to prevent overbuilding, to rent those networks that are already existing in places like South Dakota that I visited, do not have a government-sponsored competitor come in and take away the heart of the company that's trying to serve that area, because it's easy to serve the industrial park or the anchor institution. It's harder to serve the surrounding areas, and hollowing out the provider's base of operations is incredibly problematic.

So I think there are some provisions in the farm bill that I appreciate. I think that they could go a little further. I'd be happy to work with the Committee to make sure that happens.

The CHAIRMAN. Could you explain why overbuilding would be a concern, and what suggestions would you have?

Commissioner O'RIELLY. Well, I'll give you the point that the farm bill reduces from three to two the number of providers that are—you know. So you have two providers, but it's still considered unserved. But in many parts of America, they have zero, and I've talked to those families who have no provider today, and that should be—whether it's 14 million or 24 million, depending on whether you count satellite—I tend to count those that have satellite, so 14 million Americans do not have service today, and we're trying to figure out how to get them service. If you're trying to compare that to two—or you're having two providers and contemplating a third—Federal subsidy coming in for a third provider, that's a much different universe, and I think we should focus on those that are truly unserved.

The CHAIRMAN. So in terms of avoiding or minimizing overbuilding, you think it's just a function of how some of those programs are administered.

Commissioner O'RIELLY. I think it's more than just the administration. I think it's the language in the bill, because as good as agencies are in working together, we've seen in the past and have had problems with other Federal subsidy programs where, as much as conversations went on, they didn't solve the problems, and we saw overbuilding notwithstanding. So I think it's really a matter of what the language is in terms of the programs themselves.

The CHAIRMAN. My time has expired.

Senator Nelson.

Senator NELSON. Thank you, Chairman Pai, for the commitment to the Chairman of getting broadband done for the underserved areas. The issue of Puerto Rico—you well know what's happened to our fellow U.S. citizens there on communication. Chairman, is the FCC working with FEMA to revise both agencies' disaster response plan to include communications restoration?

Chairman PAI. Thank you for the question, Senator. My understanding is that our Public Safety Bureau staff is, indeed, working with FEMA on that issue. I can double check to make sure that is still the case. But across the board, we've been cooperating with FEMA and other Federal and state and territorial partners on this issue.

Senator NELSON. When American citizens are hurting after a national disaster, they need communications. It would be well if you could get your folks cooperating with FEMA.

Commissioner Rosenworcel, do you believe the FCC has done what it needs to do to learn from what happened in last year's hurricanes?

Commissioner ROSENWORCEL. Thank you for the question, Senator. We obviously had an awful storm and a grave humanitarian crisis in Puerto Rico last year, and I would take note that the FCC in the past, after Hurricane Katrina and after Superstorm Sandy, did things like held hearings onsite to try to learn what was going on, under the belief that we don't just figure it all out sitting here

in Washington, and actually produced a report with lessons learned. We still have not done that with Hurricane Maria or any of the hurricanes from last year, and I think it's incumbent upon us to do that. We should understand what went wrong, what went right, and how we can prevent it from happening again.

Senator NELSON. Commissioner, you know all the folderol that's gone on about the actions the agency has adopted to pave the way for broadcast consolidation, even beyond Sinclair-Tribune. What actions has the agency taken?

Commissioner ROSENWORCEL. Broadcasting, Senator, is special. It uses the public airwaves, and for decades this agency has had policies to support competition, diversity, and localism. They may not be especially trendy, but I think those values—they're solid. They've supported journalism and jobs, and they have made sure that there's a diversity of voices in every community. But we have rolled back our rules to the point where we almost have none.

We no longer have limitations on the numbers of top television stations you can own in a market, the number of stations you can own in markets and nationwide as well, and the result of that is we're going to start seeing fewer and fewer local voices on the airwaves, and I think that has consequences for jobs, for journalism, and getting the facts we need in our communities.

Senator NELSON. There seems to be a value to local broadcasting. Is this beginning to remove local from the term, local broadcasting?

Commissioner ROSENWORCEL. Yes, Senator. I'm worried that we are losing localism in broadcasting. It's something that has a terrific tradition. It's something I think we should, through our policies, seek to continue.

The CHAIRMAN. Thank you, Senator Nelson.
Senator Wicker.

**STATEMENT OF HON. ROGER WICKER,
U.S. SENATOR FROM MISSISSIPPI**

Senator WICKER. Thank you, members of the Commission.

Commissioner Pai, let me give you an opportunity to answer some of the statements that your colleague, Ms. Rosenworcel, made. She spoke about the undermining of the Lifeline Program. What do you have to say to that?

Chairman PAI. Thank you for the question, Senator Wicker. It is absolutely false. Our goal is to make sure that the Lifeline Program, once and for all, focuses on consumers, not on the unscrupulous companies that for too long have bilked the FCC, have bilked the American taxpayer of their hard earned dollars.

Our goal is to make sure that every American who needs help through the Lifeline Program is able to get it, and that is precisely the reason why we are trying to target these funds on some of the folks who are vulnerable by definition. Every dollar that is siphoned off by an unscrupulous wireless provider, for example, cannot go to somebody who needs the help, and that's why we have taken aggressive action on the enforcement side to make sure that we weed out some of those unscrupulous actors. That's why we are looking at reforms currently in our pending proceeding, to make sure that every dollar that is spent, the Senate, this body, Con-

gress, generally, can have confidence it's being spent to close the digital divide.

Senator WICKER. An interesting other side of that argument. What about the allegation that the Commerce Department expressed concern about the rush to reform and a harm to national security and public safety?

Chairman PAI. First, in context, it's a remarkable example of plucking one little provision out of an otherwise very, very supportive statement. Nonetheless, we are working with our Federal partners at NTIA to make sure that we progress based on the facts in the record.

Moreover, I would argue—look at what the biggest argument thus far has been in all the comments—closing the digital divide and incentivizing more infrastructure investment. Every single dollar that is diverted to maintaining the fading copper networks that are in the ground now cannot go toward laying fiber, toward building 5G infrastructure, toward closing the digital divide with next-generation technologies.

So all of the hew and cry about the copper retirement and network transition rules and et cetera—we have to keep the overall focus in mind. Our goal is to close the digital divide, to make sure that folks in Mississippi and Montana and everywhere else have the same infrastructure that people in the big cities can take advantage of.

Senator WICKER. The statement by the Department of Commerce was largely supportive.

Chairman PAI. Absolutely.

Senator WICKER. Now, how are we doing with the tribal governments?

Chairman PAI. There, too, to my understanding, at least, I've engaged in more face-to-face consultations with tribes than a number of my predecessors combined. I have personally been on the ground in Mission, South Dakota, to the Rosebud Sioux reservation. I have personally been to the Navajo nation reservation in Arizona. I have personally visited with the NCAI college in Connecticut last year. And we've done outreach, I believe—several dozen tribes in the FCC's headquarters I've personally attended for over 3 hours.

It is important for us to close the digital divide, and nowhere is that digital divide greater than our tribal lands. I was recently in the Flathead reservations, as I told Senator Tester. When you see what is going on in St. Ignatius, how a lot of folks are worried about their future because they don't have broadband, and they think, "Well, we need to move to Great Falls or Billings or even a bigger city to be able to get that technology," that is something that we need to address.

That is exactly the reason why we've focused on tribal broadband, on providing more operational expenses for tribal carriers, for incentivizing through the tribal broadband factor and our rate-of-return forums—

Senator WICKER. Let me see if I can squeeze two more in. On the net neutrality, you've got a choice when you're going to regulate the internet, and that's the light touch approach that has really brought about the success of the internet for all except 2 years of its existence, and then you have the idea that we should use a 1934

Act designed to be applicable during the depression era to the Ma Bells.

I suppose since the new order by the FCC—I assume we’ve had a spate of throttling and blocking that has just been outrageous. Has that been the case since the FCC entered its due order?

Chairman PAI. That has not been the case, Senator. We were told for many months that this decision would be, quote, “the end of the Internet as we know it,” that if this decision passed, you would get the Internet one word at a time. That has proved flatly false. It has been 67 days since the repeal. The Internet is still working. It’s open and free. The FCC is working with the FTC to protect consumers, and based on the example of VTel that I suggested—there are many others that show that our decision is having a positive impact.

Senator WICKER. You know, you were having to rush through your statement. I do believe that the *Washington Post* gave that allegation three Pinocchios. So your full statement will be in the record. One thing I do want to agree with is the maps are a real problem.

Chairman PAI. Can I address that, Senator?

Senator WICKER. Absolutely.

Chairman PAI. I’m very pleased to announce that the FCC has adopted an Order that would extend by 90 days the period within which carriers, farm bureaus, Senator Joe Manchin, to whom we granted a waiver—everybody can file a challenge to those maps. We want to make sure we give everybody a full and fair opportunity to participate in the challenge process to make sure we’re operating on the basis of accurate data.

Senator WICKER. I think you’ve granted a waiver to the Mississippi Farm Bureau.

Chairman PAI. That is correct.

Senator WICKER. They want to challenge it. I’m asking Mississippi State University’s Innovative Center to explore using drones and see if we can get better information with the use of some different sort of challenge. That said, I don’t know that we’re going to get an accurate map, even with the challenge process. However, I do think there is widespread concern across the political spectrum that we’re going to end up with a map that doesn’t fairly distribute this \$4.5 billion to people who need coverage. So work with us on that I’m still skeptical.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Wicker.

Senator Blunt.

**STATEMENT OF HON. ROY BLUNT,
U.S. SENATOR FROM MISSOURI**

Senator BLUNT. Thank you, Chairman.

Chairman Pai, there has been a lot of discussion about the value of the spectrum and how we use it, and I think the Committee is supportive of that, as the Commission appears to be using that spectrum in the best possible way. There are always transition concerns in spectrum. I know people already who occupy, for instance, the C-band—which we’re talking about making a transition there. I know you have an ongoing proceeding on that.

Can you explain to me the plans you have to be sure that current users of the band are protected from, first of all, interference, and, second, undue harm?

Chairman PAI. Thank you for the question, Senator. The C-band is an important band. It's 500 megahertz of spectrum from 3.7 to 4.2 gigahertz, and, as I outlined recently in a letter in response to Senator Tester, we are taking an approach to make sure that we give everybody a fair shake. For example, we are granting waivers to make sure that the expensive engineering studies that are typically required for these applications don't have to be filed, we are extending the time within which those entities have to file, and we're taking other steps to make it easier for them to be able to participate.

Our goal is to essentially balance two competing interests. Number one, to figure out what the best valued use of the spectrum is, and on the other hand, to make sure that we know where existing users of that spectrum might be. And with respect to that second piece, we want to make sure that broadcasters—anybody—that they make their voices heard at the FCC, because we can't protect them if we don't know they're there. So we're easing that process.

Congress, of course, has mandated an application fee. That's something we don't have the discretion to waive. But beyond that, we are taking steps to make sure that we make it a smooth transition, whatever decision the FCC ends up making.

Senator BLUNT. I believe it's the view of the Committee and, hopefully, the view of the FCC that the people who have made an investment there or have made a commitment there are not harmed by this effort to use the spectrum to our best possible advantage for broadband and other items.

Let me go to broadband next. In Missouri, we have several companies that are rate-of-return carriers. They have access to the possibility of the alternative Connect America model. But I'm not at all sure and have real questions as to whether the amount of money provided in that model is now enough to do what needs to be done for the people that are hard to serve. Do you have a comment on that?

Chairman PAI. I do. Last month, the FCC extended—I believe it's 36 million additional dollars to make sure that we close some of the gap that some of those carriers were perceiving. Additionally, I've just committed, including here, to work with my fellow Commissioners, with the Committee, to make sure that we update our system to provide predictable, sufficient support. That's not just an aspiration. That is the law that Congress saw fit to instruct the FCC with. So we're going to make sure that we give carriers the certainty they need to be able to deploy in places like West Plains and Ozark, two small towns that I personally visited and where I saw the challenges of deploying broadband in rural areas.

Senator BLUNT. Well, about 50 percent of our rural population does not have access. Now, I think the national average is now 31 percent. It's troubling to me that we've gotten behind on that. We have 3 percent of the rural population of the whole country, and half of them don't have access.

So let's go down the row of the other Commissioners here. What are your ideas of better ways to use the Universal Service Fund or

spectrum sales? Or how do we close this gap that all of you have talked about, from the agriculture and schools and homework, that are all very dependent on broadband access? If you live close to a school, you may have an opportunity to have a lot more access during homework.

But let's just go down with your thoughts on this, starting with you, Commissioner O'Rielly.

Commissioner O'RIELLY. Sure. So I think the Chairman has done a great job in moving forward a number of our Universal Service Funding programs. We have one going on right now, Connect America Fund, CAF. The Phase II auction for reverse—auction is running right now. So, hopefully, that will buy down areas that don't have service today. We're going to have to deal with the harder areas, those that don't have service and will not likely be covered by—these are the hardest of hard to serve areas, and I've been pushing for that, to deal with what is known as Remote Areas Fund, and we've got some heavy work to do with that.

The real part is trying to coordinate the holes that we have with the other money that Congress has allocated to make sure that the \$600 million for the pilot program in last year's appropriations bill and the 1.2 or more that we may see as part of the farm bill that actually goes to trying to address those people who don't have service today—so trying to make sure that they coordinate.

And then on spectrum, your point is well taken. We're trying to find the right mixture of licensees and licenses, so we address the fact that there are needs for both big providers and small providers in trying to find that middle ground that addresses everyone's concerns. So we're working hard on this. It is everyone—I think Commissioner Rosenworcel said it well, and I said it before. We're all committed to this goal of addressing those that don't have service.

Senator BLUNT. Mr. Carr?

Commissioner CARR. I would agree. I think there are three principal issues. One, we need to continue to open up and allocate more spectrum, which we're working to do and a lot of the legislative bills being considered would also do. Second, we need to continue to update our infrastructure rules so they account for changes in technology and that they're encouraging deployment and not holding it back. And I think, three, we're continuing to reorient our Universal Service Funding both with the \$2 billion CAF II auction ongoing and the \$4 billion MF II.

If I've got a fourth, Chairman Pai had identified a rural dividend that I believe is included in some legislative ideas which would take some of the private sector money that's raised through auction and find ways to help support buildout in rural areas.

Senator BLUNT. And, Ms. Rosenworcel?

Commissioner ROSENWORCEL. All right. I've got three, too. First, we need better maps. Our maps right now don't reflect what it really looks like on the ground. We should stop thinking we can do this alone in Washington. We have to go out to the American public and private sector actors and get their assistance and help before we distribute billions of dollars.

Second, when we do have spectrum auctions, we need to have some smaller licenses so some smaller companies that want to

serve rural communities have a fair shot of bidding for them in the process and providing service.

And, third, when we do issue those licenses, it's important that when we develop buildout criteria, we make the buildout criteria on the basis of geography, reaching, for instance, 80 percent of the geography and not just 80 percent of the population, which is a standard that would be biased toward urban areas.

The CHAIRMAN. Thank you, Senator Blunt.
Senator Schatz.

**STATEMENT OF HON. BRIAN SCHATZ,
U.S. SENATOR FROM HAWAII**

Senator SCHATZ. Thank you, Mr. Chairman.

Thank you, Commissioners, for being here.

Commissioner Pai, where are we with contribution reform?

Chairman PAI. I would defer that question, Senator, to Chairman O'Rielly. He's the Chairman of our joint board on contributions.

Senator SCHATZ. All right. Go ahead.

Commissioner O'RIELLY. Thanks, Mr. Chairman. I appreciate that. We're at a crossroads on contribution reform. There are many different ideas, and there is a state proposal that has been put forward that I don't think is viable amongst the members, and we haven't been able to cross that approach, but haven't been able to find something in commonality on that. So we're stuck at the moment, to be quite honest, and it has been something we've been stuck at for quite a while.

So it's something I inherited. It's something that has been going on, and nobody has a perfect answer as we—and you see this fight in different states as they're trying to figure out different—there has been at least a half dozen states that are trying to figure out what is the new formula, what should it look like, what should it include, and there has been no agreement.

Senator SCHATZ. I understand the difficulty, and you understand the urgency.

Commissioner O'RIELLY. Yes.

Senator SCHATZ. So we'll follow up with each of the Commissioners. This is an essential part of policy here. I know it's the hard part, but we still have to do it.

Chairman Pai, I want to follow up on the DDOS attack. What strikes me as difficult to digest is that there was an unprecedented number of—there were an unprecedented number of comments that came in after the first John Oliver show that overwhelmed the system, and then there was another batch of unprecedented communications to the FCC website, and everybody figured that it was the same as last time, just intuitively.

And then your CIO said that it was a DDOS attack, and yet, you know, Ron Wyden and I and others in the legislative branch said, "That doesn't make any sense." The tech community said, "That doesn't make any sense." I think a lot of people's first instinct was that it didn't make any sense. So I understand your reliance on your CIO. I don't blame you for that.

My question is did you have any doubt at any time before the report came out a couple of weeks ago?

Chairman PAI. Senator, on May 8, I believe it was, that Monday, when I heard that the ECFS system had been overwhelmed for a couple of hours, as I then understood it, my assumption was that it was John Oliver's viewers or——

Senator SCHATZ. Right. So I got that part. But then the CIO tells you it's a DDOS attack.

Chairman PAI. Correct.

Senator SCHATZ. And then you basically declared to the world that it was a DDOS attack, including communicating with Congress, that a Federal crime has been committed, and the thing that I wonder about, given your expertise in the law and expertise in tech, is why didn't you entertain any of those quite reasonable doubts that were out there in the community or out there among your former colleagues in the tech community?

It just seems odd that the moment your CIO says something, that you run with it, and you ran with it quite aggressively all the way up until the point where—I guess it was last week or the week before—you said, "Well, I was duped." That's very hard to digest. So I'm trying to figure out—did you ever have any doubt between the point at which your CIO told you something and the point at which the IG told you that it was wrong?

Chairman PAI. Senator, I would urge any critics on this issue—read the entire report. You will see——

Senator SCHATZ. Right. I read—I have——

Chairman PAI. If I could just answer, Senator.

Senator SCHATZ. But you're not answering my question. Did you have any doubt?

Chairman PAI. Senator, I did have doubts, which is why I asked our Chief of Staff who then asked the CIO explicitly, "Is this a result of John Oliver's viewers?" He said, and I quote, "We are 99 percent confident this was external folks deliberately trying to tie up the server," and he continued, "This was definitely high traffic targeting ECFS to make it appear unresponsive to others."

Later on, on July 24, I had a meeting in my office with certain IT staff. We asked them again, "Are you confident that this is what happened?" They said yes, essentially replicating what the former CIO said in his statement.

Senator SCHATZ. OK. I got it. So now you're trying to sort of muddle through this as your CIO is telling you something and the rest of the world is saying that doesn't seem right.

The question I have is: In terms of your relationship with this Committee and the public and in the context of a quite partisan, quite hot battle around net neutrality and the legitimacy of the participation of the public in this net neutrality process, did it ever occur to you to say, "You know, I've got these doubts now, and so my declarative statements from before—I'm not so sure that I should stick with those, and I'd like to modify my statements. In fact, Senator Schatz and Senator Wyden, I'd like to answer the letter that you sent me."

So at some point before the IG report came out, did it occur to you to communicate back with the public that this may not have been a DDOS attack?

Chairman PAI. Senator, on January 23 of 2018, I was informed by my Chief of Staff, who had been informed by the Office of In-

spector General, that they had suspicions that the former Chief Information Officer's statements to us and to Congress were inaccurate. The OIG then requested, because they had referred this matter for potential criminal prosecution to the Department of Justice, "do not say anything to anyone." Ultimately, the OIG—it became known that they were developing a report and that they were going to issue this report.

Once we knew what the conclusions were, it was very hard to stay quiet. We wanted the story to get out, not only because it vindicated what we'd been saying, that we'd relied on the Chief Information Officer's representations, but also because, otherwise, we knew that members of this committee, including potentially you, would think, "Well, he knew something was wrong, but he didn't tell us about it."

So the position I was in was do we breach the Office of Inspector General's request for confidentiality, in which case the accusation from perhaps members of this Committee would be "he's jeopardizing an independent OIG investigation, including a potential criminal prosecution," or do I adhere to the independent Inspector General's request? It's a difficult position to be in. I made the judgment that we had to adhere to the OIG's request, even though I knew we would be falsely attacked for having done something inappropriately.

Senator SCHATZ. Do you consider my line of inquiry a false attack?

Chairman PAI. No. I'm saying plenty of others have certainly not held loose about—

Senator SCHATZ. I guess what I'm looking for is some measure of accountability as the Chairman, and I understand that you were in a difficult position. But I can't imagine that there was not another way to thread this needle and deal with us in our oversight capacity.

Chairman PAI. Senator, I guess my only request to you would be put yourself in my position from January 23 until August 3, or whenever it was the report came out. You have a request from the Inspector General: "Do not say anything to anyone." The story in this report vindicates my position. It was in our interest to get it out sooner. We wanted you to get this information sooner because it proved what we said. We didn't have the ability to do that. I could have done it, but then I would have been accused of stifling an OIG investigation, potentially frustrating a criminal prosecution.

I did what I thought was the right thing to do, which was to stick by the OIG recommendation, and as I pointed out in my August 10 letter—and I quoted the very text on which we relied from May 9, I believe it was, all the way forward. We relied on the representations of the former Chief Information Officer, which—and the OIG's investigation—I would urge you, in particular, to read the Memorandum of Interview, if you haven't. Those vindicate the position.

We asked them, "Is this what it is?" They said no. "Have you talked to the FBI and DHS?" They said, "Yes, those agencies have essentially concurred in our recommendations." That was not true.

Senator SCHATZ. OK. Thank you.

The CHAIRMAN. Thank you, Senator Schatz.
Senator Moran.

**STATEMENT OF HON. JERRY MORAN,
U.S. SENATOR FROM KANSAS**

Senator MORAN. Mr. Chairman, thank you very much. With such short time and so many questions, I am reluctant to ask all of you to respond. So I would defer to whoever feels compelled to provide me an answer to my questions.

I want to start with the USF high-cost program. We worked with the Senate Appropriations Committee to include an FSGG language that would encourage the FCC to conduct a comprehensive assessment of what is needed—quote, “what is needed to appropriately fund the high-cost program to fulfill its statutory mandate for universal service.” I support the short-term funding the FCC agreed to provide rate of return carriers to mitigate the immediate effects of the budget control mechanism.

My question is, what is the current state of the assessment of this program, and what is the status of the short-term funds? We’ve had this conversation many times, but USF high-cost is not receiving the dollars that it needs.

Chairman PAI. You left it open to everybody, so I’ll pass it on to my colleagues. But, no, Senator, I’ll take the question. We do have an open proceeding. It was important to me, because I heard your concerns and the concerns of carriers throughout Kansas that the budget control mechanism, in particular, was creating a lot of uncertainty. So, as you know, we suspended that temporarily, issued an NPRM in March, and, as I’ve committed here, we are going to work with our colleagues here and with the Committee to make sure that by the end of the year, we have a rate of return system that provides that predictability and sufficient support that you require.

Senator MORAN. The Chairman mentioned this in his comments, and I would join him in stressing to you the importance of this issue. Let me talk to maybe Commissioner O’Rielly, who has been most vocal on this.

We provided in the farm bill those areas, those opportunities to narrow the scope of subsidizing places that already have a carrier, already have a service. What kind of interagency communications are already taking place between USDA, the FCC, and NTIA about bridging the digital divide?

Commissioner O’RIELLY. I think that’s best answered by the Chairman, who has had teams working on this. I’m not party to them.

Senator MORAN. We may spend more time deciding who is going to answer the question than—

Chairman PAI. Senator, with respect to USDA, we have been actively collaborating. For example, I’ve consulted repeatedly with Secretary Perdue as well as the Administrator of RUS from Missouri to figure out ways to make sure we’re on the same page with respect to the \$600 million that they’re now distributing. We’re also working together to make sure that our USF programs generally cohere. We’re working with NTIA on a whole variety of issues to

make sure that we're all on the same page when it comes to broadband deployment.

Senator MORAN. I'm not sure what Commissioner Rosenworcel was specifically addressing in her comments, but it caught my attention. Most recently, the CEO of Nex-Tech Wireless in my hometown of Hays, Kansas, expressed support for extending the challenge process on the Mobility Fund Phase II auction based upon difficulties that carriers and others are experiencing in collecting reliable data, urging the FCC to, quote, "measure twice and cut once" before dispersing over \$4 billion of resources.

I have expressed a lot of concern about the initial eligibility map. I think it dramatically overstates existing unsubsidized coverage in my state, and looking at the map, my belief is it's elsewhere as well. You, Chairman Pai, met with me—and I appreciate that conversation—along with Chairman Wicker and others. One of my complaints then and now is that the FCC has put in place a map that is known to be flawed and expects others to fix the problem. That, to me, as I indicated previously, is not the way that government should work.

My question is: What efforts beyond the challenge process is the FCC able, willing, or now doing to see that the map is righted before we cut twice and—whatever that expression was—before that happens?

Chairman PAI. Excellent question, Senator. We inherited from the prior FCC a mess when it came to the map. We essentially asked every single carrier to report, based on its own preferred technical parameters, where they had coverage. But that wasn't good enough for me. So I urged and the FCC approved a bespoke data collection to make sure that we got a—based on the same technical parameters for every single carrier, show us where you have coverage, and then we overlaid all of those.

Then on top of that, we said now we're going to open it up for a challenge process, as you know. I'm pleased to report, as I mentioned to Senator Wicker, that we have adopted an order that extends by 90 days, until November 28, the time-frame within which to promulgate a challenge. We also have extended waivers to the Kansas Farm Bureau, the Mississippi Farm Bureau, to elected officials like Senator Manchin, and to others to participate in that challenge process.

Our Rural Broadband Auctions Task Force has put out a map showing areas where there's one unsubsidized competitor to make it easier to target the areas that are right for challenge. We have also made it easier to—we've essentially changed the buffer area to make it much easier to submit a challenge. So a variety of steps we have taken have made it much easier than it was in January 2017 when I came on board. But I agree with you. We should not be distributing this funding to parts of the country that are unserved if we don't know they're unserved. That's what the entire goal of our new data collection is.

Senator MORAN. I think the answer that I hear you saying, Chairman, is that it still is the challenge process that will correct the map. There's nothing the FCC is currently doing or could do to take that task on itself.

Chairman PAI. Well, we've done a number of things. Our Rural Broadband Auctions Task Force has been in nine states. We've been investigating on the ground as best we can. We don't have the personnel, the thousands of people, that would be necessary to go around the entire United States. We've relied, as I said, on a wide variety of actors, private sector, state and local officials, and others to make those challenges.

Commissioner ROSENWORCEL. I don't want to discount anything that the Chairman said. I agree that extending the deadline is a good idea. But I fundamentally agree with you that our maps are flawed, and over the next 10 years, we are going to distribute \$4.5 billion to rural communities. If we get it wrong, they're going to pay a really big price. They won't get the funding they need.

So in addition to extending it—and our process is really cumbersome. You've got to download all these data from the FCC, go onto their portal at USAC. You've got to get a variety of handsets and then at half a kilometer distances go and test signal strength and latency, upload it back, put it on a grid, get it certified by an engineer. It is difficult.

We should be adding to this with our own efforts. We could do that if we took some of the FCC field offices and had them go out and do testing. We can ask our colleagues at the Universal Service Administrative Company, who are already planning on testing after the fact, to go out and also do spot checks.

And then we can take advantage of our Measuring Broadband America program, where we've got like 200,000 consumers around the country who have downloaded a test to see if broadband is available through wirelessly in their communities and see if we can have them to help us, too, because the more data we get here to make it more accurate, the better off rural communities will be.

Senator MORAN. Thank you, Commissioner Rosenworcel, and please consider me an ally in any efforts to do that. To demonstrate how important this issue is and yet how wrong the process is, the Kansas Farm Bureau is taking upon itself to go out and do the testing. I applaud them for doing that, but it doesn't seem like it's a responsibility of the Kansas Farm Bureau to correct a map developed by the FCC and information provided to it.

Mr. Chairman, I would offer to you and to the Ranking Member that if I can help in any way to get the fifth commissioner confirmed by the U.S. Senate, I am interested in seeing that we have a second Kansan serving on the FCC.

The CHAIRMAN. I don't know. Sounds like an inside deal to me.
[Laughter.]

The CHAIRMAN. Thank you, Senator Moran.
Senator Cantwell is up.

**STATEMENT OF HON. MARIA CANTWELL,
U.S. SENATOR FROM WASHINGTON**

Senator CANTWELL. Thank you, Mr. Chairman. Thanks for the hearing.

This is for any of the commissioners. Last week, Google's smartphone service storage user—it came out that its storage user locations, even when the privacy settings are adjusted to shut these features off, and while the company asks permission from users to

share location information, it does not stop those tracking services when the user pauses the location history. Now, Homeland Security has received reports of nefarious actors having exploited weaknesses in cell phone network operation systems and targeting communications of Americans.

Does the FCC need to be doing more in this issue in protecting consumers by correcting some of these issues with your oversight? Yes?

Commissioner ROSENWORCEL. Thank you, Senator, for the question. The answer is yes. Protection of the safety of life and property is in the very first sentence of the Communications Act. Cybersecurity is no longer some siloed notion. As we connect everything in our lives, it is part of our basic cyber hygiene to make sure we consider how we can be more safe and secure and less vulnerable to difficult actors.

We've got issues right now with the Stingrays in this town, adjacent to big Federal buildings like the White House, that are using our airwaves. We should be investigating that. It's a violation of the Communications Act for them to do that. And there are interference issues that are real there and something we should be looking at, and we should be looking at the situations you described where wireless carriers are giving out geolocation information without customer consent. That's a violation of our Customer Proprietary Network Information Rules.

We should also be looking at technologies like SS-7, which we know are vulnerable. From front to back, we need to be thinking about cybersecurity in everything we do.

Senator CANTWELL. Well, I'm glad to hear you say that. I hope some of your other fellow Commissioners agree. Can we get comments?

Chairman PAI. Senator, I agree with the issue—the position you've taken that cybersecurity is an important issue, and that is why we have worked very well with the Department of Homeland Security. I personally have worked with the DHS under Secretary Krebs, who handles a lot of these issues, and have had briefings in our own skiff on some of the cyber issues that we see emerging, and we'd like to work with you on that if there's a way for it.

Senator CANTWELL. I think last time you were here, you were more or less drawing a line, saying that the life and property issue—but that you didn't have a real role in cybersecurity. So I hope you're rethinking that, because I think the continued evolution here is we need the FCC to play an aggressive role. I love that Commissioner Rosenworcel used the word, hygiene. That's the word we use so much in our state.

But the challenge we face is that it is—you know, if you look at what happened with the Equifax, they even had a patch, and the guy was supposed to fix the patch and apply it, didn't do it, and now all these people are without security. So I hope the same can be said of the FCC in focusing on what it wants to require here so that consumers are better protected, but, more importantly, that this outlet is not just a front-door portal for more attacks.

Chairman PAI. Senator, if I might, as I said at the earlier hearing, our challenge is that we are a creature of Congress. We can only exercise the authority that Congress has entrusted to us. Sec-

tion 1 of the Communications Act is a purpose section. It doesn't grant us operative authority, and that's why under current law, at least, we are to operate in a consultative role with the Department of Homeland Security, with the intelligence community, and others.

We are doing that to develop best practices and the like, and DHS just last week, I believe—earlier this week, rather—announced that they have a new cybersecurity center that they are standing up to help address these issues. We look forward to working with them and with anyone who is interested in these issues.

Senator CANTWELL. Well, I serve on several committees where we've had hearings, and I so appreciate this Committee joining in that.

But I think—I want to hear from Commissioner Rosenworcel. Do you disagree? Do you think there's something you could do now, that you don't need a new authority or bill by us to do that?

Commissioner ROSENWORCEL. I do not think we need additional authority, but we would always welcome it. I think it is just part of our duty as public servants. The first duty of the public servant is the public safety. We should look at our statute and find every way to make sure that cybersecurity is part of everything we do.

Senator CANTWELL. Well, I think we, no doubt, are just going to have to keep upping the aggressive nature of helping here, because, obviously, wherever people can get in is where they're going to get in, and I think some of this information is very, very important. But thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Cantwell.

Senator Markey.

**STATEMENT OF HON. EDWARD MARKEY,
U.S. SENATOR FROM MASSACHUSETTS**

Senator MARKEY. Thank you, Mr. Chairman, very much.

Commissioner Rosenworcel, net neutrality has been the governing principle of the Internet up until now, until the FCC overturned those rules. Chairman Pai has been saying, "Well, the sky is not falling." But I'd like your insight into whether or not at this point we would expect broadband providers to start to set up fast and slow lanes, knowing that there's a court proceeding that has not been completed and knowing that the Congressional Review Act that I authored has already passed in the Senate and is now pending over in the House.

So I'd like to get your insight with regard to whether or not you agree that no changes that are significant have taken place yet because the whole process has not been completed.

Commissioner ROSENWORCEL. I think you're right, Senator. I mean, just look at what happened in the aftermath of our decision. Millions of Americans know what the FCC is. I'll bet you they didn't before. We've had a Congressional Review Act here in the Senate. There's one pending in the House. We've got 23 state attorneys general suing us, six Governors who issued executive orders, three states that have actually passed their own laws, and legislation pending in 30 more states. What you're seeing is the American public angry about what happened here, and I am certain that providers are careful in light of that.

Senator MARKEY. OK. Now, let me move on to the children's television proceeding that has now begun at the FCC. I'm the author of the Children's Television Act of 1990. Ultimately, it requires 3 hours a week of educational and informational programming for all children in America on free over-the-air broadcasting.

So there's a consideration to reduce the number of hours from three to some other number. There's also consideration of the concept that it wouldn't even be regularly scheduled so kids necessarily or their parents wouldn't know what time it's on in order to go to that program.

Now, the problem, of course, is that we have a very high percentage of minorities in America—Hispanics, African Americans, Asians—who do not have cable, who do not have broadband, high-speed broadband, so they're reliant upon free over-the-air television. So this nutrition for the brain, which is the educational and informational programming that the law requires, is absolutely essential.

So could you talk to any concerns you might have about what we need to guarantee stays in place in order to make sure these kids get what they need?

Commissioner ROSENWORCEL. Sure. Listen, I'm a mom. I know that my kids watch programming differently than I did when I was a child. But if you look at the data, what you learn is that a quarter of the low-income households with kids under eight in this country don't have broadband, and many of the houses that do don't have unlimited plans. This idea that everyone is just going to stream educational content for children easily in a cost-free way is flawed.

It's okay to decide we want to modernize these rules. We should want to modernize these rules. But we've got to be careful about how we are reducing the positive impact that the Children's Television Act could really have on the households that need it most.

Senator MARKEY. And I agree with you. I don't have a problem with going back and reviewing what has evolved over the years, but I also don't want to do it without focusing upon all the kids, tens of millions of them, who are going to be in a different situation than families that look like the ones that are on this panel or sitting at the witness table today. They're in a different situation. They need access to this kind of programming.

I would hope that as we're going through this whole re-do of the children's television rules that we're mindful of those children. They need the same kind of information we were given access to growing up.

Finally, I'd like to come to you, Mr. Chairman, on robocalls. That's just an incredible issue that just drives people crazy in our country. That's why I authored the Telephone Consumer Protection Act of 1991 so that we would have rules that could protect people from just—especially around supper time—just having their lives interfered with in a way that drives them crazy.

I know the D.C. Circuit struck down the rules that were put on the books by the FCC. So can you give me some kind of guidance as to how you're going to be robust in putting protections on the books?

Chairman PAI. I appreciate the question, Senator. We are taking a two-track approach. One is with respect to our regulations, and the other is with respect to enforcement. I'll tackle the second piece first.

We have taken the most aggressive action in the agency's history across any area to address this issue. We've made it our number one consumer protection authority. The largest fines ever imposed in the FCC's history have been imposed against robocallers.

With respect to regulation, as you pointed out, the D.C. Circuit vacated the previous 2015 rules. We have issued a public notice and are still taking public input on what the appropriate way forward is with respect to autodialers, reassigned numbers, and revocation of consent, and we look forward to developing the record further with the staff and trying to assess the way forward.

Senator MARKEY. Thank you, and I appreciate that.

Commissioner O'Rielly, I was going to come to you next, but my time is running out. But I want to work with you on this children's television—

Commissioner O'RIELLY. Happy to.

Senator MARKEY.—so that we get the right answer for every child in America. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Markey.

Senator Young.

**STATEMENT OF HON. TODD YOUNG,
U.S. SENATOR FROM INDIANA**

Senator YOUNG. Thank you, Chairman.

I want to thank the Commissioners for being here today. I do really appreciate it. I particularly want to thank Commissioner Carr for visiting Indiana some months ago. We had a really productive day visiting some rural communities that are having challenges with respect to connectivity. Downtown Indianapolis—I thought that was quite interesting, certainly to me, as wireless carriers are utilizing spectrum to deliver new 5G services. We also visited West Lafayette, Purdue University that is leading the world in advancing smart agriculture through the latest technology.

There was a common theme as we went around the state of high-speed connectivity leads to jobs and economic growth and better health and education. I want to commend you, certainly on the healthcare front, for taking action. The proposed Connected Care Pilot Program to support delivery of telehealth services for people of modest means is really important to me and the people of Indiana.

With regard to this pilot program, do you foresee the FCC studying the overall impact this will have on healthcare expenditures, or it could have, as a result of increased access to telemedicine services for people of modest means?

Commissioner CARR. Senator, thank you for the question. Absolutely, and you actually deserve some credit for this. There was an idea that you threw out during that trip, which is if we are investing in these telehealth technologies and there's a direct reduction in Medicaid expenditures, how do we capture that savings in a beneficial way when it comes either to more telehealth or more

broadband deployment? That's something that we ended up including in the NOI, and we're seeking comment on how to do that.

Senator YOUNG. Yes, if we invest intelligently, we can avoid government expenditures. We might be able to set that money aside in the future and then pay back those at the private level who might actually make these investments. So I see some exciting possibilities here. We're doing this as well in the social realm through so-called social impact bonds or social impact partnerships. So this is a variant of that.

What results, as a follow-up, have you seen to date for similar telehealth programs?

Commissioner CARR. We've seen tremendous positive results. The one pilot that I saw in Ruleville, Mississippi—they saw results that if only 20 percent of the state's diabetes population enrolled in that program, it would be a \$189 million reduction in the state's Medicaid expenses, not to mention, obviously, improve patient outcomes.

Senator YOUNG. Well, it's very encouraging. How do we ensure that we're not just replicating existing government programs, whether it's through the FCC or USDA or through one of the other constellation of government entities we have out there?

Commissioner CARR. Thank you, Senator. This is another good question, and we've teed up very specific asks in our notice of inquiry about accounting and metrics and how we make sure that we're not duplicating funding and that we can coordinate, because as you mentioned, there are a lot of different agencies that are involved in this space, and we don't want to be duplicating efforts. We want to stretch the dollars as far as possible.

Senator YOUNG. Thank you. I'm going to turn quickly to the advancement to win the race to 5G, something we all are supportive of, I believe.

Commissioner Carr, I mentioned our trip to Indianapolis. We went on a walking tour that day of existing small cell wireless deployment that AT&T has implemented there in downtown Indianapolis. And then just a couple of days ago, Verizon made an exciting announcement. They said Indianapolis would be one of the first 5G cities in the United States, and that should launch later this year, I understand.

Now, companies—they don't make decisions like this in a vacuum. State and local regulations, I hear, make a huge impact. So I just want to get your perspective on that. Do you believe the actions of our state and local governments were key in facilitating these investments, and, if so, shouldn't this be done on a national scale to incentivize investment in all communities, big and small alike?

Commissioner CARR. Senator, thank you. I agree. When we were in Indiana, in Indianapolis, we met with the Governor. We talked about the policies that have been put in place at the state level, some pretty basic commonsense guardrails, and that is the incentive that created the environment that you see multiple nationwide providers leading their 5G deployments in that state. So the idea that some basic commonsense rules of the road are going to attract and incentivize investment—we're seeing exactly that pay off for a lot of Hoosiers right now.

Senator YOUNG. What else should the FCC be doing to expedite the process for deploying small cells that are necessary to win this race to 5G?

Commissioner CARR. We have a proceeding right now where we're looking at some basic commonsense ideas. Some of the ideas that we've seen in Indiana are ones that have stuck with us that we're looking to see if we can build on so that we can get deployment not just in the biggest of big cities but to every community.

Senator YOUNG. I'll be brief with respect to my last question here, Chairman Pai. It relates to Hoosier broadcasters. They have expressed great anxiety over this channel repack, and this Committee has already done some really good work on this front, so I want to acknowledge that. But now it's crunch time, as it were, and Phase 1 of the repack is beginning to move forward in earnest.

So how closely is the FCC monitoring the progress of tower crews, and what's the backup plan for when the arbitrary time table slips because of, for example, weather or other unforeseen circumstances?

Chairman PAI. Thank you for the question, Senator. We do have a transition plan in place to ensure that every one of the 10 phases proceeds smoothly. In addition, we've built some given systems, so to speak, so, for example, if a broadcaster, for reasons outside of his control, is not able to go through the process, we have a process to grant waivers, for example, to extend other sort of regulatory discretion, you might say, to make sure that they're held harmless.

But we've also adopted recently a Notice of Proposed Rulemaking to implement some of the authority that Congress recently gave us with respect to low power TV stations, translators, and the like, and FM radio stations as well to make sure that we address their issues also.

Senator YOUNG. I don't think you addressed this, so I'm going to very quickly—what process does the Commission have in place to ensure that if a broadcaster is being moved to a different channel and is unable to meet that deadline for that phase to move through no fault of their own—how are they—is there some sort of process that the Commission has in place to accommodate or allow these channels—these broadcasters to stay on their current channel?

Chairman PAI. There is. So there is a waiver process that I mentioned. In addition, we have special temporary authority, or STA, that can be granted. If I remember correctly, it is to stay on a channel that another broadcaster who participated in the auction has vacated and where there's not a wireless licensee occupying it. We have the ability to grant an STA in those situations.

Senator YOUNG. Thank you.

The CHAIRMAN. Thank you, Senator Young.

Senator HASSAN.

**STATEMENT OF HON. MAGGIE HASSAN,
U.S. SENATOR FROM NEW HAMPSHIRE**

Senator HASSAN. Thank you. I thought that was the case, but just checking. Thank you, Mr. Chair, for having the hearing and to our Ranking Member as well, and thank you to the panel for being here today.

Commissioner Rosenworcel, I wanted to ask you a question following up on a line that I think Senator Wicker began to cover with Chairman Pai. Chairman Pai included in his testimony a discussion of net neutrality and quoted from a *Washington Post* piece from February of this year, which gave the claim—and I think Senator Wicker mentioned this—that the FCC’s repeal of net neutrality rules would slow down Internet traffic speeds, and the article gave it three Pinocchios. So I’d like to ask unanimous consent to insert the full article into the record.

The CHAIRMAN. Without objection.

[The information referred to follows:]

The Washington Post—March 5, 2018 at 3:00 a.m. EST

WILL THE FCC’S NET NEUTRALITY REPEAL GRIND THE INTERNET TO A HALT?

By Salvador Rizzo

“If we don’t save net neutrality, you’ll get the Internet one word at a time.”

—U.S. Senate Democrats, in a tweet, Feb. 27, 2018

This clever tweet caught our eye because each word is separated by paragraph breaks, giving readers a bitter taste of what it’s like to scroll through the Internet one word at a time.

It also set off our antennae because of the sweeping claim Democrats are making—that consumers will see a sharp drop in Internet speeds if the Federal Communications Commission proceeds with its plan to unwind net neutrality rules imposed under President Barack Obama in 2015.

Led by a new chairman chosen by President Trump, the FCC voted to roll back the Obama-era rules and relinquish oversight of Internet service providers to the Federal Trade Commission.

Supporters say that by lifting the burden of net neutrality regulations, companies such as AT&T, Comcast and Verizon will invest in their networks, improve service and expand to underserved and rural areas. Critics say that absent regulations, Internet providers have free rein to slow down certain websites or features—video streaming, for example—or speed up websites and services willing to pay more for Internet “fast lanes.”

The tweet from Senate Democrats is clearly meant to be exaggerated. For words to load one at a time, the Internet would have to slow down to a glacial crawl that would render it pointless. But the basic assertion in the tweet—that consumers will see a sharp drop in Internet speeds—is worth fact-checking.

The Facts

In 2015, the FCC voted 3 to 2 along party lines to approve rules enshrining what’s known as net neutrality—the idea that all types of digital traffic should be treated equally, whether it’s e-mail, Web content, video or any other kind of data. The FCC’s Open Internet Order reclassified broadband providers as telecoms; imposed transparency rules; and, among other changes, barred these providers from blocking online content, throttling speeds or setting up Internet fast lanes and charging fees for their use, what’s known as “paid prioritization.”

For net neutrality advocates, the Open Internet Order was a milestone after years of debate and court battles over earlier regulations. A December 2017 report by the Congressional Research Service outlines the recent history of net neutrality in the FCC, Congress and the courts, and makes a key point: In an earlier online era, the most popular services were e-mail and Web content, a relatively light load for networks. Since then, demand has grown for data-heavy services such as video streaming, online gaming and Internet voice services.

The Obama-era regulations prevented broadband companies from blocking or slowing down any online service or application for any reason other than reasonable network maintenance. The rules also barred paid prioritization. But these regulations would be in place for just short of three years.

Under FCC Chairman Ajit Pai, a Trump appointee, the commission in December voted 3 to 2 along party lines to reverse almost all of the Open Internet Order and transfer the FCC’s oversight of Internet service providers to the FTC, which has a lighter touch since it can only enforce the terms of the broadband providers’ user agreements and police “anticompetitive, unfair or deceptive conduct.”

The FCC's rollback proposal, called Restoring Internet Freedom, was published Feb. 22 in the *Federal Register*, the official journal of administrative actions, but additional paperwork must be filed before the new rules are finalized.

"It will lead to slower speeds for certain websites, absolutely," said Gigi Sohn, who was counselor to former FCC chairman Tom Wheeler, an Obama appointee, when the now-repealed net neutrality rules were adopted in 2015. She is now a distinguished fellow at Georgetown Law's Institute for Technology Law and Policy.

"There is a very good chance that companies will ask . . . Netflix or Hulu, Etsy or Facebook, even the little companies, too, to pay for faster service or better quality of service," Sohn said. "And if you don't pay, you'll get lower quality of service."

This hasn't happened. But a 2016 report by the FCC says 61 percent of Americans have one or no provider in their area offering high-speed Internet. The number rises to 87 percent for rural Americans. So if it *did* happen, it's not as if consumers could switch easily to a faster or less content-biased provider.

The Internet Association, a group that represents tech giants such as Facebook and Google, says broadband providers need net neutrality regulations or they'll come to control what users see by giving top speeds only to the highest bidders—or to themselves. Comcast owns NBC. AT&T owns DirecTV. Both companies and Verizon offer their own video-streaming services.

"We need strong, enforceable net neutrality protections because consumers have little or no choice at the point of connection, and ISPs shouldn't be able to advantage their own or preferred websites and apps over the rest of the Internet," said Noah Theran, an Internet Association spokesman. "Consumers should choose which websites and apps are best."

Contrary to what Democrats claim in their tweet (which looks a lot like this tweet from the ACLU, by the way), some of the biggest U.S. broadband providers say in pretty stark terms that they have no plans to block or throttle content or to start along the road of paid prioritization.

"Even with the FCC's recent changes to net neutrality, nothing has changed," said Richard J. Young, a Verizon spokesman. "For years, we've seen all sorts of hypothetical scenarios in which some speculate that changes to net neutrality rules will bring the end to the Internet as we know it. The fact is that we need to end the speculation, because the reality tells a very different story."

He quoted from Verizon's open Internet pledge. "We will not throttle or slow down any Internet traffic based on its source or content," Young said. "That's been our commitment for years. And we have zero intention of changing or pulling back on that pledge."

The pledge also says: "We will not accept payments from any company to deliver its traffic faster or sooner than other traffic on our consumer broadband service, nor will we deliver our affiliates' Internet traffic faster or sooner than third parties'. We will not prioritize traffic in a way that harms competition or consumers."

Sena Fitzmaurice, a spokeswoman for Comcast, said "we have a long history of supporting net neutrality and have been calling on congressional legislation to enshrine it for years." She pointed to a Dec. 13 blog post by David L. Cohen, Comcast's senior executive vice president and chief diversity officer.

"Despite repeated distortions and biased information, as well as misguided, inaccurate attacks from detractors, our Internet service is not going to change," the blog post says. "Comcast customers will continue to enjoy all of the benefits of an open Internet today, tomorrow, and in the future. Period."

The post goes on to say that "we do not and will not block, throttle, or discriminate against lawful content" and that "we've not entered into paid prioritization agreements and have no plans to do so."

"We don't block websites," Randall Stephenson, AT&T's chairman and chief executive, wrote in an open letter Jan. 24. "We don't censor online content. And we don't throttle, discriminate or degrade network performance based on content. Period. We have publicly committed to these principles for over 10 years. And we will continue to abide by them in providing our customers the open Internet experience they have come to expect."

Critics say these statements in some cases leave enough wiggle room for a change of position once public attention shifts away from the FCC's latest round of rule-making, or once any court challenges to the new FCC rules are resolved. There are several documented cases of broadband providers blocking or slowing down applications. The FCC in 2008 found that Comcast had violated one of the commission's Internet policies by blocking some users' peer-to-peer file-sharing connections in an effort to manage network traffic. (Comcast no longer manages traffic like this; its network management policies are posted online.)

Stephenson's statement does not specifically address paid prioritization, and Bob Quinn, AT&T's senior executive vice president for external and legislative affairs,

touched off speculation about prioritized content when he wrote Feb. 27: “What we do care about is enabling innovative new technologies like autonomous cars, remote surgery, enhanced first responder communications and virtual reality services. I think we can all agree that the packets directing autonomous cars, robotic surgeries or public safety communications must not drop. Ever. So, let’s address concerns around paid prioritization without impacting those innovations.”

Broadband providers have tweaked their positions over the years on paid prioritization, and in some cases have not lived up to other customer pledges, critics say. Sohn pointed to a court case, *Verizon v. FCC*. In 2013, Verizon’s attorney said the company was interested in paid prioritization during oral argument before a panel of the U.S. Court of Appeals for the District of Columbia Circuit.

“Broadband providers also have powerful incentives to accept fees from edge providers, either in return for excluding their competitors or for granting them prioritized access to end users,” Judge David S. Tatel wrote in ruling on the case in 2014. “Indeed, at oral argument, Verizon’s counsel announced that ‘but for [the Open Internet Order] rules we would be exploring those commercial arrangements.’”

He added: “Although Verizon dismisses the [FCC’s] assertions regarding broadband providers’ incentives as ‘pure speculation,’ those assertions are, at the very least, speculation based firmly in common sense and economic reality.” The court noted that “Voice-over-Internet-Protocol (VoIP) services such as Vonage increasingly serve as substitutes for traditional telephone services, and broadband providers like AT&T and Time Warner have acknowledged that online video aggregators such as Netflix and Hulu compete directly with their own ‘core video subscription service.’”

The two Democratic FCC commissioners say broadband providers could roll out paid prioritization by making discreet changes that might go unnoticed.

“Maybe several providers will quietly roll out paid prioritization packages that enable deep-pocketed players to cut the queue,” Commissioner Mignon Clyburn said. “Maybe a vertically-integrated broadband provider decides that it will favor its own apps and services. . . . Maybe some of these actions will be cloaked under non-disclosure agreements and wrapped up in mandatory arbitration clauses so that it will be a breach of contract to disclose these publicly or take the provider to court over any wrongdoing.”

“Now our broadband providers will tell you they will never do these things,” Commissioner Jessica Rosenworcel said. “They say just trust us. But know this: They have the technical ability and business incentive to discriminate and manipulate your Internet traffic.”

Again, none of this has happened. Pai says the Internet flourished in the years leading up to 2015, before the Obama-era net neutrality regulations.

“Under this light-touch approach, the private sector invested in networks to the tune of \$1.5 trillion. Internet speeds accelerated from kilobits to gigabits per second,” he said. “The Internet wasn’t broken in 2015. We were not living in a digital dystopia.”

An FCC spokeswoman, Tina Pelkey, said that “there is no evidence to support” claims that the Internet will slow down. She noted that the new rules keep “requiring ISPs to publicly disclose accurate information regarding the network management practices, performance, and commercial terms of its broadband Internet access services sufficient for consumers to make informed choices.”

Frederick Hill, a spokesman for the Senate Commerce Committee Republicans, and Sen. John Thune (R-S.D.), the committee chairman, referred us to an FCC chart showing a steady rise in Internet speeds from March 2011 to September 2015. (It measures median download speeds in megabits per second.)

“Driven by technology, the Internet has gotten faster even as regulations change, new users get connected, and the volume of Internet traffic balloons,” Hill said. “While Senator Thune shares concerns about the impact of regulatory back and forth on the Internet, pursuing bipartisan legislation to put net neutrality protections in place to end the uncertainty would be vastly more constructive than pushing false claims to politicize the issue.”

A Senate Democratic aide said that “the underlying fact is that without the net neutrality rule, ISPs will be free to charge consumers more for faster Internet, leaving many that cannot afford it with slower Internet speeds.”

The Pinocchio Test

The debate over net neutrality is reshaping the Internet and raising big-picture questions about modern life. But we can’t help but feel that we’ve spilled a lot of pixels here analyzing something that simply hasn’t happened.

Senate Democrats, industry leaders and net neutrality activists say the FCC's move to toss out the Obama-era rules will bog down and end the Internet as we know it. The biggest broadband providers forcefully reject this claim, saying they have no plans to block or throttle content or offer paid prioritization.

That could change in time. As the D.C. Circuit said, broadband companies could make more money from paid prioritization, and it's "common sense" to think they might try it. These providers have the ability and the incentive to slow down or speed up Internet traffic, and they've engaged in these practices in the past.

For now, though, there's scant evidence that Internet users should brace for a slowdown. Yet the Democrats' tweet conveys the false impression that a slowdown is imminent unless net neutrality rules are restored. This transmission error merits Three Pinocchios, but we will monitor the situation and update our ruling depending on whether the fears were overstated or came true.

Senator HASSAN. Thank you. Because the full piece goes on to state that the Internet traffic hasn't slowed yet. The piece goes on to say, and I quote, "that could change in time. As the D.C. Circuit said, broadband companies could make more money from paid prioritization, and it's common sense to think they might try it. These providers have the ability and the incentive to slow down or speed up Internet traffic, and they've engaged in these practices in the past."

So, Commissioner Rosenworcel, is there anything that would stop an ISP from blocking certain websites and content right now, given the FCC's rollback of net neutrality rules?

Commissioner ROSENWORCEL. Thank you, Senator, for the question. The answer is no. We gave them the legal right to block websites and censor online content. I mean, I don't think that's a good thing, but I do know this. Now that they have the legal right, all they have to do is combine it with their existing business incentives and technical ability, and I think history will demonstrate if you've got legal right, business incentive, and a technical ability, it will happen.

Senator HASSAN. Thank you for that. How will this impact consumers in my state and consumers across the country who rely on the Internet as an even playing field for business and for innovation?

Commissioner ROSENWORCEL. It's not good for anyone who consumes or creates online. We're adding another gatekeeper and toll online. We could have them build the internet into a fast lane for some and a slow lane that's bumpy for the rest of us. I don't think that's the openness that has led our Internet economy to thrive.

Senator HASSAN. Thank you very much.

Chairman Pai, another topic that I'd like to cover—the last time you testified before this Committee, you, frankly, struggled to respond to a very basic question about whether you believe the press is the enemy of the people, as President Trump continues to assert. Since that hearing, more reporters have been roughed up and assaulted. The Administration has shut down—or shut certain reporters out of press conferences, and the President's rhetoric against the media has increased.

So, today, the media is fighting back with words. Today, in a coordinated effort, over 350 newspapers published editorials decrying this rhetoric and standing up for the freedom of the press. My question to you and the entire panel is—and I'd just like a yes or no—do you believe the President's rhetoric is harmful to the values

enshrined in the First Amendment of the United States Constitution?

Chairman PAI. Senator, as I answered last year in response to your letter, I do not believe the media are the enemy of the people.

Senator HASSAN. Is the President's rhetoric harmful to the values enshrined in our First Amendment, yes or no?

Chairman PAI. I'm not going to make comments on people's political comments on either side of the aisle. I will simply say that this FCC has proven that it will stand on the side of the First Amendment in all its forms.

Senator HASSAN. Well, I think there are several reporters who might differ with you on that.

Mr. O'Rielly?

Commissioner O'RIELLY. I think that the First Amendment and the ability of press and journalists to respond to the circumstances are stronger than anyone's critique, any particular persons, no matter who they may be.

Senator HASSAN. So you don't think the President's rhetoric is harmful to the First Amendment?

Commissioner O'RIELLY. I don't think it's appropriate for me to comment about the President of the United States in this context. But I'll say I think the Constitution, First Amendment, and the journalistic integrity is stronger than anyone's critique.

Senator HASSAN. So the First Amendment is the only amendment in our Constitution that singles out a particular industry as absolutely vital to our freedom and our democracy, and yet when the President of the United States, who swore to uphold the Constitution of the United States of America says that their industry is the enemy of the people, you don't think that's harmful?

Commissioner O'RIELLY. No, I said I don't believe—and I said this previously—I don't believe that that comment that he made was accurate. I don't—just like Chairman Pai, I agree that they're not the enemy of the people. I have said that before. However, I believe that the strength of journalism is stronger than any criticism of any one person, no matter who they may be.

Senator HASSAN. Again, I think there are members of the press who might differ with you. The question is: Is it harmful? And I'm not going to get into a debate with you. I think your reluctance to answer speaks for itself.

Mr. Carr?

Commissioner CARR. Senator, thanks for the question. The First Amendment operates as a restraint on the government. The idea is that we don't put a thumb on the scale in favor of one speaker or the other. The whole purpose of the First Amendment is to encourage strong, robust, perhaps rough in some situations, discourse. At the FCC, my job is to act consistent with the First Amendment in every single thing that I do, and that's consistent with the First Amendment rights of the media and the journalists, and I commit to you that I'll continue to do that.

Senator HASSAN. Well, and I'll continue to note the avoidance of the question I asked.

Commissioner Rosenworcel?

Commissioner ROSENWORCEL. This is simple. This is easy. Yes, it's harmful.

Senator HASSAN. Thank you very much.
 Thank you, Mr. Chair.
 The CHAIRMAN. Thank you, Senator Hassan.
 Senator Tester.

**STATEMENT OF HON. JON TESTER,
 U.S. SENATOR FROM MONTANA**

Senator TESTER. Thank you, Mr. Chairman.
 I want to thank you all for being here today.

Chairman Pai, in regards to consultation with Indian tribes, I commend those activities, and I hope you continue to do them. I think there are a lot of agencies within government that don't understand consultation. I think it's really important. So I appreciate you doing that.

Being down the line in asking questions, I got to hear a lot of conversation about the maps. The maps stink, basically, and I don't know that the process that you've got to take care of the maps is going to work. In other words, I'm sitting here thinking if I get a text to go out, does that mean I have coverage? And if I get a text to go out in one side of my house but not in the other side of my house, does that constitute coverage? If it's a voice call and the same thing, does that constitute coverage? Because, quite frankly, that's exactly my world. I can send texts, depending on where the sun is in the sky, basically, and I can get voice calls sometimes, depending on which direction I'm driving the tractor.

So in rural America, whether you're talking about Montana or South Dakota or anywhere else, that's where it's at, and we've got to get those maps very quickly. I agree with Jessica. It will result in a big spending of a lot of money that will be unnecessarily spent.

The other thing I would say in regards to the robocalls—you had said that you've been very aggressive on this issue. I can tell you personally, and my constituents have seen an incredible increase in robocalls over the last couple of years. I don't know if that's because of the D.C. Circuit Court decision or some other reason.

But we've got to shut them down. They are an incredible nuisance. And whatever you can do—and if you need more jurisdiction from us, please let us know, because I don't think anybody around this circle in a bipartisan way would not give you the power you need to shut this stuff down, because it is incredibly a big nuisance.

The other thing I would just say—and this is a question. It deals with 5G. I am happy that 5G—that Verizon is going into Indianapolis. I am very concerned that it'll never come to Montana. We have advocated to put 5G into our biggest town, Billings. Yet we have gotten no response whatsoever.

So here's my question. As we work to get 5G—and I think all of us want to have 5G throughout the country—what happens to the places that have no G?

Chairman PAI. Thank you for the question, Senator. This is part of the reason why I'm so passionate about rural broadband. I believe 5G could, in fact, help us close that digital divide. I recently met with Ted Rappaport—

Senator TESTER. So here's the question. So we invest 5G in Indianapolis and Houston and Miami and New York City and L.A. and San Francisco. You getting the drift?

Chairman PAI. Yes.

Senator TESTER. We still don't have a G where I live. What happens there? Are we still going to invest to build out those systems?

Chairman PAI. Senator, that's precisely the reason why we've been modernizing our rules to build that business case for 5G in rural areas, to get the infrastructure in place, to get the spectrum out there, to allow carriers, especially small ones like VTel that I referenced in my statement about rural Vermont—this enables them to make the investments to get rural 5G—to make rural 5G a reality.

Senator TESTER. I think it's going to take more than rules. It's going to take some sort of a push, to be honest with you, because, as we talked before the hearing started, we all get pushed to population centers because this is the way it works. That's where the people live. But the truth is we've got to figure out some way to push out service into rural America. So, in that regard, what is the FCC's definition of rural?

Chairman PAI. We have a definition that's pretty arcane. I'd be happy to share it with you afterwards. I can't remember the specific language.

Senator TESTER. Is it 500,000 people?

Chairman PAI. No, no. Essentially, it tracks some other agencies' definitions of rural, and so—but I can't remember the specific definition off the top of my head.

Senator TESTER. All right. Well, I mean, I just think it's really important as you guys go through your rulemaking process. We will never get 1G if we're focused on 5G in Houston, and I'm not saying we shouldn't be focused on 5G.

Go ahead.

Commissioner O'RIELLY. I want to say that's the purpose of the Mobility Fund Phase II, to get everyone to 4G. So the money that we're spending and why the maps are so important and the challenge process that I asked for—that is to get everyone to 4G.

Senator TESTER. But let me tell you, you're never going to get your maps done with your challenge process, and I will tell you why.

Commissioner O'RIELLY. No, I don't disagree.

Senator TESTER. Because I'm one of those guys that don't have it, and I don't even understand the damn challenge process.

Commissioner O'RIELLY. No, I don't disagree with you. We've had some problems with the challenge process. I'm glad there is a challenge process. I've wanted a more robust one.

Senator TESTER. But if there's one thing—and I never want to put words in the Committee's mouth—that I heard here today—the maps stink, and we've got to be more proactive about getting them fixed, and you can't depend on the Kansas Farm Bureau to do it.

Commissioner O'RIELLY. I agree. I think one of the things we need to do is work with the providers. We've been trying to answer the question—

Senator TESTER. The problem is the providers created this problem by showing you a map covered in red. Where I live, it's covered in red. There ain't even pink where I live.

Commissioner O'RIELLY. I guess I shouldn't have said providers. I should—outside parties. There are many who are working on the challenge process. We've tried to answer the question for them rather than work with them.

Senator TESTER. All right. Just one real quick thing—and, by the way, I do appreciate—this is very parochial. Do you have a bunch of staff behind you? I assume you do. Raise your hands. No? No staff? Damn it.

Chairman PAI. They're afraid to raise their hands.

[Laughter.]

Senator TESTER. They're afraid to raise their hands. We've got a situation with Woodman School and with the Missoula School District. We all talked about healthcare and schools, how important broadband is. These folks still aren't getting their service. They need it. One of them is a rural school. One of them is not, by Montana standards, a rural school, but it's a rural school, too, by national standards. I'd appreciate it if your staff would take a look at Woodman and Missoula County schools to make sure that they get what they need so our kids can get a fair shake at a 21st century economy.

Chairman PAI. Happy to do that, Senator, and if I might very, very briefly just in response to the previous issue—

Senator TESTER. Yes.

Chairman PAI. Here's the fundamental issue on Mobility Fund Phase II. Right now, we are spending over \$300 million every year to subsidize a fourth, a fifth, or even a sixth competitor in a part of the country that already has private investment, and the evidence suggests that states like Montana are getting short—they don't get any money through that process. That's why we're trying to engage in this process.

Senator TESTER. I've got to tell you that's what I wondered about—and I'm sorry, Mr. Chairman—your definition of rural, because we've got a situation in Montana where an outfit—and I'll call them out by name because they're not doing their job. Frontier got money two years ago. They haven't spent it, and Libby has no service. So even the places that do have a provider aren't spending the money to get it out. We've got to kick somebody's ass, truthfully.

So thank you. Thank you for your work, by the way, all of you.

Chairman PAI. We'll certainly consider that figuratively, Senator.

[Laughter.]

The CHAIRMAN. Thank you, Senator Tester.

I think what you guys are hearing is a bipartisan concern about the maps, making sure that we are accurate and that we're not overbuilding, and that those areas that truly need the help are getting it.

Next up is Senator Klobuchar.

**STATEMENT OF HON. AMY KLOBUCHAR,
U.S. SENATOR FROM MINNESOTA**

Senator KLOBUCHAR. Thank you very much, Mr. Chairman. Now we're going to switch to a Minnesota nice way of saying the same thing, although I love Senator Tester's approach.

So I was just out and attended a bunch of broadband meetings in rural Minnesota way up on the Canadian border, and, to me, it is such a switch from 10 years ago when people were just asking to get some kind of service so they could send an e-mail to their grandkids. Now they're worried about their very livelihood because our farmers have to be able to use precision agriculture to do business. You know this.

So the question Senator Thune asked about the overbuilding—a big issue raised, because we are in some areas just aren't getting the help they need, and I just implore you all to look at that issue.

The second thing—and I know you agreed to address Universal Service Fund money issues by the end of the year—incredibly important. Senator Thune as well as Senator Fischer and I have led a number of efforts to push that. You know that. I appreciate your first effort, but we need to do more.

And then, second, I guess I would ask this of you, Commissioner Rosenworcel. You've expressed concerns that the FCC's recent inquiry on the broadband report may not accurately portray service in rural areas. Do you want to quickly expand on that?

Commissioner ROSENWORCEL. Yes. Thank you for the question. Listen, we continue to take data in based on whether or not there is one subscriber in a census block, and if one subscriber in a census block has it, we assume broadband is available throughout. Anyone who has visited a rural community knows that's probably not the case. We have got to stop just trying to pull this information together in Washington with carriers. We need to start going out to the American public and figuring out a way to crowd source their assistance and their help so we get this right.

Senator KLOBUCHAR. Anyone else want to respond?
Chairman?

Chairman PAI. Thank you for the question, Senator. I appreciate, based on my visit to Madelia, among other places, that you might serve the core of Madelia, but on the outskirts, even if it's in the same census block, it's not served. That's part of the reason why the FCC has an ongoing proceeding to figure out how to modernize its Form 477 and other processes to have a more accurate picture of where coverage is and where it isn't. And I know the issue is the same up in the Iron Range as well.

Senator KLOBUCHAR. Very good. Thank you. Rural call completion—and I know that you just have announced that you're starting this registry for intermediate service providers to increase accountability. This is an issue that we took on a bipartisan basis—us, Chairman Thune and Senator Tester and a number of other people on this Committee. I think you know the problem here. It's just unbelievable that these calls were being dropped, and we had the proof, and you had the proof of it. So I guess this week, you're starting this registry, which we appreciate.

Could you talk about how will the recently established rules help improve call completion rates in rural areas? And we have a dead-

line of February 26, 2019, for the Service Quality Standards. Do you think that can be met?

Chairman PAI. Senator, thanks for your leadership on this issue. It's critical in some of these rural communities, especially for smaller businesses that rely on voice calls to get the job done, quite literally. We do believe, with respect to the second component of your question, that we'll be able to move forward with those by February 2019.

And with respect to the first, our hope and expectation is that it will improve rural call completion rates. By creating this registry, by requiring covered providers to work with intermediate providers who are part of that registry, we're making sure that every link in the chain, so to speak, has accountability, either directly to the FCC or indirectly through the covered provider who is carrying those long-distance calls. So our hope is that the service that people take for granted in Minneapolis will be the same one that people can rely on in Madelia.

Senator KLOBUCHAR. Does anyone want to add on that one?

[No verbal response.]

Senator KLOBUCHAR. OK. The Rural Spectrum Accessibility Act—Senator Fischer and I have introduced that. It was recently signed into law—thank you, Mr. Chairman—as part of the MOBILE NOW Act, and the provision requires the FCC to explore ways to provide incentives for wireless carriers to lease unused spectrum to rural or smaller carriers. Could you talk about how quickly we can get that rulemaking going?

Chairman PAI. I appreciate the question, Senator. Our staff is working diligently on that legislation, and I understand there's a March 23, I believe, deadline for the FCC to take action, and I have every expectation that our staff will be able to present an order that comports with that timeframe.

Senator KLOBUCHAR. The Dig Once policy—something I've worked with Commissioner Rosenworcel on—was also signed into law as part of the MOBILE NOW Act. Could you talk about how this could reduce the cost of deployment if we did this and any thoughts you have on it?

Commissioner ROSENWORCEL. Sure. My first thought is you've passed a lot of legislation in this last bill. The Dig Once Act is important, because if you decide that when you open up the roadways and you throw in some fiber, you only add one percent to the cost of a transportation project, but you secure a community's future, because they will always have the broadband facilities that they are going to need. It's also nice because you don't have to rip up the roads multiple times. So it is a low-cost way to ensure that broadband gets more places.

Senator KLOBUCHAR. One last question. The T-Mobile/Sprint merger. I know you're looking at this, so I'm not going to ask specific questions. But one of the claims made was that the network would be superior in breadth and depth to anything that Verizon and AT&T could offer, and that it was necessary to enable the U.S. to win the global race to 5G. Do you think further consolidation of wireless carriers is necessary to make deployment of 5G networks economically feasible?

Commissioner ROSENWORCEL. I want to be cautious about a proceeding that is before us right now. But it's certainly—moving from four providers to three is a hard case for consumers, and they're going to have to demonstrate how prices won't go up and innovation won't go down.

Senator KLOBUCHAR. Thank you.

The CHAIRMAN. Thank you, Senator Klobuchar. You didn't get to your question about getting Vikings games in every corner of the state.

Senator KLOBUCHAR. I actually had that question, and I'm going to be asking that in writing because I thought it looked just a little too parochial, and I didn't want to hurt the feelings of those senators that represent states that don't have pro football teams.

[Laughter.]

The CHAIRMAN. We all have the same number of Super Bowl championships as you.

[Laughter.]

Senator KLOBUCHAR. Touché.

The CHAIRMAN. Senator Gardner is up.

**STATEMENT OF HON. CORY GARDNER,
U.S. SENATOR FROM COLORADO**

Senator GARDNER. That was really good, Mr. Chairman. That was really good. I guess I can start right there. Why do the people of southwestern Colorado have to watch Dallas Cowboys games?

[Laughter.]

Senator GARDNER. We'll work on that. Thank you.

We're about to violate the number of Kansas quotas on this Committee and on the Commission, too, so as a Coloradan, I have grave concern with the next member of the FCC, adding too many Kansans to the Board here.

Chairman Pai, just a quick question for you. Thank you very much for the work that you have done on rural broadband and the dividend that we've talked about in terms of making sure that we expand access into rural areas. You've made a particular effort to talk about higher frequency bands, the race to 5G—that's critical, too—and to make more efficient use of spectrum.

Senator Hassan and I have introduced a bill called the AIR-WAVES Act, as you know, that takes the opportunity to set up a pipeline of spectrum but also the rural dividend provisions that you've been a champion of—and I'm grateful for that—which could provide as much as \$6 billion if it follows similar auctions to rural broadband deployment and development of infrastructure.

Could you talk a little bit about new spectrum opportunities, the importance of doing it in a timely manner, and other bands that you may be considering taking action with?

Chairman PAI. Sure. First, thanks, Senator, for your and Senator Hassan's leadership on that issue. That rural dividend—had it been in place since the FCC instituted competitive bidding, we would have gotten more money through that process than the entire Mobility Fund. So we're talking about a serious amount of money that could be closing that digital divide in rural America.

With respect to bands that we're looking at—a whole bunch of them. For example, recently, we started a proceeding with respect

to the Educational Broadband Service, or EBS, which is 2.5 spectrum. Senator—looking to the future—

[Laughter.]

Chairman PAI.—Commissioner O’Rielly has taken the lead on 3.5 gigahertz spectrum, which we hope to be able to move on relatively soon. As I pointed out earlier in the colloquy, looking at the C-band, 3.7 gigahertz spectrum. Six gigahertz spectrum is something I’m very interested in, and I thank Chairman Thune and all the Members of this Committee for supporting action through the MOBILE NOW Act to encourage us to take a look at unlicensed use in 6 gigahertz band. I cannot tell you how much work I and our staff have been putting in to try to get that across the finish line.

And, in addition, we’ve been looking at very high bands—24 gigahertz, 28 gigahertz, we’re auctioning in November; 37, 39, 47 next year. In addition, I wanted to make sure that we had a space for innovators to use. So we teed up a notice—about 95 gigahertz, spectrum that was previously thought to be unusable—and we’re saying, “Look, here’s a bunch of spectrum. Tell us what will work for both unlicensed and licensed uses.” I’m hopeful that the smart engineers and technologists out there can come up with unique ways similar to what they did with Wi-Fi in 2.4 gigahertz spectrum. We can’t anticipate where technology is going to take us. We do know that it could be useful if we give them the tools.

Senator GARDNER. Thank you, Chairman Pai. And I, too, just to reiterate what’s been said by multiple members of the Committee here—I live in rural Colorado. In fact, I’m probably one of .00 percent of the population that live more than 60 miles away from a Starbucks. But, you know, if you look at the map I live in a well-covered area. You can get five bars in my hometown. It’s just not on my phone. So I think that’s—

[Laughter.]

Chairman PAI. I might have to steal that.

Senator GARDNER.—what we need to continue to focus on.

Commissioner O’Rielly, you’ve also been a champion of finding new ways to innovate in mid-band spectrum. We have to have this to focus on—well, our spectrum policy needs to focus on low-band, mid-band, and high-band spectrum to make sure that we have licensed, unlicensed services across a range of technologies—fixed, wireless, satellite, Wi-Fi, you name it.

How close are we to finalizing a pathway forward on a mid-band proposal?

Commissioner O’RIELLY. Well, I thank you for your leadership because your legislation, AIRWAVES Act, includes this and is very aggressive and it’s much appreciated. We just a couple of months ago issued the NPRM so it’s going to take us a little bit of time to get to that point. There are a lot of tough conversations to work through and figure out the right path. There are many ideas that we put forward in that item, and we’re going to have to make sure that all the existing contracts are taken care of, and so there are a number of principles I’ve outlined.

But I think that it is incredibly important that we free up the C-band downlink band, in addition to the 6 gigahertz band, with the C-band uplink. So I think both of those are going to be impor-

tant, and I think we can do that in a short amount of time. But I don't want to get ahead of ourselves.

Senator GARDNER. Sooner is more important than later, correct? Commissioner O'RIELLY. Oh, absolutely.

Senator GARDNER. Commissioner Carr, thank you for coming to Colorado not too long ago. Thanks for your commitment in rural broadband as well and I just commend you for the work you've been doing on telehealth.

Yesterday—or, excuse me—earlier this week, I had the opportunity to visit Swedish Hospital, which is a premier stroke center in the United States. They are able to diagnose stroke and deliver the lifesaving TPA treatment for a stroke patient, and they can do it in 17 minutes now, and, as we know, every minute, when you're suffering a stroke, there are millions of neurons in your brain that are affected. So it's incredibly important.

They've also developed a strong telestroke program. I was able at the hospital to visit—my hometown of Yuma, Colorado—from the Swedish Hospital—Dr. Chang, a renowned neurosurgeon. I visited with the emergency room in my hometown. They're part of this telestroke program. They are able to get close to that 17 minutes.

What's remarkable about this in terms of delivery of that local hospital TPA as they transfer them to the stroke center—what's remarkable about telehealth and strokes is they have been able to eliminate 80 percent of—I guess I may be using the wrong word here—but they've been able to eliminate 80 percent of the misdiagnoses related to strokes. That means 80 percent of the time, somebody who comes into the hospital thinking they may be having a stroke are not having a stroke, and that means that they're not calling the Flight for Life, which could be a \$65,000 flight from my hometown to Denver or other emergency services. There's a medical need, for sure, but they're able to save that patient, keep them local perhaps, and avoid that 80 percent of the time when it comes to stroke.

So telemedicine is incredibly important. Thank you for your work. I've run out of time here. But can we help you more in the effort that you're undertaking with telehealth?

Commissioner CARR. Well, thank you, Senator, and thank you for your leadership on this. The AIRWAVES Act is going to help by creating a spectrum pipeline. Your leadership on telehealth has been tremendously beneficial. You wrote the FCC a letter last month, and we were able to take action a few weeks later to stand up this new program. And as you say, time is brain when it comes to stroke specialties, and I'm glad that this is an FCC that has voted, among other things, to increase spending on telehealth by over \$170 million a year, and we're seeking comment now on establishing a new program as well. We need to keep pushing in this direction.

Senator GARDNER. Thank you.

We're out of time, Commissioner Rosenworcel, so if you'd like to use somebody else's time to talk about the mobility and buses and broadband, that would be great, too. Thanks.

Commissioner ROSENWORCEL. I do appreciate that you're working on that.

Senator GARDNER. Thank you.

The CHAIRMAN. Thank you, Senator Gardner.
Senator Cortez Masto.

**STATEMENT OF HON. CATHERINE CORTEZ MASTO,
U.S. SENATOR FROM NEVADA**

Senator CORTEZ MASTO. Thank you. Let me just also echo all of the comments we've discussed and I've heard from my colleagues on access to rural broadband and opening those doors.

I support telehealth. We have that happening right now in the state of Nevada. It's incredible the resources that we can bring into our rural communities from telemedicine to education to, believe it or not, access to our judicial system. I mean, it is phenomenal, and I think we do that by opening these doors through broadband.

But let me—before I get into the rural broadband, let me show you a map of actually the Las Vegas Valley. This was actually covered in a local paper, *Las Vegas Review Journal*, and the map actually shows—the pink areas show a recent analysis of 4G wireless coverage gaps and weak spots that currently exist, and that's the Las Vegas Valley. That is the largest populated community or urban area in southern Nevada, about 2 million people.

So I guess my question to you, Chairman Pai and the Commissioners—how do we address this issue? How do we address the challenges that we see here, where there are people that are living in urban areas where they cannot access the Internet or they're having dropped calls? In fact, there's a gentleman by the name of Steve Greenberg in Las Vegas who runs an important business from home. In the *Las Vegas Review Journal* article, he says his calls have been dropping for the whole 8 years he's lived in his home. How do we address this?

Chairman PAI. Thank you for the question, Senator. Three basic tools in the toolbox. Number one, getting more spectrum out there for carriers of all kinds to use. That's the critical way to transmit this information after all.

Number two, infrastructure, setting rules of the road that make it easier to deploy towers and small cells. They're the guts of these networks that are critical. In a lot of those places, there might be some Federal, state, or local restrictions that prevent that.

Number three, smarter subsidy programs. As I said in response to Senator Tester, for years, the FCC had been subsidizing a fourth or fifth or even sixth competitor in a part of the country that already had service from the private sector. We need to refocus that effort on unserved parts of the country. Las Vegas has gaps. I imagine places like Elko is even worse. You can't get a signal at all.

Senator CORTEZ MASTO. I haven't gotten to that yet.

Chairman PAI. But it's a public safety issue. I visited the Las Vegas 911 call center that took all those calls in the wake of the 2017 tragedy of the Mandalay Bay shootings, and when you hear that 83 percent—I believe it is—calls came from wireless—come from wireless phones every year, something like 90-some percent in that case, it heightens the importance of this issue to make sure that everyone has access to that wireless phone with service when emergency strikes.

Senator CORTEZ MASTO. Thank you.

I know, Ms. Rosenworcel, we've talked about this as well. Do you have any comments?

Commissioner ROSENWORCEL. Yes. I mean, two thoughts. First, this demonstrates very clearly we need better mapping with participation from the people who are on that map and don't have service—an individual you described. But a second short-term idea is we should expand the use of signal boosters. They're small devices that can amplify existing networks. We've had restrictions on businesses and schools and some consumer use of them. We have an open proceeding now to remove some of those restrictions, and I believe that is something that could help with urban dead zones in a significant way. We should explore their greater use.

Senator CORTEZ MASTO. Can you comment, both of you, on digital redlining? What can the FCC do about this and ensure us that you are addressing this issue where wireless companies do not benefit the neighborhoods that feed their bottom line and we're getting the service to the neighborhoods that actually need it?

Chairman PAI. Senator, this is an issue that is important to me. In September 2016, I targeted specifically the issue of digital redlining. I said, "This is not acceptable. Every American deserves access to high-quality, high-speed Internet access," and outlined a whole bunch of proposals for doing so. One of which I would commend to you and this body is Senator Capito's and Senator Coons' bipartisan legislation building on a proposal I made then called the Gigabit Opportunity Act.

Essentially, you would target a geographic area as small as a city block or as large as a rural county so long as the median income in that area was 75 percent or less of the national median. You would grant tax incentives to companies to build infrastructure in those areas. You would also relieve the payroll taxes for employers who build jobs in those areas using those networks.

That's one tool that Congress could use. It would be powerful in making sure that those parts of the map that the private sector has just overlooked, because there's not a return on the investment, could finally get on the grid once and for all.

Senator CORTEZ MASTO. Thank you. Anyone else?

Commissioner ROSENWORCEL. The Chairman has some good ideas, but here's what we could do. The FCC could comb through its 477 data and try to identify areas that look like they've been redlined, and we should open a proceeding and ask for stories from around the country so we can identify not just the rural areas that go without, but the urban areas that are having difficulty getting modern broadband service.

Senator CORTEZ MASTO. Thank you. I appreciate that. I notice my time is up. Thank you for being here today.

The CHAIRMAN. Thank you, Senator Cortez Masto.

We have votes coming at noon. I have four members here to still ask questions. If everybody stays on five minutes, I think we can probably get everybody in before we wrap.

Next up is Senator Blumenthal.

**STATEMENT OF HON. RICHARD BLUMENTHAL,
U.S. SENATOR FROM CONNECTICUT**

Senator BLUMENTHAL. Thank you, Mr. Chairman.

Thank you all for being here and thanks for your service. We've had a fair amount of discussion this morning about robocalls. I don't think anybody in this building or in this country would admit, at least, to favoring robocalls. They are a plague that seems to have universal condemnation. So I would like your commitment that you will support the measure that Senator Markey and I have introduced. It's called Repeated Objectionable Bothering of Consumers on Phones Act, also Robocop.

[Laughter.]

Senator BLUMENTHAL. This bill would require phone companies to offer effective tools to block robocalls to consumers at no extra cost to them. It's been around for a while, so I presume you've had time to look at it, and I'd like your commitment that you'll support it, each of you, beginning with you, Mr. Chairman.

Chairman PAI. Senator, I'm very supportive of efforts to encourage blocking. I've have to take a look at our—

Senator BLUMENTHAL. If you could take a look at it. I don't want to spend time with an answer that is not a commitment to support it. You will take a look at it?

Chairman PAI. Absolutely, Senator. We always will provide technical assistance as needed.

Senator BLUMENTHAL. Is there anyone here who will support it?

Thank you, Ms. Rosenworcel.

Commissioner ROSENWORCEL. Yes, and it's—

Senator BLUMENTHAL. Will the rest of you look at it? And can I have a commitment that you will get back to me within a week?

Chairman PAI. Yes, Senator.

Commissioner O'RIELLY. Yes.

Commissioner ROSENWORCEL. Yes.

Commissioner CARR. If it moves the ball at all forward on this issue, then I'm all for it.

Senator BLUMENTHAL. Thank you.

Chairman Pai, during the FCC oversight hearing last year, you committed to informing Congress if the White House or anyone on behalf of the White House ever directed or advised you to take action in any matter. I believe you recall that testimony. Regarding the Sinclair-Tribune merger, has anyone in the Administration contacted you prior to or after the July decision?

Chairman PAI. Senator, no one has called from the White House to express a view. We received one status inquiry.

Senator BLUMENTHAL. And who was that from?

Chairman PAI. From the counsel to the President.

Senator BLUMENTHAL. When was it received?

Chairman PAI. I believe it was July 16 or 17.

Senator BLUMENTHAL. Could you provide the Committee with a copy of the document?

Chairman PAI. There's no document. There was just a phone call.

Senator BLUMENTHAL. Was it from the White House counsel himself?

Chairman PAI. Yes, sir.

Senator BLUMENTHAL. Don McGahn?

Chairman PAI. Yes.

Senator BLUMENTHAL. To you directly?

Chairman PAI. Yes.

Senator BLUMENTHAL. And what was the substance of the conversation?

Chairman PAI. Just wanted to know what—he saw something in the news and wanted to know what our decision was, or what the action was, proposed action.

Senator BLUMENTHAL. Maybe you could repeat that. He wanted to know what the action was?

Chairman PAI. He just wanted to know what it was.

Senator BLUMENTHAL. Well, since I have only a limited amount of time, I'd like from you a written summary of the conversation, if that's possible.

Chairman PAI. Yes, Senator.

Senator BLUMENTHAL. Thank you. Regarding the Lifeline program, as you well know, it has helped to ensure affordable telephone service for low-income Americans for over 30 years, including many, many veterans. In 2016, the FCC advanced this important mission to include broadband internet.

Mr. Chairman, you opposed the Lifeline modernization order as a Commissioner. Now, as Chair, you have proposed to limit funding, service eligibility, and enrollment. These actions appear to be intended to make it more difficult for Americans to seek assistance from Lifeline and also, frankly, kick people off the program. For this reason, your proposals were widely criticized as harmful to vulnerable Americans, including many veterans groups.

Will you commit to this Committee today that no veteran will be kicked off the Lifeline program?

Chairman PAI. Senator, we are looking at ways to modernize our program to better serve consumers, including veterans who rely on it, and my commitment is to make sure we have a Lifeline program that does just that.

Senator BLUMENTHAL. I'm wondering whether you can answer my question. Will you commit that no veteran will be kicked off the Lifeline program?

Chairman PAI. Again, Senator, I can't commit to something without the FCC having a chance to fully study the record, which we're in the process of doing. But my commitment is to make sure we have a Lifeline program that does serve that worthy interest.

Senator BLUMENTHAL. Will you commit that all veterans who currently qualify into the program will continue to receive it?

Chairman PAI. Senator, that's one of the issues that we're working on now to make sure that the program serves consumers like that.

Senator BLUMENTHAL. Why would you not make that commitment?

Chairman PAI. I can't think of any reason why we would want to kick off someone who's qualified for the program. Indeed, the very purpose of our reforms is to make sure that we include folks who are qualified for the service and that they get the funding they need as opposed to the money going to unscrupulous wireless carriers who fleece the system.

Senator BLUMENTHAL. My time has expired, but I'd like to follow up on this issue. Thank you.

The CHAIRMAN. Thank you, Senator Blumenthal.

Senator Capito.

**STATEMENT OF HON. SHELLEY MOORE CAPITO,
U.S. SENATOR FROM WEST VIRGINIA**

Senator CAPITO. Thank you, Mr. Chairman.

Thank all of you for being here, and thank you for participating with me in several events both in the state and here in Washington, D.C. I appreciate that.

Chairman Pai, I want to ask you sort of a niche question, which we're all niched into what's happening in our individual states, as you would expect. I'm concerned about the Commission's Mobility Fund in terms of the topography of a state such as ours. As you know we have a lot of hills and valleys, and it's a lot more difficult to put service in than it would be, say, in Kansas, where it's flatter and easier. So it may make the deployment of the service more expensive and time consuming for providers and could potentially drive them to use their Mobility Fund resources in different locations.

So I want the assurance that locations that are currently eligible and may become eligible through the challenge process are adequately funded by a formula that's adopted that takes topography into consideration.

Chairman PAI. I appreciate the question, Senator. Your topography is much more complex than my home state, and so that's part of the reason why we have included an analysis of terrain, for example, to make sure that we take account of that unique situation.

Senator CAPITO. I appreciate that in response to our request.

Commissioner Carr, thank you for coming to our Senate Rural Broadband Caucus. We've talked a lot about the deployment of telehealth and how advantageous that will be to many of us in rural areas and really across the country. What's the next step here in terms of making sure we're deploying this in the telehealth area as accurately as we should be?

Commissioner CARR. Thanks for the question, Senator. We are pursuing sort of two tracks at the Commission. On the one hand, we've long been supporting broadband deployment to connected brick and mortar healthcare facilities that would increase the funding on that portion.

What we've just voted on earlier this month is to start the process of setting up a new program that will focus on a slightly different issue, which is how do we make sure that that connected care can stay with patients when they leave the facility, whether it's on their iPhone or on a tablet. That administrative process is running its course right now. We're taking comment, and my hope would be that we could stand that up as quickly as possible.

Senator CAPITO. Thank you. Thank you very much. Just a point of clarification—this is for anybody. When people say robocalls, does this include the spoofing call that you get? So is a robocall either somebody who robocalls you or somebody using a fake number to entice you to pick up the phone? Do you consider that a robocall as well?

Chairman PAI. Yes, Senator. Spoofing is perhaps the most pernicious of those, because it mimics both the area code and sometimes even the prefix to make it appear as if a call is coming from

your neighborhood when, in fact, it could be coming from another continent.

Senator CAPITO. I know. I know. And they also get the numbers lined up so you might think it's your mother calling, and it ends up being a call about student loans.

So, Commissioner Rosenworcel, thank you for coming to our Rural Broadband Caucus. I've joined in a letter with Senator King and House Representatives McKinley and Welch to the Department of Education to fully complete the research that Congress has requested in the Every Student Succeeds Act to develop strategies in order to close this homework gap.

I was just at the opening of a brand new middle school in northern West Virginia, Brooke Middle School. Each one of those children in fifth, sixth, seventh, and eighth grade will have a Chromebook. The technology is very advanced. We're into interactive smart TVs in every classroom. It's fascinating to watch.

How are we going to be assured that when they take the Chromebook home with them they're going to be able to complete their assignment? This is the big challenge for areas, especially when we talk about the population that can't afford to actually purchase a Chromebook or whatever they would have, an iPad or whatever. Can they use it?

Commissioner ROSENWORCEL. Thank you, Senator, for your work on this. According to the Senate Joint Economic Committee, there are 12 million students in this country who do not have broadband at home and can't get their homework done. I mean, it's the cruelest part of the digital divide. We have got to fix it. There are some measures that can help, more Wi-Fi in more places, more low-cost broadband plans. Senator Udall and Senator Gardner have a bill to help put Wi-Fi on buses.

And then I also think we have to explore how we can use the 2.5 gigahertz band, which has long been used for education purposes, to create a new incentive auction structure so that perhaps we can fund a program for wireless hotspots for those students to take home with their Chromebooks, because every child needs to be able to do their homework, and no child should be left offline.

Senator CAPITO. Right. Does anybody else have any comments on that, on the education aspect of this?

Chairman PAI. I would just offer two quick points. I think Commissioner Rosenworcel is exactly right that EBS holds particular promise. I met on Monday—on Tuesday, rather, with a northern Michigan university that's using some of that spectrum in an innovative way for access to places in the upper peninsula of Michigan that otherwise wouldn't have service.

We also want to make sure that we promote as much of these kinds of reforms as possible, telehealth, E-rate, all the rest of it. These are critical tools, I think, for these rural communities to use.

Senator CAPITO. Thank you all. Thank you for your service.

**STATEMENT OF HON. DAN SULLIVAN,
U.S. SENATOR FROM ALASKA**

Senator SULLIVAN [presiding]. Good afternoon, everybody. I'm going to be chairing here for a minute, but I'm going to call on myself. Sorry to my colleagues.

[Laughter.]

Senator SULLIVAN. I want to focus where I know a lot of the discussion has been with regard to broadband in remote and extreme rural areas. A lot of us have that concern. It's an overriding concern of mine. I want to begin with some compliments. I want to thank the Commissioners.

Two years ago, I was very focused on the Alaska plan, which kind of recognized that there's remote and then there's Alaska, and we're obviously extremely remote relative to any other state in the country. I also appreciate the many visits to the state.

Commissioner Carr, thank you for just being up in my state just last week. I know you got around, and I know all of you have also been up there.

Increasing the funding from \$400 million to \$571 million on the rural healthcare related issues are very important, and we need to continue that work, and I think you see broad bipartisan support on that.

The ideas—Commissioner O'Rielly, you've talked about remote areas funds and other things. I think we want to continue to work on that, and I think you're seeing strong bipartisan support.

But I will say none of this matters if programs are not run with predictability and certainty and stability. The Chairman's initial comments when he kicked off the hearing this morning really emphasized that, you probably saw. This is a big issue for all of us. If a program doesn't have stability or certainty, then it's—essentially, you're kind of undermining the whole system.

In my state, we don't have stability. We don't have certainty. The rural healthcare program, unfortunately, from my perspective, has moved from being run in an ad-hoc, constantly changing, move-the-goalpost manner, and is having very negative consequences in Alaska. My state and I have spent countless—and I mean countless—hours on this issue with the FCC and its staff. I've probably worked on it with my team almost more than any other issue, particularly with your office, Mr. Chairman, and the results have been underwhelming and frustrating and completely unacceptable.

The damage being done to this program in Alaska by the FCC's remarkably ad-hoc approach hurts not just telecom companies and their ability to invest their private sector capital, but the health clinics and, most importantly, the constituents that it's meant to serve in some of the most impoverished places in America, in America. You know, we're into Fiscal Year 2018, and the 2017 reimbursements are still not happening, which is unbelievable to me.

So I will always support rigorous oversight of the program to ensure good stewardship, and a focus on taxpayer dollars of the Universal Service Fund. But stability, predictability, objective enforcement of the rules is critical for the program's integrity in carrying out its intents.

So I'm going to ask each of you this basic question. Are you aware of the status of the 2017 rural healthcare applications in Alaska, and what specific steps or reforms are you able to commit to taking in order to ensure that the 2017 issues are not repeated next year or after or after? Already six healthcare providers, small, rural providers in my state, have opted out of the program for next year because they have no idea if they're going to get the money,

and there's probably going to be more. So I'd like an answer from each of you starting with Commissioner Rosenworcel.

Commissioner ROSENWORCEL. Yes, Senator, I recognize how important this program is to Alaska. I am aware of difficulties, and I can commit to you now that we should resolve them as expeditiously as possible and make sure that we don't continue to have them going forward.

Senator SULLIVAN. Commissioner Carr?

Commissioner CARR. Yes, Senator, I'm aware of it, and I've been a voice inside the Commission pushing to make sure we can get to a resolution and get to stability going forward.

Senator SULLIVAN. Thank you.

Commissioner O'Rielly?

Commissioner O'RIELLY. Yes, I agree with my colleagues on this point. I associate myself with Commissioner Rosenworcel's points.

Senator SULLIVAN. And, Mr. Chairman, again, my frustrations on this have exceeded almost any other issue I've worked on as a U.S. Senator. Most of it has come from your office.

Chairman PAI. Senator, I appreciate your concern. As you know, we've had many conversations about this—

Senator SULLIVAN. Too many.

Chairman PAI.—as have our staffs, and I can commit to you I'm obviously aware of the issue and we are working diligently with one carrier, in particular, to resolve those issues.

Senator SULLIVAN. This was stated—essentially some version of that to me probably 8 months ago, and, again, I've lost my patience, and we need to not only deal with what went on in 2017, but right now, I have entire communities that are spooked because they have no earthly idea what the rules are. And when you don't have predictability, you don't have people participating, and when you don't have people participating in companies, in clinics, then the people it's meant to help—my constituents—I was just out in a lot of these rural communities. These are amazing American citizens, but they're in very, very impoverished parts of the country. This has been—I hear this from everybody.

You've got to do a better job. We want to work with you. But I am just tired of having this same conversation.

Chairman PAI. I couldn't agree more, Senator, which is why we resolved issues with respect to one company, and from the other, we are looking—we are getting information from them still and looking to work through that to make sure we resolve these issues with respect to every fiscal year. And going forward, as you know, thanks to your leadership, we've increased the fund by 43 percent and included that inflation factor to mitigate this problem going forward.

Senator SULLIVAN. Well, look, I appreciate the increase in funding, but stability, predictability, as the Chairman stated in his—not just for Alaska, but for all of these programs, is critical or you're not going to get people or companies to participate.

Thank you.

Senator Duckworth.

**STATEMENT OF HON. TAMMY DUCKWORTH,
U.S. SENATOR FROM ILLINOIS**

Senator DUCKWORTH. Thank you, Mr. Chairman.

Chairman Pai, as you may recall from your confirmation hearing last year, we discussed your perspective about inmate calling services and protecting families and inmates from unjust and unreasonable inmate phone rates. Last July before this Committee, you made it clear that you did not and never have endorsed unjust and unreasonable rates. Rather, you believed that while Congress has provided the FCC with authority to regulate interstate inmate calls, Congress had yet to provide the FCC with clear authority to address unjust and unreasonable intrastate inmate call rates.

While we have an honest disagreement over the scope of the FCC's authority in this space, I was pleased to find that we agree that Congress should provide this authority to the FCC, and I appreciated your commitment to this committee that you would, and I quote, "welcome additional authority should Congress see fit to provide it."

Chairman Pai, is this still your view?

Chairman PAI. Yes, Senator, it is.

Senator DUCKWORTH. Thank you.

Commissioner O'Rielly, this is our first encounter. I'm glad we have this opportunity to finally meet, and I was pleased to read that you appear to share the views of your FCC colleagues that the prison pay phone industry is extremely troubled. I completely agree that the unjust and unreasonable rates we find in intrastate inmate call rates represent an outrageous market failure.

As you may know, I've been working with Senators Schatz, Booker, and Portman to advance our bipartisan Inmate Calling Technical Corrections Act. Our commonsense resolution would fix this market failure and achieve just and reasonable rates by applying the longstanding Section 202 standard found in the Telecommunications Act to intrastate inmate calling rates regardless of technology used just as the FCC currently does for interstate inmate calls.

Commissioner O'Rielly, do you share Chairman Pai's view that you would welcome this Committee clarifying the FCC's authority to ensure just and reasonable rates applied to intrastate inmate calls just as it applies to interstate inmate calls?

Commissioner O'RIELLY. Yes, I believe that any time Congress addresses a matter, it provides clarity to the Commission and it's helpful. So if this is a path the Commission, the Committee, and the Congress wants to take, then I would be supportive and would implement whatever is put forward.

Senator DUCKWORTH. Thank you.

Chairman Pai, our bipartisan coalition has been working with stakeholders to understand the challenges that inmates and their families face, as well as the safety and security challenges that faces law enforcement. Most of the input and feedback we've received has been helpful in narrowing the scope of our legislation to carefully clarify the law in the wake of the U.S. Court of Appeals decision.

However, of all the stakeholder feedback we've received, there is one problem viewpoint that I hope you can qualify. One stake-

holder asserted that the FCC, and I quote, “has shown that it is not capable of appropriately considering state and local issues and needs in its regulatory process.” So they’re questioning your ability to question state and local issues and needs in your regulatory process. They’re arguing that the Commission should have no role in making sure intrastate inmate calling rates are just and reasonable. I find this troubling, if true.

Chairman PAI, can you assure this committee that the FCC under your leadership is not only capable but also appropriately considers state and local issues and needs in your regulatory processes?

Chairman PAI. Senator, I’m not aware of the nature of that objection. I’d have to study it a little more carefully to understand the full context of it. But, generally speaking, beyond this particular issue, we always try to take account of all relevant factors, including, in this particular case, potentially state and local processes.

Senator DUCKWORTH. Thank you.

Commissioner ROSENWORCEL, what are your thoughts when it comes to fixing the longstanding market failure that results in unjust and unreasonable intrastate inmate calling rates?

Commissioner ROSENWORCEL. There are 2.7 million children in this country with a parent in prison, and most of them can’t stay in contact because the cost of a single call is what you and I spend for our monthly plans. This is outrageous. We should be fixing it. We have tried on several episodes to do that with intrastate, interstate ancillary fees, site commissions. We have had most of our work on this sent back to us.

While I fully appreciate the additional help that you’ve offered us on intrastate rates, I believe the agency could be doing more right now on ancillary fees and interstate rates, but we have thrown up our hands, and we have no proceeding that is ongoing, and we have refused to defend the agency’s work to date. I think we should be doing more with the authority we have.

Senator DUCKWORTH. Thank you. And I just want to note for Mr. Chairman that there’s clearly a strong consensus for addressing this longstanding problem. I hope this committee will advance the Inmate Calling Technical Corrections Act before the end of the year.

I have many more questions about issues important to Illinoisans—robocalls, the Lifeline program, media ownership issues—already covered by my colleagues. But in the interest of time, I will submit them for the record.

Senator SULLIVAN. Thank you, Senator Duckworth.

Senator Udall.

**STATEMENT OF HON. TOM UDALL,
U.S. SENATOR FROM NEW MEXICO**

Senator UDALL. Thank you very much, Mr. Chairman, and I really appreciate the Commission being here today.

Let me just first say it seems like New Mexico is getting a lot of attention. I know, Mr. Chairman, you’re headed to New Mexico on Monday. Commissioner Rosenworcel just got back, I believe, a week or two ago, and then she came out earlier to visit on some

issues that we had, which I think is great. So thank you for doing that.

Let me also say to Commissioner Rosenworcel, thank you for the plug on the bill that Senator Gardner and I are working on. You know how important it is. I think you've seen this firsthand. When you have students that are commuting in these rural areas, sometimes on buses an hour or an hour and a half, two hours—tremendously important to get Wi-Fi in those buses and make sure that they are able to do their homework and we don't have a homework gap.

Now, I watched a lot of this from my office, and I have to comment, especially in light of the fact that the President today is blasting away again at the *Boston Globe*, at the *New York Times*—once again, his very just destructive behavior in terms of the First Amendment, in terms of freedom of the press, and I think this term he uses over and over again, being the press being the enemy of the people, has to be taken head on.

I really appreciate you, Commissioner Rosenworcel, taking it head on and answering the question earlier that I've asked several times. I hope that we see the rest of the Commission step up to the plate on this. I would really like to see that. I don't think there's any doubt that this is very, very harmful to our democracy, and you need to speak truth to power in these circumstances.

I think it's a big dock to say you're not going to get into this. I mean, when this kind of behavior happens over and over again, day after day, we need to do everything we can at all levels of government—you're in a crucial position—and speak up against this.

So I've done a lot of work to make sure we can free up spectrum currently being occupied by Federal agencies. But I believe we should also know which spectrum is currently in use or not in use right now, and it's my understanding that until 2014, the FCC maintained a spectrum dashboard where anyone could pull up a map and determine the owner of the spectrum in their area.

I'm going to go down the line here. This is a yes or no question. Do you support the FCC relaunching the spectrum dashboard?

Chairman PAI. Senator, yes, subject to obvious resource constraints and any potential legal issues.

Senator UDALL. Commissioner O'Rielly?

Commissioner O'RIELLY. I'm not familiar with it, but it sounds like a very good idea, so yes.

Senator UDALL. Commissioner Carr?

Commissioner CARR. Yes, Senator.

Senator UDALL. Commissioner Rosenworcel?

Commissioner ROSENWORCEL. Yes.

Senator UDALL. Thank you very much.

All of you know we work very, very carefully with the tribes in our community. Some of you, I think, will be—I know Commissioner Rosenworcel has visited with the New Mexico tribes. I think you're also on your visit going to visit a tribe.

The FCC recently finalized an Order that would have curtailed if not outright eliminated reseller services in tribal areas. Indian country, including the Navajo Nation, widely opposed this Order. The D.C. Circuit stepped in and stayed the FCC's Order, finding that the FCC has, quote, "identified no evidence of fraud or misuse

of funds” and that the Order could result in—a quote here again—“tribal populations suffering widespread loss of vital telecommunications services.”

Now that the D.C. Circuit has preliminarily stayed this damaging Order, will the FCC revisit its decision, and do you think it should revisit its decision?

Chairman PAI. Senator, we have a pending proceeding on this very issue, and we are still studying the record and trying to figure out the appropriate way forward.

Senator UDALL. The other commissioners—do you agree with that? Do you have anything else to say?

Commissioner O’RIELLY. Even if you litigate it out, but we’re going to have to in one form or another, whatever the decision is, accordingly.

Commissioner CARR. I think we need to keep pushing forward to get more broadband deployed and more connectivity there.

Commissioner ROSENWORCEL. Yes, everything we can do to improve connectivity on tribal lands is a step we should be taking.

Senator UDALL. Thank you very much, and I’m going to give back a little time here to let others participate. Thank you.

Senator SULLIVAN. Senator Baldwin.

**STATEMENT OF HON. TAMMY BALDWIN,
U.S. SENATOR FROM WISCONSIN**

Senator BALDWIN. Thank you.

As promised, I’m going to start by talking about the Packers.

[Laughter.]

Senator BALDWIN. I don’t want to disappoint, but I actually do want to cover a little bit of territory in the few minutes I have. I actually hear about this issue regularly from my constituents in the northwestern part of Wisconsin, and that’s their inability to be able to get the programming they want. It’s a political crisis when they can’t get Packer games, I have to say. But it’s because they live in one of the 13 Wisconsin counties that is assigned to an out-of-state media market, and, primarily Minnesota, but there are a couple of counties in Wisconsin that get Michigan programming.

Now, earlier this summer, I introduced the Go Pack Go Act, which actually would require cable or satellite or other video providers to give these Wisconsinites a local option. While this may only impact people in these Wisconsin counties, as well as similarly situated ones in states across the country, I actually believe very seriously that not only is the sports and entertainment that we are so passionate about in our state, but the local programming, news about events and current affairs that are relevant to them and their communities is vital.

This Committee and Congress have taken some important steps to address this problem in the past, and I hope that we’ll continue to work toward solutions for more of those who are affected.

Chairman Pai, I know the FCC has studied this issue. Do you agree that this continues to be a problem facing many Americans and something that you and we should be working to address, and, if so, how can we work together to advance solutions?

Chairman PAI. I appreciate the question, Senator. Years ago, I spoke about the problems that folks in La Plata and Montezuma

Counties in Senator Gardner's state were getting. Even though they were in Colorado, they were getting Albuquerque programming that wasn't relevant to them. Congress has given us some authority in this space to modify markets, and we have processed those market modification applications very quickly in most cases.

We'd be happy to work with you on your legislation to make sure that Packer fans in the future only have to worry about who is going to step out at number three behind Randall Cobb or Davante Adams or how Jimmy Graham is going to be used in the red zone or whether Aaron Jones is going to be the lead back. I say this as a fantasy football fan with a great amount of interest in these particular issues. We'll be happy to work with you on that legislation.

Senator BALDWIN. So I want to also say that I'm glad to see continued Federal investments to support rural broadband deployment. Like many of my colleagues, I had roundtable discussions during our week-long recess last week on this very issue and heard, again, stories that are so infuriating. Wisconsin gets cold in the winter. I heard from a young person who actually does homework in the parking lot of the school because that's the only way that they can get the broadband after school hours.

So we've heard a lot of discussion about the map and whether we are going to be able to marshal our scarce resources wisely to help areas that are truly unserved or underserved. I think that the Federal Government can and should do more to bear the burden of having accurate maps.

Commissioner Rosenworcel, you have taken a real interest in this issue. What I want to just observe is that in rural parts of my state, Federal agencies operate every day, from the postal service to the Forest Service to the Army Corps of Engineers. I can name others. It seems to me that they could help contribute to our knowledge of what's truly available to consumers there.

I wonder if you have any comments about that in terms of asking the broader Federal Government to collect accurate data on broadband service and, particularly, wireless coverage.

Commissioner ROSENWORCEL. Yes, Senator. Our effort to map where broadband is and is not in this country should not begin and end here in Washington. We have got to go out to the American public and try to figure out how they can help us crowd source this activity. We should be using our FCC field resources as well, and we should look at other resources, even postal trucks that traverse rural America. Why can't we outfit them with the kind of spectrum equipment that would allow us to learn where wireless service is and is not? We need to be innovative and creative, because we need the best data possible to fix this problem.

Senator BALDWIN. Why can't we?

Commissioner ROSENWORCEL. I would be happy to work with you and my colleagues over here on that if you want to.

Senator BALDWIN. One just note for the record. I was going to ask about consumer education for the broadcast repack, and I just wanted to share the story of the Milwaukee PBS station in Wisconsin—completed their channel change earlier this year and developed a full scale marketing campaign entitled "Plan to Scan."

It utilized social and traditional media, and they staffed a phone bank to answer questions and walk their viewers through the proc-

ess of rescanning their television sets. Calls, on average, lasted 30 minutes, as each viewer needed assistance to understand how to rescan. I basically want to have you take this information from Milwaukee's PBS station to understand that this is a significant undertaking for consumers.

Chairman Pai, I was pleased to see the FCC issue an NPRM on utilizing the consumer education funds provided by Congress. How will the Commission incorporate the experiences of broadcasters like Milwaukee PBS in their rulemaking?

Chairman PAI. Thanks for the question, Senator. I think part of it is hearing stories like the one you just related, and we'd be interested in learning more about Milwaukee PBS, in particular, and any other stations that have similar experiences. We're grateful to Congress for providing that \$50 million or so of funding for consumer education, and our goal is to do something similar to what we did with DTV, to make folks aware of this entire process and give them the answers they need. So we'd love to work with you on that effort.

The CHAIRMAN [presiding]. Thank you, Senator Baldwin.

Go Pack.

Senator Cruz is up next.

**STATEMENT OF HON. TED CRUZ,
U.S. SENATOR FROM TEXAS**

Senator CRUZ. Thank you, Mr. Chairman.

Welcome to each of you. Thank you for being here.

Let me say first of all, Chairman Pai, that I want to thank you for your leadership, in particular, in stepping forward with the Commission and repealing the Obama FCC's net neutrality rules. That has been a topic of much discussion, including enormous hyperbole. Indeed, we heard that the world was going to end when the net neutrality rules were repealed, notwithstanding the fact that they had been implemented only in 2015. So for the entire history of the internet, the FCC had not declared the authority to regulate prices and terms of service on the Internet other than for the two years of that unlawful power grab.

Nonetheless, with an abundance of misinformation, many people of good conscience were told that somehow eliminating regulation of the Internet by the Federal Government would imperil their freedom. So let me ask you, now that those rules have been repealed, has the internet ceased to function?

Chairman PAI. It has not, Senator.

Senator CRUZ. And the parade of horrors that people were told—have those parade of horrors—is there any evidence that any of them have come to pass?

Chairman PAI. They have not, and, moreover, even if one or two or many were, we now have in place an FCC transparency rule and FTC enforcement to make sure that it would be addressed quickly.

Senator CRUZ. Well, I want to commend you for having the courage to do that, because there was a lot of political animus, nastiness, and misinformation, and much of that was directed at you, personally, and your family. I want to say thank you publicly for serving and enduring that kind of grief. I believe that our families

should be off limits, and for anyone to be targeting particularly kids is inappropriate.

So thank you for your service, and I appreciate—I am a big believer in keeping the Internet free and keeping it free from taxation, keeping it free from regulation, and allowing it to be an oasis of free speech and entrepreneurial freedom, and I believe the decision that the FCC made to end that power grab by Washington was the right decision and was consistent with the law.

Let's shift to a different topic, which is 5G. Earlier this month, Deloitte released a report entitled "5G, the Chance to Lead for a Decade." The report highlights that, quote, "since 2015, China has outspent the U.S. by approximately \$24 billion in wireless communication infrastructure and has built 350,000 new sites while the U.S. has built fewer than 30,000. Looking forward, China's five-year economic plan specifies \$400 billion in 5G-related investment. Consequently, China and other countries may be creating a 5G tsunami, making it near impossible to catch up." So that was Deloitte's conclusion.

Do you share that assessment that it may be near impossible to catch up with China on 5G?

Chairman PAI. I appreciate the question, Senator. I believe the U.S. is leading on 5G with respect to spectrum. We're holding major auctions at the end of this year and in the second half of next year.

With respect to infrastructure, over short-sighted opposition, we've been modernizing our rules to make sure that any small cell deployment doesn't have to jump through Federal, state, local, and, in some cases, tribal hoops. That is an effort that is absolutely necessary. You will never get 5G infrastructure at scale if you have these multiple levels of regulatory review, which China, for obvious reasons, doesn't observe. So I think it's critical for us to modernize our rules to assert U.S. leadership in 5G.

Senator CRUZ. So what are the barriers, regulatory or otherwise, that have been standing in the way of deployment of 5G infrastructure?

Chairman PAI. Senator, I think by far the biggest one has been our infrastructure policies. These policies were developed for another age, another kind of infrastructure. They were designed for big cell towers, not multiplicity of small cells. In addition, as I said, we've had a history in this country, for a variety of reasons, for multiple levels of regulatory review.

The most powerful thing this Congress could do, frankly, with respect to the Internet is to adhere to the five-word phrase that Chairman Thune used in his opening remarks: the borderless nature of Internet access. The FCC has long found that the Internet is inherently an interstate service. It follows from that, then, that the FCC should be able to establish a consistent, uniform system of regulation. So long as we have multiple bites of the regulatory apple and the regulatory uncertainty that flows from that, we will always be behind those countries that have established a national policy on 5G.

Senator CRUZ. So last question. As you're aware, a report came out from the National Security Council suggesting the possibility of nationalizing 5G, and, indeed, there have been others who have ex-

pressed possible support for that. Personally, I think that's a terrible idea, and, as you know, I've introduced legislation, bipartisan legislation, with Senator Cortez Masto to make clear that the Federal Government cannot nationalize 5G, absent explicit congressional authorization.

The question I wanted to ask Chairman Pai, but actually to each of the four of you—do any of you disagree that nationalizing 5G would be a mistake?

Chairman PAI. I do not, Senator. I've consistently said that I believe the market, not government, is best positioned to drive innovation and investment in this area.

Commissioner O'RIELLY. No. I support your legislation.

Senator CRUZ. Thank you.

Commissioner CARR. Nationalizing networks is not the path forward. We won the race to 4G based on the free market, and that's the path to 5G as well.

Commissioner ROSENWORCEL. I agree with my colleagues on this.

Senator CRUZ. Very good. Thank you very much.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Cruz. That was remarkable. You end and get everybody on the same page.

[Laughter.]

The CHAIRMAN. Well, I think we've pretty much covered all the bases, and we appreciate very much the members of the Commission for being here. This is, as you know, a critical part of what we do here in terms of oversight, and we appreciate your responses to the questions. We will have additional questions that will be submitted by members for the record.

We will keep the hearing record open for a couple of weeks and hope that you all will get any responses to those questions back as quickly as possible.

So, again, thank you for being here. Thank you for enduring the slings and arrows of being in public life. As was noted, sometimes there are lines that get crossed by people that shouldn't get crossed when it comes to the work that our officials do. So we appreciate your willingness and your families' willingness to engage in this sometimes difficult and challenging business. But there is so much in front of the Commission, so many things that you deal with that profoundly impact and affect the lives of every American, and so we want to make sure we do everything we can to work with you to see that we get it right.

So thank you again, and with that, we'll conclude this hearing. It's adjourned.

[Whereupon, at 12:42 p.m., the hearing was adjourned.]

A P P E N D I X

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC, July 9, 2018

JEFFREY H. BLUM,
Senior Vice President and Deputy General Counsel,
DISH Network L.L.C.,
Washington, DC.

Re: DISH Coverage and Service Construction Deadlines for AWS-4, Lower 700 MHz E Block, and H Block licenses; DBSD Corporation, AWS-4, Lead Call Sign T070272001; Gamma Acquisition L.L.C., AWS-4, Lead Call Sign T060430001; Manifest Wireless L.L.C., Lower 700 MHz E Block, Lead Call Sign WQJY944; American H Block Wireless L.L.C., H Block, Lead Call Sign WQTX200

Dear Mr. Blum:

On May 22, 2018, representatives of DISH Network Corporation, including its Chairman, Charles Ergen, met with FCC Commissioners and staff to discuss its plans to deploy a wireless network to meet its buildout obligations for several spectrum licenses.¹ The next day, at an event hosted by the Wireless Infrastructure Association, Mr. Ergen gave public remarks about DISH's plans.

On June 5 and 6, Mr. Ergen and representatives of DISH met with FCC Chairman Pai and staff of the Chairman's office and later with Wireless Bureau to discuss the same issues. Mr. Ergen and representatives of DISH, among other things, stated that they plan to deploy their network in two phases: in phase 1, DISH would deploy a narrowband Internet of Things (IoT) network using its AWS-4, 700 MHz E Block, and H Block licenses; and in phase 2, DISH would deploy using its other spectrum holdings, and would "upgrade and expand [its] network to full 5G to support new use cases in addition to mobile broadband services."² They also discussed plans to: (1) take delivery of network equipment and begin installation of the network this year, and (2) delay the completion of its phase 2 deployment in low- and mid-band spectrum until after 600 MHz spectrum is cleared on a nationwide basis in July 2020.

Previously, DISH and several of its wholly owned subsidiaries³ notified the Commission that they had failed to meet several interim construction deadlines for their FCC licenses, and that they would therefore need to meet several accelerated final coverage and service construction deadlines.⁴ Specifically:

- On March 7, 2017, DISH notified the Commission that it had not met the applicable interim construction deadline for its AWS-4 licenses,⁵ and by rule its final

¹ Letter from Jeffrey H. Blum, Senior Vice President & Deputy General Counsel for DISH Network Corporation to Marlene H. Dortch, Secretary, Federal Communications Commission, GN Docket No. 17-183 (filed May. 24, 2018).

² *Id.* at 2.

³ DBSD Services Limited ("DBSD"), Gamma Acquisition L.L.C. ("Gamma"), Manifest Wireless L.L.C. ("Manifest"), and American H Block Wireless L.L.C. ("American H Block"), are all wholly-owned subsidiaries of DISH. DBSD owns 176 licenses in the AWS-4 band; Gamma also owns 176 licenses in the AWS-4 band; Manifest owns 168 licenses in the Lower 700 MHz E Block, and American H Block owns 176 licenses in the AWS H Block.

⁴ In addition to the buildout deadlines discussed below, we note that DISH holds interests in Northstar Wireless, LLC, and SNR Wireless LicenseCo, LLC, licensees of a total of 505 licenses in the AWS-3 bands that have an interim construction deadline (provide coverage to 40 percent of the population for each license's area by October 27, 2021). DISH also, directly and through its wholly-owned subsidiary South.Com L.L.C., holds a total of 82 licenses in the Multichannel Video Distribution and Data Service (MVDDS) with interim construction deadlines (provide substantial service in each license's area by July 26, 2019 (44 licenses), August 18, 2019 (37 licenses), and September 23, 2019 (1 license)).

⁵ 2000-2020 MHz and 2180-2200 MHz.

construction deadline was accelerated by one year. It will be required to provide signal coverage and offer service to 70 percent of the population of each license's service area by March 7, 2020. Failure to meet its final requirement for any license area will result in automatic termination of that license without Commission action.

- On that same date, DISH notified the Commission that it had not met the applicable interim construction deadline for its 700 MHz Lower E Block licenses,⁶ and by rule its final construction deadline was accelerated by one year. It will be required to provide signal coverage and offer service to 70 percent of the geographic area of each license or 70 percent of the population of each license's area by March 7, 2020. Failure to meet these benchmarks by the deadline will result in unserved portions of the service area being returned to the Commission for relicensing.
- On May 14, 2018, DISH notified the Commission that it had not met the interim buildout requirement for its H Block licenses,⁷ and by rule its final construction deadline was accelerated by two years. It will be required to provide signal coverage and offer service to 75 percent of the population of each license's service area by April 29, 2022. Failure to meet its final requirement for any license area will result in automatic termination of that license without Commission action.

I am contacting you to request updates and more detailed information on your buildout plans for the 53 megahertz of low- and mid-band spectrum that is apparently lying fallow in these bands. Specifically, we request the following information:

- What are the most significant challenges you face in constructing the intended network by 2020, and how do you intend to overcome those challenges?
- Please describe the timing of critical milestones leading up to your previously-stated goal of completing deployment by March 2020, including technology selection, vendor(s) selection, equipment selection/acquisition, system engineering, site acquisition, equipment testing, and advertisement of service and deployment to customers.
- Please describe the service DISH intends to provide with respect to each spectrum band that has an upcoming construction deadline. Do you intend to include other licensed bands in the phase 1 deployment? If not, why? It has been reported that DISH began testing ATSC 3.0 in Dallas, TX, on the 700 MHz E block spectrum earlier this year. What role will this technology play in meeting the upcoming construction requirements for this spectrum?
- How will each spectrum license independently be constructed to meet the service requirement? Will each and every spectrum band be deployed at each base station? If not, how do you plan to demonstrate that you have met the buildout requirement for each license in each band?
- If an industry standard technology will be used, what is the standard and what is its status? Has DISH decided to not move forward given the current state of the standard? If so, please provide an explanation of the actions DISH chose to delay due to the pace of standards development.
- Please describe the architecture of the network DISH is constructing for its phase 1 network (including how base stations, repeaters, and end-user devices will interact) and the IOT services/applications it plans to provide?
- Describe the coverage area you expect to achieve from each base station in phase 1. What are the technical parameters that are assumed in arriving at the expected coverage—such as data rate, receive signal level, frequency of transmissions (how often and how long does the base station communicate with subscriber units or an individual subscriber unit), and link budget? Also, describe the amount of bandwidth that you expect to use for each band (AWS-4, 700 MHz E Block, and H Block) for the phase 1 network.
- Please clarify whether any portion of a narrowband IoT network using DISH's AWS-4, 700 MHz E Block, and H Block licenses in phase 1 will consist of one-way base stations that transmit to subscriber units that do not communicate with a base station. If the network will support two-way communications between base stations and customer equipment, how do you intend to deploy each band to support two-way communication?

⁶ 722–728 MHz.

⁷ 1915–1920 MHz and 1995–2000 MHz.

- Describe the end-user devices you intend to deploy in order to meet the construction requirements for these spectrum bands (*e.g.*, types of devices and their intended applications, locations and heights above ground where they would be installed, frequency bands available in the devices, how frequently they would interact with base stations). Also, please indicate when you expect these devices to become available.
- When you previously stated that you expect to deploy by March 2020, did you mean that network coverage and equipment would be available to customers as of that date? Do you expect to be marketing and providing service to customers in each licensed area as of that date? How do you intend to market the service to customers in each licensed area?
- For the H Block licenses, do you anticipate having chip sets and developer kits that support the band available in time to offer customer equipment by April 29, 2022?
- Do you anticipate that the contemplated construction will require any rule waivers from the Commission (excluding any waivers already filed), including an extension of the construction deadline, waiver of the substantive construction requirement, or waiver of any service rules?

Please upload your response to this letter by using the FCC's Universal Licensing System (ULS) non-docketed pleadings module at <https://wireless2.fcc.gov/UlsEntry/pleadings/pleadingsType.jsp>. Choose "Reply" as the Type of Pleading and associate the response with the three lead call signs listed at the top of this letter. We appreciate your cooperation in this matter. Questions regarding the foregoing may be referred to Matthew Pearl.

Sincerely,

DONALD K. STOCKDALE, JR.,
Chief,

Wireless Telecommunications Bureau.

August 15, 2018

Hon. JOHN THUNE,
Chairman,
Commerce, Science, and Transportation
Committee,
Washington, DC.

Hon. BILL NELSON,
Ranking Member,
Commerce, Science, and Transportation
Committee,
Washington, DC.

Dear Chairman Thune and Ranking Member Nelson:

Thank you for holding a Federal Communications Commission ("FCC") Oversight Hearing on Thursday, August 16th and for the opportunity to submit this letter for the record on behalf of Anthem, Inc. and its affiliated health plans, Blue Cross Blue Shield Association, WellCare Health Plans, Inc., and the American Association of Healthcare Administrative Management (collectively, the "Healthcare Petitioners").

We respectfully request your assistance with urging the FCC to act quickly and favorably to clarify its earlier guidance addressing whether patients may receive health care related communications in accordance with the Telephone Consumer Protection Act ("TCPA"). In particular, we ask you to encourage the FCC to grant without further delay the pending Petition for Expedited Declaratory Ruling and/or Clarification ("Joint Petition") filed twenty-three months ago by the Healthcare Petitioners.¹ The Joint Petition asks the FCC to clarify certain aspects of the FCC's *2015 Declaratory Order*² and to confirm the FCC's longstanding policy of harmonizing its interpretations of the TCPA with the regulation of the use of telephone numbers under the Health Insurance Portability and Accountability Act ("HIPAA").

The *2015 Declaratory Order* provided, in relevant part, that the "provision of a phone number to a *healthcare provider* constitutes prior express consent for *healthcare calls* subject to HIPAA by a HIPAA-covered entity and business associ-

¹See Joint Petition of Anthem, Inc., Blue Cross Blue Shield Association, WellCare Health Plans, Inc., and the American Association of Healthcare Administrative Management for Expedited Declaratory Ruling and/or Clarification of the 2015 TCPA Omnibus Declaratory Ruling and Order, CG Docket No. 02-278 (filed July 28, 2016) ("Joint Petition").

²*Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991 et al.*, Declaratory Ruling and Order, 30 FCC Rcd 7961 (2015) ("*2015 Declaratory Order*").

ates acting on its behalf.”³ The Healthcare Petitioners have sought clarification of two related aspects of the *2015 Declaratory Order*: (1) *who* may receive the number; and (2) *what* the call must be about. Regarding the “who” question, the Healthcare Petitioners asked the FCC to clarify that the provision of a phone number to a HIPAA “covered entity” or “business associate,” whether by an individual, another covered entity, or a party engaged in an interaction subject to HIPAA, constitutes prior express consent calls to the HIPAA-covered entity and business associate acting on its behalf. A critical limitation is that covered entities and business associates must make calls within the scope of the consent given, and absent instructions to the contrary. Regarding the “what” question, the Healthcare Petitioners asked the FCC to clarify that a HIPAA-regulated entity may place “treatment, payment, and operations” calls otherwise allowed under HIPAA. In short, the Joint Petition requested narrow clarifications to bring the FCC’s TCPA rules for healthcare-related calls more in line with patient expectations and HIPAA.

The Joint Petition has received strong, bipartisan support in the FCC record and among members of Congress. On October 13, 2017, a bipartisan group of members of the House of Representatives led by Representatives Bilirakis and Cardenas sent a letter asking Chairman Pai to act promptly to “afford clarity to covered entities and business associates making non-marketing communications that benefit patients.”⁴ As this bipartisan coalition observed, “helpful, important non-marketing communications can be critical safeguards to reaching underserved populations and supporting more effective, efficient health care.”⁵ Senators Booker and Nelson also sent a bipartisan letter to Chairman Pai on November 3, 2017 noting that calls and text messages subject to the Joint Petition convey “important medical and treatment information” and “improve patient outcomes”⁶ They also stated that “time is of the essence to ensure that consumers’ access to health care is not jeopardized” and asked the FCC to “resolve these issues as soon as possible (preferably within the next 90 days) and to protect communications allowed under HIPAA in light of their unique value to consumers and their positive impact on Americans’ health and well-being.”⁷ Further, in September of 2016, WellCare was invited to testify before the Energy and Commerce Committee and received strong bipartisan support for its position supporting these reasonable and measured changes that would have a positive impact on their beneficiaries health outcomes by allowing the company to communicate in the most effective and efficient manner possible.

The breadth and depth of support for the Joint Petition is hardly surprising. The communications at stake include onboarding, wellness, informational, and follow-up and calls and texts that, for example: (i) explain coverage and how to get needed care, including providing updates about benefits and/or network changes; (ii) perform health screenings and identify at-risk members; (iii) facilitate selection of primary care provider and schedule appointments; (iv) remind members to get preventive care, such as shots and help ensure medication adherence; (v) notify patients of changes in enrollment or disruptions in coverage due to non-payment and remind members about renewing their benefits; and (vi) solicit member feedback on healthcare quality and other issues and ensure satisfaction.

Patients need and expect these and other non-marketing treatment, payment, and operations calls and texts, irrespective of which party in the HIPAA ecosystem—physicians, health plans, clearinghouses, or business associates—places the communication or initially obtains the patient’s telephone number. Nevertheless, the FCC has not yet issued a decision on the Joint Petition. In the meantime, the threat of abusive class-wide litigation has chilled HIPAA-regulated entities from placing non-marketing calls about treatment, payment, or operations that patients want and expect.

Given the fact that the D.C. Circuit’s decision was now released several months ago, we ask you to urge the FCC to grant the Joint Petition without delay. Thank

³*Id.* ¶ 141 (emphasis added).

⁴See Letter from Rep. Gus Bilirakis, *et al.* to FCC Chairman Ajit Pai, at 1 (Oct. 13, 2017).

⁵*Id.* at 2.

⁶See Letter from Sens. Corey Booker and Bill Nelson to FCC Chairman Ajit Pai, at 1 (Nov. 3, 2017).

⁷*Id.*

you very much for your consideration of this request, and we are available to answer any questions that you or your staff may have about this important issue.

Respectfully submitted,

/s/ Samuel J. Marchio
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 Head of Congressional Affairs
 Washington, DC
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On Behalf of Anthem, Inc.

/s/ Justine Handelman
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On behalf of WellCare Health Plans, Inc.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN THUNE TO
 HON. AJIT PAI

Question. Please describe actions the FCC has taken to meet its statutory obligations in regards to the T-band.

Answer. Following passage of the Middle Class Tax Relief and Job Creation Act in February 2012, the Commission froze the processing of applications for new or expanded T-Band operations to avoid adding to the cost and complexity of public safety relocation. It also waived the pre-Act regulatory deadline for migration of T-Band licensees to narrowband technologies, in light of the need for future relocation. In February 2013, the Commission released a Public Notice to gather information to develop a better understanding of options for the Commission's future consideration regarding the T-Band. In October 2014, the Commission opened up the 700 MHz narrowband reserve channels (twenty-four 12.5 kilohertz bandwidth channel pairs) for general licensing and afforded T-Band public safety licensees priority access to these channels in T-Band areas. In a 2015 *Notice of Proposed Rulemaking*, proposing addition of interstitial channels to the 800 MHz band, the Commission proposed affording public safety T-Band licensees priority access to the 800 MHz interstitial channels. Currently, Commission staff are developing options and recommendations for Commission consideration on addressing the statutory requirements for initiation of a T-Band auction and relocation of T-Band licensees.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER WICKER TO
 HON. AJIT PAI

Question 1. Chairman Pai, I appreciate your efforts to close the digital divide. I also appreciate the FCC's efforts to protect the Lifeline program through reforms by removing bad actors, including those wireless resellers that have perpetrated fraud in the Lifeline program. Nonetheless, there are many wireless resellers not engaged in such misconduct that play an important role in providing Lifeline services to Tribal lands and in other parts of my state and nationwide. In light of the August 10th U.S. Court of Appeals for the D.C. Circuit's stay order, will you commit to conducting further analysis on the impact that a proposed wireless reseller ban in the Lifeline program would have on access to essential voice and broadband services for low-income consumers on Tribal lands, as well as in non-Tribal areas?

Answer. Yes.

Question 2. Chairman Pai, what will you do to ensure that the FCC addresses the specific needs of Federal Government customers during the IP transition, particularly those with multisite locations in rural areas?

Answer. Our goal is to close the digital divide and make sure that residential and business consumers in rural America have comparable service to those in urban America. That goes for Federal Government customers in rural areas as well. As NTIA recently wrote us, "in most instances, the transition from legacy to next-generation networks and services will be seamless for residential and business cus-

tomers.” We continue to work with our Federal partners at NTIA to make sure we address the needs of all customers, including Federal Government customers.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROY BLUNT TO
HON. AJIT PAI

Question. The Commission has several issues in front of it regarding the TCPA—some remanded from the DC Circuit and some stemming from petitions filed with the agency. What is your timing on answering these questions and can you elaborate on your intent for future proceedings related to the TCPA?

Answer. We are deliberating on the appropriate path forward in response to the March decision by the U.S. Court of Appeals for the District of Columbia in *ACA International v. FCC*, which struck down much of the agency’s 2015 interpretation of the Telephone Consumer Protection Act (TCPA). I do not have a particular timeframe to report at this time, nor have I made a definitive judgment with respect to the issues raised by the court (*e.g.*, the definition of autodialer). But I look forward to working with you and my colleagues on this matter.

In the meantime, we’re continuing our crackdown on unwanted robocalls—what former Senator Fritz Hollings once rightfully deemed the “scourge of civilization.” Unwanted robocalls are consumers’ top complaint to the Commission, and we have accordingly made combating illegal robocalls our top consumer protection priority. We have aggressively enforced the TCPA as well as the Truth in Caller ID Act, levying \$120 million of fines and proposing more than \$82 million in fines, respectively, against two robocallers who engaged in illegal spoofing on a massive scale. We have authorized carriers to stop certain robocalls at the source while we pursue the creation of a reassigned numbers database and a robust call-authentication framework. And we have been working with our colleagues at the Federal Trade Commission, hosting a policy forum in March and a tech expo in April.

This work will continue this fall. We are currently studying the record in response to our open rulemakings regarding a reassigned numbers database and additional opportunities for carriers to block illegal robocalls. In addition, we are closing loopholes in our rules that allow robocallers to profit through regulatory arbitrage (*e.g.*, with toll-free calls), and we are working with carriers to implement a call-authentication framework by next year so that consumers can once again trust Caller ID.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. DEB FISCHER TO
HON. AJIT PAI

Question. On May 15, 2018, I sent you a letter with Senator Klobuchar and 61 Senators emphasizing long-term certainty needed for small, rural carriers receiving Universal Service Fund high-cost support. I appreciated the response you sent on August 6, 2018, reaffirming our concerns with regard to sufficient funding and consistency both for small carriers on the cost model, and those not on the model. In your response, you noted that the Commission is still in the process of reviewing the record on the pending Notice of Proposed Rulemaking (NPRM). The Commission’s conclusions will have a significant impact on rural broadband deployment in rural Nebraska.

- Can you please provide further detail on when the Commission plans to take action on the NPRM?
- At this point in time, what are your recommendations for stabilizing much needed high-cost support going forward?
 - For legacy companies, what considerations would enable these companies to plan predictably so that they can service loans, implement periodic fiber network upgrades, and pay for annual repair and maintenance expenses?
 - For A-CAM model companies, is there an updated status on the issue of additional funding of up to \$200 per location?

Answer. I’m grateful for your advocacy on this issue and glad you agree that our reforms in March were a big win for rural communities that want high-speed Internet access and are served by rate-of-return carriers.

The NPRM seeks comment on ways to improve and simplify the funding system so that rate-of-return carriers have predictable support and the right incentives to efficiently invest in broadband connectivity in the rural areas they serve. We’re also considering a second offer of model-based support to carriers, as well as how the legacy rate-of-return system might be improved. The public comment and reply period cycle for the NPRM closed on June 25, 2018. Like you, I believe it is a priority

to ensure that small carriers can offer high-quality, affordable broadband to rural America. I look forward to working with my colleagues to put forward an order that would do just that before the year is over.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JERRY MORAN TO
HON. AJIT PAI

Question 1. The MOBILE NOW Act, which was signed into law as part of the most recent omnibus package, called for the FCC and NTIA to identify 100 megahertz of new unlicensed spectrum while also requiring the creation of a “National Plan for Unlicensed Spectrum.” What steps will the Commission take to free up much-needed unlicensed spectrum to support growing consumer demand for existing technologies and to provide innovation space for the technologies of the future? How are you coordinating with NTIA?

Answer. The FCC has a routine consultation process with NTIA, especially through the Interdepartment Radio Advisory Committee (IRAC). We also have less formal staff contacts through various bureaus and offices, especially the Office of Engineering and Technology.

We plan to move forward on a rulemaking for the 6 GHz band this fall. Indeed, before passage of the RAY BAUM’S Act (FY 2018 Consolidated Appropriations Act, Division P), we issued a July 14, 2017 Notice of Inquiry including that subject, resulting in a broad range of support for 6 GHz unlicensed use for Wi-Fi. I’m pleased that we’re working in concert with NTIA and have a congressional mandate to proceed.

Question 2. This committee worked hard to ensure that adequate funding for the broadcast channel repack in the omnibus this past March, including money for impacted FM radio stations and Low Power TV and Translators. Next month, phase one of the repack moves begin. What process does the Commission have in place to ensure that, if a broadcaster being moved to a different channel is unable to meet their phased move deadline, through no fault of their own, that they will not be moved off of their current channel?

Answer. There are options for stations to keep broadcasting even if there are circumstances beyond their control that prevent them from completing construction on their new channel at the end of their construction permit. Stations may be able to seek an extension of time to construct (though they will not be allowed to continue operating on their pre-auction channel more than 39 months after the repacking process started). Stations also could seek special temporary authority to operate on temporary facilities on their new channel or on another channel, if available. And the Commission of course has the ability to waive our rules when necessary and in the public interest. Commission staff are monitoring the transition through quarterly progress reports filed by the stations.

Question 3. I was successful in getting the FCC CIO Parity Act signed into law as part of the recent omnibus. This law requires the FCC to ensure that the agency’s Chief Information Officer (CIO) has a significant role in the budgeting, programming, and hiring decisions of the agency, and given the CIO’s subject matter expertise, prioritizing the replacement of costly and vulnerable legacy IT systems would be accounted for in this critical decision-making. Will you please describe the current role of the FCC’s CIO in the agency’s efforts to formulate an effective and targeted budget?

Answer. I appreciate your ongoing and substantial commitment to ensuring that the Federal Government has robust and resilient Information Technology (IT) resources. It is essential that CIOs feel empowered to make critical decisions essential to upgrading and modernizing our IT systems. I’m pleased to note that our Acting CIO currently plays an important role in working with our Managing Director and my office to develop our budget and allocate resources.

Our top budget priority related to IT modernization is to end our reliance on outdated legacy systems by moving systems and applications to the cloud, a priority strongly supported by our Acting CIO. Such efforts not only improve the quality of our IT services, they also decrease expenses in the long run because it is quite expensive to keep many of our legacy systems running.

Consistent with this priority, in our Fiscal Year 2019 Budget Request, we have asked for \$8,535,200 for IT modernization and implementation, including \$4,619,000 for shifting systems to the cloud and \$3,666,200 for shifting applications to the cloud. In fact, this request comprises the vast majority of the new spending contained in that budget request.

Moreover, it is important to note that we recently received and are grateful to you and your colleagues for approval for a reprogramming that would move de-obligated

resources to current IT needs, improving our security and redesigning our Electronic Comment Filing System.

Question 4. As a Senator from rural Kansas, I always want to make sure that our broadband policies are moving towards connecting more rural Americans. Do you plan to take a balanced approach in the 3.5 gigahertz Citizens Broadband Radio Services (CBRS) proceeding, that ensures that both those who are connecting urban America and those who are connecting rural America are given fair opportunity to participate?

Answer. Yes. We are reviewing the recommendations made by Commissioner O’Rielly, who I asked in 2017 to lead the FCC’s review of our 3.5 GHz plans. I am actively engaged in the issue, having taken meetings just in the past several weeks with entities as varied as industrial Internet of Things representatives, fixed wireless providers, and others. Our goal is yours: to maximize the value of this band for American consumers and encourage broad participation.

Question 5. In May, the FCC approved an NPRM proposing to modernize part of the 2.5 GHz band, better known as Educational Broadband Service or EBS. EBS currently operates through a public-private partnership model among educators, commercial entities, and the public. In many places, for example, partnerships between EBS licensees and commercial lessees have led to low-cost Internet service for schools, libraries, and anchor institutions. Additionally, some of these partnerships have supported the buildout of 4G and future 5G mobile networks, as well as fixed wireless systems that are closing the digital divide. As the FCC pursues this rulemaking, what is the agency considering and prioritizing related to existing lease agreements, service areas, levels of service, and current programs provided through these existing partnerships?

Answer. This is an ongoing proceeding, the FCC (as you mention) having issued an NPRM on this topic earlier this year. The record is still open, and we have not made any definitive judgments on the way forward. Nonetheless, we have proposed to accommodate various interests involving this spectrum. For example, in paragraph 17 of the NPRM, we specifically sought comment “on whether we should first open up to three new local priority filing windows to give existing licensees, Tribal Nations and educational entities an opportunity to access 2.5 GHz spectrum to serve their local communities.” Additionally, I personally met with representatives of Northern Michigan University last month in Michigan to learn how they are making innovative use of this spectrum to provide broadband access to very rural and remote towns in the state’s Upper Peninsula.

Question 6. While EBS licenses have been issued in approximately half of the U.S., the FCC has not issued any new licenses since 1995, leaving much of the U.S. without a license. Some of these unlicensed areas are irregular-shaped gaps that currently exist between current license areas. In an effort to make certain this spectrum between licenses areas can quickly be put to use for mobile broadband, the FCC is considering automatic expansion of existing geographic service areas (GSAs) to the nearest county boundary in counties that service areas already intersect. Do you support this proposal? If not, please explain.

Answer. This is indeed one of the proposals I made to my colleagues when we considered the NPRM and one which my colleagues unanimously adopted. The proceeding is still ongoing, as you know, and we are still receiving public feedback, so we have not made any definitive judgments on the appropriate way forward.

Question 7. In 2007, Kelsey Smith was abducted in broad daylight as she was getting into her car outside a department store in Overland Park, Kansas. While a search for her began immediately, law enforcement encountered difficulty in obtaining location information from her cell phone provider. After four days of searching, law enforcement located her body within 45 minutes of receiving her device location data.

Following Kelsey’s murder, 23 states have enacted legislation in her name, the Kelsey Smith Act, which requires Commercial mobile service providers to provide call location information to law enforcement when the device has been used to call 9–1–1 for emergency assistance, or for a device that is in the possession of a user that law enforcement believes to be in an emergency situation involving risk of death or serious physical harm.

While current Federal law doesn’t prohibit telecommunications companies from providing location information to the police in true emergency situations that involve the risk of physical harm or death, it doesn’t require them to do so either. Therefore, inconsistencies can arise in the way that firms respond to emergency requests from law enforcement officials for device location data and delay attempts to locate individuals in need of life-saving assistance. In testimony given before this

committee on September 15, 2016, you stated that legislation, “can make a difference,” and, “is already helping law enforcement save lives.”

- Do you still believe that enacting the Kelsey Smith Act at the Federal level will help law enforcement save lives by requiring telecommunications providers to provide call location information to law enforcement officials when responding to a call for emergency service or in an emergency situation that involves the risk of death or serious physical harm?
- Do you believe the Kelsey Smith Act, as introduced by Senators Roberts, Moran, Fischer and Blunt on May 24, 2018, adequately safeguards civil liberties?

Answer. I still believe that enacting the Kelsey Smith Act could help law enforcement save lives. And I will not forget meeting Kelsey’s parents a few years ago in Kansas; hearing from Johnson County law enforcement officials about a small child who was recovered during a carjacking in part because of location information like this; and working with you, Congressman Yoder, and others on this issue. I would also note that the proposed legislation also contains several safeguards to protect civil liberties.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
HON. AJIT PAI

Question. In many rural communities, students have long commutes on school buses sometimes upwards of half an hour, an hour, or even longer one-way. Given the connectivity challenges many students face in rural communities, how could E-rate help connect school buses with wifi to allow students to use commute time to do homework, projects, or other school work?

Answer. I agree with you on the value proposition of this approach. As just one example, I recently visited Moab, Utah, where I heard firsthand how Wi-Fi-enabled buses allow students in rural Utah schools to do their homework while they are traveling to and from athletic events.

My top priority is closing the digital divide, and that includes by leveraging existing programs such as the E-Rate program to ensure that low-income and rural students receive access to next-generation technologies and opportunities. Although the current E-Rate program does not support Wi-Fi on school buses, the idea is intriguing and worthy of further study—especially for those in rural communities where students generally have longer bus rides.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. AJIT PAI

Question 1. Your agency has been tasked with commencing a study of broadband deployment and access on tribal lands by March 2019. The agency has been criticized in the past for having less than robust compliance with the need for tribe consultation. Do you intend to consult with tribes in order to conduct this study?

Answer. Yes

Question 2. If so, have you started the tribal consultations? If not, why not?

Answer. We are presently in the planning phase for these Tribal consultations. We anticipate scheduling and conducting consultations as soon as we finalize the Tribal consultation plan.

Question 3. If you have started tribal consultations, which tribes and stakeholder groups have you consulted with or who do you intend to consult with?

Answer. As stated in response to question 2, we are in the process of developing a Tribal consultation plan and anticipate that it will include reaching out to both individual Tribes and inter-Tribal organizations on a national and regional basis. This will likely include the National Congress of American Indians and regional associations such as the Affiliated Tribes of Northwest Indians, the United South and Eastern Tribes, the Midwest Alliance of Sovereign Tribes, and the Rocky Mountain Tribal Leaders Council. We also anticipate reaching out to Tribal telecommunications carriers and their association, the National Tribal Telecommunications Association, as well as individual Tribes.

Question 4. Your agency has been tasked with commencing a study of broadband deployment and access on tribal lands by March 2019. The agency has been criticized in the past for having less than robust compliance with the need for tribe consultation. How can we optimize the tribes’ participation in the broadband study and the composition of the report?

Answer. Previous experience suggests that we can optimize Tribal participation in the broadband study and composition of the report by engaging with a diverse range of Tribes and inter-Tribal organizations, and by doing so throughout the information-gathering and decisional stages of these efforts. We have also learned it is beneficial to offer Tribes the choice of both on-and off-the-record opportunities for discussion. These engagements can be made most productive by ensuring opportunities for participation by Tribal leaders or their formal designees, focusing discussion on a set of key topics and questions identified by Commission staff and based on currently-available broadband data coverage provided in advance to consultation participants.

Question 5. Will you commit to completing the next quadrennial review before leading the FCC in any process that changes any more of the existing media ownership rules?

Answer. I can assure you that no further changes will be made to the rules covered by the quadrennial review mandate until the Commission completes another quadrennial review.

Question 6. Under your leadership the FCC has made many changes to media ownership rules over the past 18 months. Will you be looking at the impact of those changes in the upcoming quadrennial review?

Answer. Congress requires the Commission to review the broadcast media ownership rules every four years to determine whether they continue to be necessary in the public interest. If the Commission determines any such rules not to be in the public interest, Congress has directed it to repeal or modify those rules. Typically, in quadrennial review proceedings, the Commission collects comment and data regarding the existing rules in order to meet this Congressional directive. I anticipate we will follow a similar course in the next quadrennial review, which is scheduled to begin before the end of the year.

Question 7. Do you think it's important that the upcoming quadrennial review reviews the changes that have been made to media ownership over the past 18 months and the impact that these changes have had on localism, media concentration and diversity?

Answer. See response to Question 6 above.

Question 8. In 2016, the Court of Appeals chastised the FCC for making changes to media ownership rules without the benefit of having completed statutorily mandated reviews of the media marketplace and media ownership rules that were required in 2010 and 2014. Basically the court was saying that the FCC's policy making needed to be based on data and analysis. It's my understanding that the FCC needs to start its next data gathering review this year.

Given the court's guidance that any FCC changes to media ownership rules should be grounded in the type of up-to-date data and analysis required by the quadrennial review process, what you would recommend that the next Quadrennial review cover?

Answer. See response to Question 6 above.

Question 9. When I asked you at the hearing if the FCC has the authority to address cybersecurity threats, you said that the FCC currently lacks the authority. In your view, which Federal agency, if any, is the lead agency on cybersecurity issues, such as SS7, impacting wireless telephone networks?

Answer. The Department of Homeland Security is the lead agency on cybersecurity issues.

Question 10. When I asked Chairman Pai at the hearing if the FCC has the authority to address cybersecurity threats, he said that the FCC currently lacks the authority. In your view, which Federal agency, if any, is the lead agency on cybersecurity issues, such as SS7, impacting wireless telephone networks?

Answer. The Department of Homeland Security is the lead agency on cybersecurity issues.

Question 11. The FCC has publicly encouraged wireless carriers to voluntarily address cybersecurity issues related to SS7 that impact their networks. Does the FCC currently have the authority to *require* wireless carriers to address cybersecurity issues related to SS7? If not, please explain why.

Answer. The Commission has not previously identified such authority, and I am not aware of any statutory provision that grants such authority. Notably, standing alone, Section 1 of the Act does not provide substantive regulatory authority to the Commission. *See, e.g., Motion Picture Ass'n of America v. FCC*, 309 F.3d 796, 804 (D.C. Cir. 2002) (*MPAA*) (characterizing Section 1 as "very general" and rejecting notion that it afforded basis upon which agency could promulgate certain accessibility regulations); *American Library Ass'n v. FCC*, 406 F.3d 689, 691, 692 (D.C. Cir.

2005) (in rejecting FCC's so-called "broadcast flag" rule—in defense of which agency "cited no specific statutory provision giving the agency authority to regulate" but simply relied on Title I—extending *MPAA* and finding that "[t]here is no statutory foundation for the broadcast flag rules, and consequently the rules are ancillary to nothing").

Question 12. According to a recent article in the Washington Post, governments in other countries, including the United Kingdom, have "commissioned independent testing of the vulnerabilities in national cellular networks." Does the FCC currently have the authority to commission independent cybersecurity testing of U.S. wireless networks? If not, please explain why.

Answer. We have not been appropriated funding, nor do we have the specific expertise in this area, to carry out such testing.

Question 13. Does the FCC currently have the authority to require mobile carriers to assess risks relating to the security of mobile network infrastructure as it impacts the Government's use of mobile devices? If not, please explain why.

Answer. Although the Commission's authority to collect information is fairly broad, the Commission has not previously addressed this issue before. This does not prevent government agencies when contracting with mobile carriers to require an assessment of risks relating to the security of mobile network infrastructure as it impacts government use.

Question 14. Does the FCC currently have the authority to compel mobile carrier network owners/operators to provide information to the FCC to assess the security of the carriers' communications networks? If not, please explain why.

Answer. Although the Commission's authority to collect information is fairly broad, the Commission has not previously addressed this issue before.

Question 15. A recent investigation by Senator Wyden revealed that wireless carriers were providing customer location to private companies without verifying that users had consented to this disclosure of private information. In response, all of the major wireless carriers announced they would stop selling location data via location aggregators.

Is subscriber location data, when created by wireless carriers through their cell towers or other network infrastructure, is Customer Proprietary Network Information (CPNI)? If not, please explain why.

Answer. Yes. Section 222 of the Communications Act defines CPNI, in part, as "information that relates to the quantity, technical configuration, type, destination, location, and amount of use of a telecommunications service subscribed to by any customer of a telecommunications carrier, and that is made available to the carrier by the customer solely by virtue of the carrier-customer relationship." (emphasis added)

Question 16. Is location data is protected by 47 U.S.C. § 222, regardless of whether it is collected when the subscriber is making a call, browsing the web from their smartphone, or even when the subscriber's phone is not being used and is in the subscriber's pocket? If not, please explain why.

Answer. Carriers retain their CPNI obligations regardless of whether a consumer is using their phone when data is collected or not.

Question 17. Prior to January 1, 2018, had the FCC ever audited a wireless carrier to determine whether or not it was verifying customer consent before sharing their location information with third parties?

- a. If yes, please detail when these audits took place, what was their scope, and what did the FCC discover.
- b. If not, please explain why.

Answer. The Commission has not previously audited wireless carriers as described. However, the Commission constantly monitors complaints, public reporting, and carrier self-reporting of possible CPNI issues.

Question 18. Has the Commission responded to the Third Circuit mandate in the Prometheus Radio Project v. FCC line of cases to examine the impacts of broadcast consolidation on ownership opportunities for women and people of color?

Answer. Yes. In its 2017 *Reconsideration Order*, the Commission analyzed whether there would be a material impact on minority and female ownership as a result of the policy decisions made therein. Additionally, in early August, the Commission majority also took definitive action to increase broadcast diversity by establishing the framework for an incubator program designed to help new entrants, including women and minorities, succeed in the broadcast industry.

Question 19. Does the Commission intend to collect any data so that it can examine how and whether broadcast consolidation relates to ownership diversity?

Answer. The Commission collects data on broadcast ownership on a biennial basis. This includes comprehensive information on racial and ethnic minority and female broadcast ownership. Commission staff are currently working on the next report to summarize the data submitted earlier this year.

Question 20. What percentage of broadcast stations are owned by people of color? By women? Are you satisfied with those levels? If not, what kind of meaningful changes can the FCC make to expand ownership diversity?

Answer. According to the Commission's 2017 Ownership Report that summarizes data from 2015, racial minorities owned 2.6 percent of full power TV stations, 5.8 percent of AM radio stations and 2.3 percent of FM radio stations. The same report showed that women owned 7.4 percent of full power TV stations, 8.9 percent of AM radio stations, and 8.1 percent of FM radio stations.

In order to promote greater diversity, in 2017 I re-established an Advisory Committee on Diversity that had been dormant for years before I became Chairman. And I specifically tasked this Advisory Committee with setting up a working group focusing on promoting broadcast diversity. Through its working group, the Committee is providing advice and recommendations to the Commission regarding how to empower disadvantaged communities and accelerate the entry of small businesses, including those owned by women and minorities, into the media, digital news and information, and audio and video programming industries. I also pushed to implement a new incubator program—something that had received a lot of talk at the Commission for the last quarter century, but little action until the Commission majority finally established one in August. I hope that this program will help promote diversity of ownership and help address the significant barriers to enter the broadcast industry.

Question 21. What data, if any, did the Commission rely on to justify its recent assumptions that deregulation in the form of loosening local ownership protections would improve competition and localism in the broadcast market?

Answer. The Commission must base its policy decisions on the data and information provided in the record. In the 2017 *Reconsideration Order*, the Commission found that the Eight-Voices Test included in the local television ownership rule was not supported by the record evidence and that there was no reasoned basis for retaining it. Further, the Commission found that the test denied the benefits of common ownership—particularly in smaller and mid-sized markets—without any evidence that it provided countervailing benefits to competition. The Commission also found that the Top-Four Prohibition contained in the Local TV Ownership Rule should be retained, but with a modification to allow for a case-by-case approach to address instances where the evidence proffered demonstrates that the Commission should not extend a blanket prohibition in a particular market or in a particular transaction.

Question 22. Does the FCC have any intention of soliciting public input with field hearings regarding whether or not local broadcast stations are serving the public interest to inform evaluations of recent media ownership changes or future ownership reviews?

Answer. The Commission does not have any field hearings planned at this time.

Question 23. Notwithstanding any recent legislation, in your opinion, which part of the Federal Government should maintain responsibility for updating and maintaining the broadband map? What is the basis for your answer?

Answer. The Commission has no strong view on who or what government entity should maintain and be responsible for updating the broadband map. The FCC does collect relevant data for such a map, and this data collection is critical for Universal Service Fund purposes.

Question 24. What is your view on whether the Federal agency should use or rely on the data sets of private companies to fill out the broadband map?

Answer. Federal agencies should use the best available data for the broadband map.

Question 25. What expertise does the FCC have with regard to data analytics and mapping?

Answer. The FCC has more than 50 Ph.D. economists and statisticians that it relies on for the collection and analysis of data, along with a smaller number of data analysts. In addition, the Commission has roughly two dozen people who work with Geographic Information System (GIS) data, including several who specifically have a GIS background.

Question 26. What additional resources does the FCC need to effectively update and maintain the broadband map?

Answer. The Commission has been able to update the fixed broadband map using existing resources and continues to work on updates with new information. Of course, additional resources would be helpful to update and improve the broadband map further, including the addition of mobile.

Question 27. On Friday, August 10, 2018, the U.S. Court of Appeals for the D.C. Circuit granted a stay of new FCC Tribal Lifeline rules that would have barred wireless resellers from providing Tribal Lifeline and would also limit the Tribal Lifeline program to rural Tribal areas. The Court found the FCC's decisions to be arbitrary and capricious. The FCC has proposed the same ban on resellers in its ongoing Lifeline proceeding. In so doing, the agency threatens to cut off service to more than 7 million of our most vulnerable citizens—veterans, seniors, single moms and others—who depend on the Lifeline program.

Does this decision put to rest any notion of limiting the important role of wireless resellers in the Lifeline program?

Answer. The Commission has not reached any conclusion as to whether resellers should continue to be permitted to participate in the Lifeline program. We are reviewing the record in this open proceeding, including on this issue, because resellers have been the subject of the vast majority of Lifeline investigations for waste, fraud, and abuse. Furthermore, we are examining how the Lifeline program can support investment in broadband networks where they are needed most—in low-income urban communities, in rural areas, and on Tribal lands.

Question 28. Recently, wireline and wireless service providers recently asked the FCC for relief from the Lifeline program minimum service standards rules. These service providers claim that the FCC's minimum service standards—which increase each December—will force Lifeline subscribers into higher service levels and packages than they can afford. Can you tell me whether the agency plans to provide relief on this matter so that consumers are not hit with price increases in early December?

Answer. The Wireline Competition Bureau released a Public Notice seeking comment on petitions concerning the Lifeline minimum service standards. The comment period closed on September 14, 2018. We will take into consideration the issues raised and concerns expressed by all stakeholders as we work to resolve this proceeding.

Question 29. Broadband and bridging the digital divide is one of our top concerns in this subcommittee, and it is encouraging that this issue is a priority for the FCC. I know the FCC has taken a number of steps to advance the deployment of broadband and I am curious about your thoughts on TV white spaces technology and the opportunity it presents to serve rural areas. We've seen announcements about TV white spaces deployments in a variety of rural areas. It's my understanding that if the Commission were to finalize some of its open proceedings freeing-up sufficient spectrum and adopting appropriate technical rules, it would drastically help to reduce the upfront cost of building rural networks and any local provider would be able to provide unlicensed TV white spaces broadband connectivity.

What are your thoughts on this issue and would resolving these issues maximize an additional tool to address our rural broadband challenge? Would the FCC be able to resolve the critical technical and spectrum issues by the end of the year?

Answer. From incorporating auctions into the Universal Service Fund's high-cost program and increasing support for telemedicine and telehealth applications to reducing regulatory barriers to investment and freeing up new spectrum resources, the Commission has made bringing digital opportunity to every American our top priority. I appreciate your recognition of the substantial work the Commission has done under my leadership to close the digital divide.

TV white spaces deployments may be another tool in the tool chest, and the Commission is currently weighing whether any targeted changes to our technical rules would facilitate such deployments. Complicating matters is that we are in the midst of repacking TV broadcasters as a result of the broadcast incentive auction, and so the Commission's top priority at this stage must be to ensure that the repacking process mandated by Congress in the Spectrum Act of 2012 is carried out appropriately and in a timely manner. Pursuant to the procedures adopted by the Incentive Auction Task Force and the Media Bureau in the Transition Scheduling Plan, the 10-phase transition deadlines include initiation of the Phase 1 testing period on September 14, 2018, with Phase 10 complete by July 3, 2020.

Question 30. Thank you continuing to advocate for the millions of rural Americans on the wrong side of the digital divide. As you know, many members of this committee share your concerns, and we want to do everything we can to expand coverage. However, as you know, it is important to have reliable mapping and data tools in order to do so. What can the Commission and members of this committee

do to improve your data collection and broadband mapping in order to ensure we know exactly where coverage gaps remain?

Answer. The Commission has been able to update the broadband map using existing resources and continues to work on updates with new information. Of course, additional resources would be helpful to update and improve the broadband map further. In the meantime, the Commission has an open proceeding on how to improve our corresponding data collection, and staff is reviewing ways to improve that data collection.

Question 31. With respect to Fixed Broadband Deployments, the Form 477 instructions provide that “. . . fixed broadband connections are available in a census block if the provider does or could, within a service interval that is typical for that type of connection—that is without an extraordinary commitment of resources—provision two-way data transmission to and from the Internet. . .” Is it possible for the Commission to segregate the data it collects on consumers who are served with broadband from the data it collects on consumers who could be served with broadband? Will that provide a better picture of which Americans have broadband connectivity?

Answer. I agree that we must improve the Form 477 data collection devised by the last Administration. That’s why the Commission, under my leadership, commenced a rulemaking last year to review Form 477 and consider ways to improve the quality, accuracy, and usefulness of the deployment data it collects. We seek comment on collecting data more granularly, such as you describe.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
HON. AJIT PAI

Question 1. What specific steps, if any, did the FCC take to prepare when it was informed in advance by a producer from the John Oliver show that they planned to run a new episode on net neutrality on May 7, 2017? If it did not take any steps, why not?

Answer. While members of my staff believed that the Chief Information Officer had been informed of the upcoming show, the Office of Inspector General did not find any evidence that this notification occurred. In any event, prior to the 2017 Restoring Internet Freedom proceeding, the FCC IT team made performance improvements to ECFS to ensure it could handle the same volume as was experienced with the 2014 proceeding, and the Electronic Comment Filing System had been functioning well during the 2017 proceeding up to that point. The Electronic Comment Filing System was available over 99 percent of the time during the 2017 proceeding.

Question 2. At the hearing you stated that you relied on assurances given by your staff on July 24, 2017, that the May 7, 2017, incident was a DDoS attack and not merely the result of excessive traffic from the John Oliver show. What questions did you ask those individuals at that time that gave you confidence in their assurances? What facts and documentation did they present to you that was so convincing? What steps did you take at that time to ensure that criminal law enforcement authorities had been properly engaged to investigate what you apparently had been assured was an unprecedented criminal act? What steps did you take once you became aware that you had been misled about the nature of the May 7th event, including disciplinary action against the individuals who provided you with false information and those who supervised them?

Answer. When my office was informed that we had been misled about the nature of the May 7 event, we specifically asked the Office of Inspector General whether we could discuss this matter with our IT staff and take disciplinary action if warranted. OIG asked us to refrain from taking these steps in order not to jeopardize its investigation. After the conclusion of the investigation, my office has discussed the matters contained in the report with relevant IT staff. At this point, however, I don’t believe that it would be appropriate to discuss whether we are or will be taking any disciplinary action against specific staffers. I would note, however, that the Office of the Inspector General’s report makes clear that the Commission’s then-CIO was primarily responsible for providing my office with inaccurate information, and he is no longer with the Commission so we are not able to discipline him. Additionally, and as I observed in my statement of August 6, 2018, it has become clear that in addition to a flawed comment system, we inherited from the prior Administration a culture in which many members of the Commission’s career IT staff were hesitant to express disagreement with the Commission’s former CIO in front of FCC management.

Following the incident, the Commission’s Chief of Staff asked the then-CIO about contacting Federal law enforcement. Subsequently, my office was informed that the

FBI had told our IT staff that the incident did not appear to rise to the level of a major incident that would trigger FBI involvement. However, as indicated in the Office of Inspector General's report, that information does not appear to have been accurate.

My office had several discussions with the then-CIO and other IT staff so that we could understand what had happened. During these discussions, members of my office asked many questions about how the ECFS operated and why the then-CIO was confident that problems with the system had not been caused by individuals attempting to file comments with the Commission. The answers we were provided appeared to make sense, but unfortunately many were based on inaccurate information. In terms of the July 24, 2017, meeting that you reference, I don't recall the specific questions I asked but I do remember being told that the incident was not caused by individuals attempting to file comments with the Commission but rather bots. I believe I was told that this conclusion was based, in part, on the amount of traffic at issue as well as the characteristics of that traffic.

Question 2. At the hearing you testified as follows: "On January 23 of 2018, I was informed by my Chief of Staff, who'd been informed by the Office of the Inspector General, that they had suspicions that the former Chief Information Officer's statements to us and to Congress were inaccurate. The OIG then requested, because they had referred this matter for potential criminal prosecution to the Department of Justice, do not say anything to anyone." Did the OIG direct you not to inform Sen. Wyden and me that you had provided an incorrect and misleading account of the events of May 7, 2017, to us in your letter response dated June 15, 2017? Did you ask the IG if it would be permissible to inform us? Did you consult with the FCC General Counsel about the appropriate course of action in this regard and what was his advice? Why didn't you inform us as soon as you learned that the USAO-DC declined prosecution on June 7, 2018?

Answer. The Office of the Inspector General made a blanket request of us not to discuss its investigation with anyone during its pendency. We acceded to that request, even though we knew that we would be criticized for doing so, because we thought that it was important not to interfere with or jeopardize the investigation.

Question 3. What specific upgrades and modifications did the FCC make to the ECFS system after the 2014 John Oliver incident and prior to the 2017 incident to improve the integrity and stability of the system?

Answer. The FCC's IT team has advised me that a new cloud-based ECFS (version 3.0) was built and delivered. ECFS 3.0 was built using node.js and with an ElasticSearch data store. The entire system is operating in the cloud with no dependencies on FCC's infrastructure. Prior to the 2017 proceeding, the FCC IT team made performance improvements to ECFS 3.0 to ensure it could handle the same volume as experienced with the 2014 proceeding. Improvements included optimizing the individual pages, reducing the page sizes, and improving load time.

Question 4. How is the FCC working to identify and make available sufficient unlicensed spectrum to keep up with demand and to comply with the RAY BAUM'S Act of 2018? Be specific.

Answer. Last year, we issued a Notice of Inquiry on mid-band spectrum, resulting in a broad range of support for unlicensed use in the 6 GHz band. In the RAY BAUM'S Act of 2018, Congress recognized the importance of this and other bands, and we appreciate the legislative support for our work in the statute. This fall, we plan to issue a Notice of Proposed Rulemaking to continue our work on the 6 GHz band. That's why I plan for the Commission to move forward on a rulemaking for the 6 GHz band this fall.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
HON. AJIT PAI

Question 1. The Wall Street Journal's Editorial Board recently praised your decision to challenge the Sinclair-Tribune merger, stating that "the FCC Chairman follows the law in stopping a merger."¹ The editorial concluded by saying, "it's up to Congress to change broadcast ownership restrictions." Do you agree that only Congress has the authority to change broadcast ownership restrictions, like the national television audience reach cap?

Answer. This issue is currently under review in an open proceeding. I would note, however, that the prior Administration asserted that it did have the authority to

¹<https://www.wsj.com/articles/ajit-pai-and-sinclair-1531955296>

modify the national cap when it decided to eliminate the UHF Discount in 2016. Specifically, the FCC majority explained:

“We conclude that the Commission has the authority to modify the national audience reach cap, including the authority to revise or eliminate the UHF discount. *We find that no statute bars the Commission from revisiting the cap or the UHF discount contained therein in a rulemaking proceeding so long as such a review is conducted separately from a quadrennial review of the broadcast ownership rules pursuant to Section 202(h) of the 1996 Act.* The [2004 Consolidated Appropriations Act] simply directed the Commission to revise its rules to reflect a 39 percent national audience reach cap and removed the requirement to review the national ownership cap from the Commission’s quadrennial review requirement. *It did not impose a statutory national audience reach cap or prohibit the Commission from evaluating the elements of this rule.* Thus, the Commission retains authority under the Communications Act to review any aspect of the national audience reach cap; it simply is not required to do so as part of the quadrennial review.” (footnotes omitted; emphasis added)

Question 2. A December 2017 Notice of Proposed Rulemaking explores gutting one of the last few remaining rules protecting consumers from massive consolidation in media: the media ownership cap. Didn’t Congress—through the Consolidated Appropriations Act of 2004—very clearly instruct the FCC to set this cap at 39 percent? What authority would the FCC now have to change this cap?

Answer. See response to Question 1 above.

Question 3. With the launch of 5G technology, there are renewed concerns regarding the risks of radiofrequency radiation.² What role does the FCC play in making sure exposure to 5G airwaves by occupational workers or consumers remain at safe levels? To that end, what is the FCC doing to understand whether exposure to RF radiation and 5G technology may be linked to health risks for certain occupational workers or the general public?

Answer. The FCC’s rules regarding RF exposure to humans extends to all devices and facilities that transmit RF energy, regardless of the use, service, or technology—the same standards apply to exposure limits whether the device is 4G, 5G, Wi-Fi, or any other kind of radio transmitter. With regard to RF exposure levels and their regulation generally, we have an open proceeding that addresses issues related to our rules implementing RF exposure limits.

Because the FCC is not a health sciences agency, we rely on the recommendations of Federal health and safety agencies with extensive experience and knowledge in this area as we review the appropriateness of our limits with respect to RF biological effects and related issues. The Food and Drug Administration (FDA) is the lead Federal health agency in monitoring the latest research developments and advising other agencies with respect to the safety of RF-emitting products used by the public, and we work closely with FDA in this regard. I would note that earlier this year Dr. Jeffrey Shuren, head of the FDA’s Center for Devices and Radiological Health noted that: “[B]ased on our ongoing evaluation of this issue and taking into account all available scientific evidence we have received, we have not found sufficient evidence that there are adverse health effects in humans caused by exposures at or under the current radiofrequency energy exposure limits. Even with frequent daily use by the vast majority of adults, we have not seen an increase in events like brain tumors. Based on this current information, we believe the current safety limits for cell phones are acceptable for protecting the public health.”³

The open rulemaking referenced above also is considering clarifications and updates to the rules regarding modern installation and use practices. In addition to signage and barrier requirements related to occupational/controlled exposure, as well as enforcement actions related to this area, the Commission has conducted educational outreach and onsite programming with the Occupational Safety and Health Administration regarding worker safety. We will continue to work with the expert health agencies to ensure that consumers and occupational workers are safe and secure.

Question 4. Do you have any knowledge or information as to who was responsible for the fake comments during the Restoring Internet Freedom Order proceeding?

Answer. Unfortunately, the current Electronic Comment Filing System (ECFS) cannot validate the user identity of people that file comments into the record. Going

² <http://www.latimes.com/business/la-fi-cellphone-5g-health-20160808-snap-story.html>

³ <https://www.fda.gov/NewsEvents/Newsroom/PressAnnouncements/ucm595144.htm>; see also <https://www.niehs.nih.gov/news/newsroom/releases/2018/february2/index.cfm>.

forward, we want to mitigate if not eliminate this problem, which is why we are focused on redesigning the ECFS system.

Question 5. Did the FCC engage in any internal investigation into the fake comments in the docket? Did the FCC refer the matter to the Department of Justice—has there been any criminal investigation into the fake comments during the Restoring Internet Freedom Order proceeding?

Answer. As a general matter, the Commission does not discuss whether a matter is the subject of either an Enforcement Bureau or criminal investigation.

Question 6. Given the IG's findings about your previous CIO's failure to provide accurate information regarding the fake comments during the *Restoring Internet Freedom Order* proceeding, will you commit to an IG investigation into the source and the FCC's response?

Answer. The Commission will always cooperate with the Office of Inspector General, as we did in the recent report you mention.

Prior to repeal of net neutrality, several public interest organization warned that we would see small changes first, such as imposing additional fees for high definition video, as ISPs tested the waters to see what they could get away with. Public Knowledge's Harold Feld testified to the Maryland Senate in March that "primary broadband providers will take advantage of this to find new ways to charge customers if they want to get high quality service." Since then, Comcast and Verizon have begun to throttle mobile video for certain data plans unless consumers upgraded to more expensive services.

Question 7. Will we see more requirements that a subscriber must upgrade to the more expensive plans to access specific services or attach certain devices?

Answer. The types of data plans mentioned in your question have nothing to do with the June 11 repeal of utility-style Internet regulations. Indeed, they permitted under the previous regulations, and companies were offering them while those regulations were in effect. Of course, to the extent that Internet Service Providers act in an anticompetitive manner, including any allegations relating to your hypothetical, there are ample consumer protection authorities to evaluate and, if appropriate, prosecute any such behavior found to violate the law.

Question 8. Doesn't this new trend of fees for video service demonstrate that net neutrality rules were, in fact, absolutely necessary to protect consumers from price gouging?

Answer. Please see response to question 7.

Question 9. Do you consider impersonation or making fraudulent statements within a Federal proceeding a crime?

Answer. I would defer to the Department of Justice on criminal matters.

In August 2017, USAC removed National Verifier Service Provider API from the National Verifier Plan. This will force eligible Lifeline users to go into an inefficient and confusing two-step process to enroll in Lifeline. Hindering or eliminating service providers' ability to conduct online Lifeline enrollments will have a substantial impact on veterans in rural areas or with disabilities who cannot travel easily to enrollment events or storefronts.

Question 10. Why was the Service Provider API removed from the National Verifier Plan?

Answer. As you know, the Commission created the National Verifier in response to widespread waste, fraud, and abuse in the Lifeline program, with the goal of eliminating the role of carriers in verifying the eligibility of consumers. A carrier API could give the very companies that have previously abused the Lifeline program direct access to the National Verifier. In light of the \$137 million in abuse that the Government Accountability Office discovered in the Lifeline program last year, we must be careful in designing any carrier API to mitigate the ability of unscrupulous carriers to evade the screening role of the National Verifier.

As such, we have not made a final decision on whether to include a carrier API in the National Verifier. We continue to study the National Verifier's functioning to determine whether one is necessary and whether one can be designed without undermining the National Verifier's work of reducing waste, fraud, and abuse in this important program. In the meantime, carriers are able to work with consumers in person using the National Verifier's service provider portal.

Question 11. Who directed this decision? What role did you play in this decision?

Answer. See response to Question 10.

Question 12. Is there any plan to reinstate it?

Answer. See response to Question 10.

Question 13. Do you believe that Lifeline is underutilized by eligible Americans, or oversubscribed? Do you commit to continuing the Lifeline program in its full mission?

Answer. I am committed to bridging the digital divide, and I believe the Lifeline program can help do just that. That is why the Commission adopted the *2017 Lifeline Reform Order*, which seeks to focus Lifeline support where it is most needed and incentivize investment in networks that enable 21st-century connectivity for all Americans.

MBA Report

Since August 2011, the FCC has published annual reports on nationwide broadband performance based on measurements from consumers under the Measuring Broadband America (MBA). The MBA reports are a critical consumer protection program to ensure that broadband subscribers receive the quality of service advertised to them and enables informed decisions in the marketplace. Unfortunately, the FCC has not published an MBA report or released broadband measurement data since December 2016, which was based on measurements collected in October 2015. According to an ex parte, the 2017 MBA Report is “still waiting for final approval by the Chairman’s office.”

Question 14. When do you expect the 2017 Measuring Broadband America report will be published?

Answer. Since the Measuring Broadband America report pertains to the communications marketplace, we plan to include 2017 and 2018 MBA reporting as part of the biennial Communications Marketplace Report required by the RAY BAUM’S Act of 2018. Consistent with that Act, we are doing so to consolidate and streamline our various reporting workstreams to reduce the burden of reporting on Commission staff and provide Congress and the public with a single point of reference spanning the entire market.

Question 15. In previous reports, the MBA report has provided charts and data on year-over-year changes in download speeds for broadband consumers. Do you commit to continuing to include these same comparisons to previous years in the 2017 report?

Answer. I expect the Communications Marketplace Report will discuss data regarding the broadband marketplace for the past two years, as required by the RAY BAUM’S Act. The timeframes covered will be the same as in past years’ MBA reports (*i.e.*, data collected in September/October 2016 and September/October 2017) and the same measurement methodologies will be used. Relatedly, we’re looking at the best ways we could release data in advance of the report to make the data more timely and hence more useful to stakeholders.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. EDWARD MARKEY TO
HON. AJIT PAI

Question. The Commission is currently considering a forbearance petition to limit protections ensuring incumbent Local Exchange Carriers provide competing telecommunications carriers access to their networks at reasonable rates, terms, and conditions if there is not sufficient competition in the market. Will the Commission take into consideration the special circumstances of how Hurricane Maria devastated the local telecommunications infrastructure as it considers this proposal?

Answer. Yes.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TOM UDALL TO
HON. AJIT PAI

Question 1. Chairman Pai—There is a recurring theme with the FCC, both with the changes to the Lifeline program and the FCC’s recent order about National Historical Preservation Act consultation. The FCC says that it consulted with Indian Tribes while the tribes themselves disagree. What is your definition of meaningful tribal consultation?

Answer. The Commission consults extensively with Indian Tribes in accord with our Tribal Policy Statement. For example, in 2017, the Commission tasked its Office of Native Affairs and Policy with developing and implementing a targeted Tribal consultation plan involving Commission senior staff in outreach efforts with a variety of Tribes across the country in connection with the Commission’s Wireless Infrastructure Initiative. As a result of this plan, the Commission conducted extensive consultation and engagement in Indian Country to focus most particularly on wire-

less infrastructure deployment but also more generally on broadband deployment on Tribal lands as well as strategies for achieving that deployment, such as use of USF support. Commissioners and FCC staff visited at least nine different states, including Arizona, California, Connecticut, New Mexico, North Carolina, Oregon, South Dakota, Virginia and Wisconsin, in addition to holding consultations at FCC headquarters and numerous, widely attended conference calls. I personally participated in some of these consultations, from the Navajo Nation to the Rosebud Sioux Reservation to individual consultations at the National Conference of American Indians' Winter Session in Connecticut. For example, these targeted consultation and outreach efforts just through the summer of 2017 (from the *Second Report and Order*) include:

“Additional outreach efforts began immediately upon the NPRM’s release with a May 25, 2017 conference call during which Commission staff walked through questions asked in the item and took questions and comments from 52 representatives of Tribal governments and Tribal cultural preservation offices, as well as three intertribal organizations. . . .

“The Commission facilitated consultations between the Chairman and Tribal representatives on the Rosebud Sioux Reservation in South Dakota on June 8, 2017. Twenty-nine Tribal representatives from the Lower Brule Sioux Tribe, Chippewa Cree Tribe, Fort Belknap Indian Community, Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, Eastern Shawnee Tribe of Oklahoma, Kaw Nation, Cheyenne River Sioux Tribe, and Rosebud Sioux Tribe, as well as a participant representing several Oklahoma Tribes, attended. . . .

“At the NCAI Mid-Year Conference on June 14, 2017, Chairman Pai participated in one-on-one consultations with the Gila River Indian Community, the Jamestown S’Klallam Tribe, multiple Oklahoma Tribal representatives including the Cherokee and Choctaw Nations, the Organized Village of Kake, the Chippewa Cree Tribe, the Pueblo of Isleta, the Sault Ste Marie Tribe of Chippewa Indians, . . . the Ohkay Owingeh Pueblo, and the Tanana Chiefs. Chairman Pai also delivered plenary remarks and consulted with representatives of NCAI, USET, and the NATHPO. Commission staff also held a listening session and briefed both the Telecommunications and Technology Subcommittee and the Human, Religious, and Cultural Concerns Committee. . . .

“A member of the Chairman’s staff, together with WTB and ONAP staff, consulted with representatives of the Confederated Tribes of the Grand Ronde Community of Oregon, Cow Creek Band of Umpqua Indians, Nez Perce Tribe, and Chippewa Cree Tribe on July 20, 2017, in Eugene, Oregon. . . .

“A similar FCC group subsequently conducted meetings in Broken Arrow, Oklahoma, on July 24, 2017. This visit included one-on-one meetings with the Muscogee (Creek) Nation, Navajo Nation, and Delaware Nation that discussed fees, information needs, and changes in technology. FCC staff also consulted with representatives from the Absentee-Shawnee Tribe of Indians of Oklahoma, Cherokee Nation, Cheyenne-Arapaho Tribes of Oklahoma, Chickasaw Nation, Delaware Nation, Eastern Shawnee Tribe of Oklahoma, Iowa Tribe of Oklahoma, Kaw Nation, Kialegee Tribal Town, Kiowa Indian Tribe, Muscogee (Creek) Nation, Navajo Nation, Osage Nation, Otoe-Missouria Tribe of Indians, Ponca Tribe of Indians of Oklahoma, Quapaw Tribe of Oklahoma, Seminole Nation of Oklahoma, Thlopthlocco Tribal Town, and United Keetoowah Band of Cherokee Indians in Oklahoma. . . .

“WTB and ONAP staff held a two-day dialogue session following the NATHPO annual conference on August 10–11, 2017, in Pala, California. Participants included representatives from NATHPO and over 70 representatives of approximately 50 different Tribal Nations, including the Absentee-Shawnee Tribe of Indians of Oklahoma; Pueblo of Acoma, Agua Caliente Band Of Cahuilla Indians, Bad River Band Of Lake Superior Tribe Of Chippewa Indians, Blackfeet Nation, Bridgeport Colony, Cahuilla Band Of Indians, Cherokee Nation, Comanche Nation, Cow Creek Band of Umpqua Indians, Dry Creek Band of Pomo, Eastern Shawnee Tribe Of Oklahoma, Forest County Potawatomi Community, Fort Belknap Indian Community, Gila River Indian Community, Ho-Chunk Nation Of Wisconsin, Hualapai Tribe, Jamul Indian Village, Jena Band of Choctaw Indians, Lac Du Flambeau Band Of Lake Superior Chippewa Indian,; Mescalero Apache Tribe, Miami Tribe of Oklahoma, Mohegan Indian Tribe; Muscogee (Creek) Nation, Navajo Nation, Oglala Sioux Tribe, Organized Village Of Kake, Osage Nation, Otoe-Missouria Tribe of Indians, Pala Band of Mission Indians, Pauma/Yuima Band of Mission Indians, Pechanga Band Of Luiseno Indians, Quapaw Tribe of Oklahoma, Reno Sparks Indian Colony Sac and Fox Nation in Oklahoma, Salt River Pima-Maricopa Indian Community, Santa Ynez Band of Chumash Indians, Sauk-Suiattle Indian Tribe, Shawnee Tribe, Shoshone-Bannock Tribe; Sisseton-Wahpeton Oyate of the Lake Traverse Reservation, Soboba Band Of Luiseno Indians, Sokaogon Chippewa Community, Susanville Indian Rancheria,

Table Mountain Rancheria, Tejon Indian Tribe, Timbisha Shoshone Tribe, Tohono O’odham Nation, Tule River Reservation, Twenty-Nine Palms Band of Mission Indians, Upper Sioux Community of Minnesota, Ute Mountain Ute Tribe, White Mountain Apache Tribe, and Wichita & Affiliated Tribes. . . .

“Chairman Pai, supported by ONAP and WTB staff, traveled to the Navajo Reservation on August 22, 2017, to consult with representatives from an estimated 18 Tribal Nations, including the AkChin Indian Community, Blue Lake Rancheria, Delaware Tribe of Indians, Gila River Indian Community (Gila River Telecommunications, Inc.), Havasupai Indian Tribe, Hopi Nation (Hopi Telecommunications, Inc.), Jena Band of Choctaw Indians, Kaw Nation, Mescalero Apache Tribe (Mescalero Apache Telecom, Inc.), Navajo Nation, Nez Perce Tribe, Pascua Yaqui Tribe, Pueblo of Acoma, Pueblo of Jemez, Pueblo of Zia, San Carlos Apache Tribe (San Carlos Apache Telecommunications Utility, Inc.), Tohono O’odham Nation (Tohono O’odham Utility Authority), and Yavapai-Apache Nation and from organizations including the Alaska Native Health Board, Bristol Bay Area Health Corporation, Native Public Media, National Tribal Telecommunications Association, and Tuba City Regional Health Care. . . .”

Question 2. The FCC recently sought comments on an NPRM that proposes to modernize the 2.5 GHz band, better known as Educational Broadband Service or EBS. EBS has been a successful public-private partnership model that benefits educators, commercial entities, and the public. I support plans that allow schools, tribes, and nonprofits to get new licenses before moving to auction. Do you agree that educational entities should have an opportunity to get new licenses before any auction? (Yes/No Question)

Answer. This is an ongoing proceeding, the FCC having issued an NPRM on this topic earlier this year. The record is still open, and we have not made any definitive judgments on the way forward. Nonetheless, we have proposed to accommodate various interests of educational entities involving this spectrum. For example, in paragraph 17 of the NPRM, we specifically sought comment “on whether we should first open up to three new local priority filing windows to give existing licensees, Tribal Nations and educational entities an opportunity to access 2.5 GHz spectrum to serve their local communities.”

Question 3. I know that the FCC is considering allowing current licensees to sell their licenses to commercial entities. Do you think licensees should be allowed to sell to anybody?

Answer. No. An entity or person must be qualified under the Communications Act and the Commission’s rules before the Commission would approve the assignment of any license.

Question 4. I support the Commission’s efforts to enable increased spectrum for broadband services, particularly in rural states such as mine. For that reason, I am encouraged by some of the FCC’s recent actions, including its current consideration of proposals to encourage wireless use of the 3.7–4.2 GHz spectrum band. I do however have concerns that any new or shared uses within this band—known as the “C-band”—might interfere with television and radio broadcasters’, including small, public broadcasters, use of satellite services for distribution of their content to local stations across the country. Can you commit that any new or additional uses of the c-band will not result in harmful interference or forced relocation from this band for incumbent users?

Answer. As you know, our consideration of the C-band is ongoing; the period for public input is still open (in fact, initial comments are due on October 29 and reply comments are not due until November 27). Our goal is to determine how best to use this important band in order to help bridge the digital divide in our country and deliver American consumers the best value for this public resource. We are simultaneously urging those who are currently using the band to register with us. We need this information because we can’t protect current users if we don’t know they exist. Whatever decision we make, we aim to make sure we have a smooth transition.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. TAMMY DUCKWORTH TO
HON. AJIT PAI

Question 1. In its reconsideration last year of the 2014 Quadrennial Media Ownership rules, the FCC addressed the issue of the attributing of stations involved in shared services and joint sales agreements for the purpose of applying the local ownership rules. The FCC has not done so, however, in its notice of proposed rule-making issued late last year regarding the potential modification or repeal of the

national ownership cap. Will you commit to initiating a broad rulemaking about the attribution of stations for the purpose of applying the national ownership rule, should you decide to retain it? Please explain your reasoning.

Answer. The Commission did not initiate a separate rulemaking to address the attribution rules in light of the national cap rulemaking because, as you note, the Commission had just ruled on the attribution rules (that apply in the context of all media ownership rules) the prior month.

Question 2. The FCC designated the Sinclair-Tribune transaction for a hearing in part because it found that there exists a substantial and material question of fact as to whether Sinclair was the real party of interest in the application to transfer the license of WGN-TV (Chicago). The FCC noted that Sinclair would have owned most of WGN-TV's assets, would have been responsible for many aspects of the station's operations, and would have had an option to purchase the station in the future. Sinclair has similar relationships with three stations in the Wilkes Barre, Pennsylvania, and a television market and two stations in the Gainesville, FL, market. Does this situation give you reason to consider whether such relationships might be attributable for the purpose of applying the FCC's national media ownership cap? Why or why not?

Answer. At this point, the Administrative Law Judge has yet to rule on a request from the parties to withdraw the applications that were part of the Hearing Designation Order. Until the Administrative Law Judge acts, the Hearing Designation Order is still in effect, and I do not believe that it would be appropriate for me to express a view on this issue.

Question 3. In May of this year, you accepted the recommendations from the North American Numbering Council (NANC) regarding the call authentication ecosystem, namely the adoption and deployment of "SHAKEN/STIR," the set of procedures and protocols intended to eliminate the use of illegitimate spoofed numbers from the telephone system. This report also included milestones for deploying SHAKEN/STIR. Please provide an update on the SHAKEN/STIR development and deployment process since the NANC report was submitted to the FCC three months ago.

Answer. Since the May 2 NANC report, industry stakeholders have begun the process of establishing a governance authority and associated mechanisms for SHAKEN/STIR through the Alliance for Telecommunications Industry Solutions. This governance body provided a report on its progress at the September 13 NANC meeting. The Commission has continued to follow up with telecommunications providers, software vendors, hardware manufacturers, and other stakeholders to assess industry readiness to adopt and deploy the SHAKEN/STIR standards for call authentication.

Question 4. The 2016 trial of the Do Not Originate Registry was, by nearly all accounts, a success. When do you believe the DNO Registry will become operational?

Answer. In 2017, the Commission authorized voice service providers to block calls on the "do-not-originate" list, *i.e.*, calls falsely purporting to be from a telephone number used for inbound calls only (among other things). Carriers under USTelecom's leadership operationalized the do-not-originate list in early 2018 once those rule changes became effective.

Question 5. In January 2017, the FCC withdrew from consideration rules that would have protected consumers from harassing robocalls from debt collectors servicing federally-backed loans. These callers, according to consumer groups, offer no easy way for consumers who are wrongly receiving these calls to get their numbers removed from the robocallers' list. What was the justification for withdrawing these rules and does the FCC plan to provide any protections for consumers going forward?

Answer. In 2016, the Commission (over my dissent) exempted all Federal contractors, including Federal debt collectors, from the TCPA in the *Broadnet Order*. Later in 2016, parties sought reconsideration of that decision along with the adoption of the rule to implement the Budget Act Amendments regarding Federal debt collection. To allow the Commission time to carefully consider the legal and policy issues, including questions about our statutory authority, the rules have not yet become effective. The Commission sought renewed comment on these issues in May 2018 and is reviewing the record now.

Question 6. Some carriers provide robocall blocking services free to their customers, while others do not. Does the FCC have plans to require telephone companies to provide these tools free of charge? If not, what remedy will there be for consumers who cannot afford to pay for these services?

Answer. I applaud those carriers that have devoted their resources to solving the epidemic of unlawful robocalls and especially those that offer such services to con-

sumers for free. Indeed, many consumers benefit from robocall blocking services—like the Do Not Originate registry—without even knowing it because such services are built into a carrier’s network. Given that there is no silver bullet to ending unlawful robocalls and the wide experimentation going on in the market now, I would be concerned that preemptive price regulations would stifle needed innovation while also being unnecessary given that consumers generally have the ability to choose a carrier that offers such services for free.

Question 7. In April of this year, the House Committee on Energy and Commerce held a hearing on robocalls and caller ID spoofing. At that hearing, a witness testified that consumers who still have traditional copper phones lines, often senior citizens, may not have access to blocking options to protect them from robocall scammers. What is the FCC doing to educate or otherwise protect these customers? How will the FCC track and report these concerns to the public?

Answer. We have undertaken a major outreach campaign to reach older Americans and alert them to robocalls scams. On September 18th, the FCC will team up with AARP on two tele-townhalls to inform older Americans about phone scams and what they can do to avoid being victims. We are also working with the American Library Association to furnish libraries throughout the Nation with FCC Consumer Guides and Tip Cards for all patrons, many of whom are 65 and over. We use information gathered from consumer complaints about robocalls to post consumer alerts about current scams such as “grandparent scams,” “Social Security scams,” “IRS scams,” and others that target older Americans. We also share this information with national and local community groups.

Question 8. The FCC adopted, as part of its March 2016 Lifeline modernization order, a plan to establish a National Lifeline Eligibility Verifier (National Verifier) to help prevent fraud, waste, and abuse in the Lifeline program. The National Verifier database is a centralized system to verify whether individual subscribers are eligible to participate in the USF Lifeline program by verifying a subscriber’s identity and eligibility status, thereby preventing duplicate enrollments. What is the status of the National Verifier and when can we expect that all U.S. states and territories will be included in the database?

Answer. The National Verifier soft launched in six states—Colorado, Mississippi, Montana, New Mexico, Utah, and Wyoming—in June 2018, enabling service providers to begin optionally using the system to check consumer eligibility. Hard launch (where use of the system is required) in these six states should occur later this year. The Commission has targeted a launch in all states and territories by December 31, 2019.

Question 9. The FCC issued, in November 2017, a notice of proposed rulemaking seeking comment on proposals to further modify the Lifeline program. Included in those proposals was one which would exclude non-facilities-based providers—that is, providers that do not build or maintain their own network facilities—from participating in the program. What impact would such an exclusion have on the number of eligible providers offering wireless and wireline Lifeline service and how would this affect the ability of subscribers to access Lifeline service?

Answer. The Commission not reached any conclusion as to whether resellers should be permitted to continue to participate in the Lifeline program, and your question is one of the issues that is being explored in the pending rulemaking proceeding. We continue to review this issue because resellers have been the subject of the vast majority of Commission Lifeline investigations for waste, fraud, and abuse. Furthermore, we are examining how the Lifeline program can support investment in broadband networks where they are needed most—in low-income urban communities, in rural areas, and on Tribal lands.

Question 10. Since the FCC modernized the E-Rate program, it has made digital learning a reality for thousands of Illinois students and Illinois recently took steps to create a state E-rate matching fund to accelerate fiber buildouts to our schools. I am increasingly concerned about the large number of fiber projects that have been administratively delayed by the FCC, especially those that involve a state funding match. In the past two years alone, 22 Illinois school districts have had their broadband upgrades delayed because of bureaucratic challenges in the E-rate application approval process. In 2018, 16 Illinois school districts applied for broadband upgrades to give their students greater learning opportunities totaling more than \$1.4 million in new investment. Yet as of today, *none* of these schools have received funding decisions. With less than three weeks until the September 1st target date for completing all funding decisions, what will you do to prioritize E-Rate and address the growing concerns around delays in fiber approvals?

Answer. The Commission is committed to ensuring that the E-rate program connects students everywhere with the digital tools they need to succeed. USAC has

processed nearly 95 percent of workable FY2018 E-rate applications and committed significantly more funding so far this year (\$1.68B) than it had committed around this time last year (\$965M). And the FCC is working closely with USAC to ensure that the remaining FY2018 E-rate applications get processed as quickly as possible so that all schools, including those in rural areas, can obtain funding for much needed broadband infrastructure and bridge the digital divide for their students.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MAGGIE HASSAN TO
HON. AJIT PAI

Question 1. In your written testimony, you highlight that American companies are launching satellites to provide broadband to underserved areas. Improving rural, or otherwise underserved areas access to broadband and closing the digital divide should be a priority of the Federal Communications Commission (FCC).

American companies are working to find innovative ways to develop and deploy cutting-edge technology to bridge the digital divide. There are many exciting proposals under consideration by the FCC, including stratospheric-based communications services that will support the rapid deployment of next-generation services in rural and underserved areas.

What are the FCC's plans for enabling innovative new technologies and services that would aid in closing the digital divide?

Answer. Closing the digital divide is my top priority as Chairman. Accordingly, we're thinking broadly and acting quickly to make sure we consider and encourage innovative new technologies. For instance, we're streamlining our non-geostationary satellite orbit (NGSO) rules to help facilitate the deployment of large satellite constellation systems. Our hope is that NGSO constellations can create an effective mesh network in space to provide access to millions of unserved Americans and more competition for millions more. We're also granting experimental licenses to entities that want to think out-of-the-box to close the digital divide. From Google's Project Loon in Puerto Rico to companies trying out 3.5 GHz plans, the private sector is responding. Finally, we're broadening our view of universal service programs in order to make sure that we're encouraging non-traditional players. For example, our recently-completed Connect America Fund Phase II auction, which allocated approximately \$1.5 billion for fixed broadband in unserved areas, awarded funds to fixed wireless companies, electric cooperatives, and others who have shown a willingness to deploy broadband infrastructure in hard-to-serve places.

Question 2. It is my understanding that Commissioner Rosenworcel worked to include maternal health issues in the recently passed Notice of Inquiry on the FCC's proposed telehealth pilot program. Given that the inclusion of maternal health issues is critical for rural women and their families, will you commit to maintaining them, if this program moves forward?

Answer. The Connected Care Pilot Program Notice of Inquiry you referenced has always included maternal health among the many health services that may be supported under the program. We look forward to reviewing the record that develops in response to the Notice and will keep this issue in mind should we proceed to a Notice of Proposed Rulemaking.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CATHERINE CORTEZ MASTO
TO HON. AJIT PAI

Question 1. A recent FCC Inspector General report recently concluded, despite the FCC's repeated claims that comment period for the net neutrality repeal was the subject of a cyberattack, that it was actually just the comment system simply being overwhelmed with public outcry against the rollback of net neutrality.

Does the FCC have estimates as to how many people may have lost their ability to comment during the time when the system was down? If so, please provide that number.

Answer. We do not have such an estimate. However, the docket was open from April 27, 2017—when the Commission released a copy of the Notice of Proposed Rulemaking that the Commission was going to consider at the May 23, 2017 Open Meeting—until August 30, 2017—the date to which the Wireline Competition Bureau extended the comment deadline. That was 125 days—or 3,000 hours—that the docket was open for comment, and the system was available over 99 percent of the time. Thus, there was more than ample time for people to file their comments in the official record of this proceeding.

Question 2. John Oliver’s show had made the FCC aware of the fact it was airing a segment on net neutrality and advocating for viewers to leave comments, was the FCC’s IT staff and CIO made aware of this outreach?

Answer. The Office of Inspector General report concluded that there is not evidence that the IT staff and CIO were made aware.

Question 3. When did you first learn that the attack may not have happened?

Answer. On January 23, 2018, my Chief of Staff was told by the Office of Inspector General (OIG) that OIG had concluded that the former Chief Information Officer’s assessment was wrong and that a DDoS attack had not occurred. My chief of staff orally conveyed that information to me, as well as OIG’s request that our office not disclose the fact or substance of its investigation to anyone.

Question 4. Did this cause you to give any consideration to delaying the process in order to more fully understand what happened and ensure proper time for public input?

Answer. No. Among other things, I did not receive this information until after the Commission adopted the *Restoring Internet Freedom Order*. Moreover, as indicated in my response to question 1 above, people had ample opportunity to express their views to the Commission in this proceeding.

Question 5. Why did the FCC, despite doubts cast by the tech community, Congress, and the press, issue such statements calling the press reports “categorically false” and claiming to have “voluminous documentation” of an attack?

Answer. The agency relied on the representations of career staff, most importantly the former Chief Information Officer—representations that, as the Office of the Inspector General later determined, were inaccurate.

Question 6. Did you have any indication, aside from Mr. Bray’s assurances, that the FCC had voluminous evidence of this supposed attack?

Answer. See response to question 5.

Question 7. In hindsight, how would you have handled the situation differently?

Answer. Knowing what I know now, I would have relieved the then-Chief Information Officer from his duties immediately after becoming Chairman of the agency in January 2017.

Question 8. Multiple reports have shown that ISPs have throttled content and have begun creating tiered service in the wake of the net neutrality repeal.^{4 5 6}

If these trends continue, or become commonplace, will you reconsider your views on net neutrality rules?

Answer. The reports you cite confirm that these practices have nothing to do with the June 11 repeal of utility-style Internet regulations. Indeed, they were permitted under the previous regulations, and companies, such as T-Mobile, were engaging in them while those regulations were in effect. In any event, the adoption of the *Restoring Internet Freedom Order* last December restored the Federal Trade Commission as the cop on the beat, and that agency is both able (given its broad jurisdiction over any “unfair or deceptive” trade practice or “unfair method of competition”) and willing (given Chairman Joe Simons’ repeated public commitments) to investigate and take action against any anticompetitive conduct that it finds in the Internet marketplace.

Question 9. If not, are there any actions that ISPs could take that would make you reconsider your views on the repeal of these rules?

Answer. We have two decades of experience under the light-touch regulatory framework to which the FCC has returned. That experience teaches that the Internet economy thrived without (and I would argue due to the absence of) utility-style regulations. Going forward, I am confident in both our agency’s determination to enforce its transparency rule against ISPs and the Federal Trade Commission’s ability to police those companies with respect to anticompetitive conduct. In the meantime, I would certainly encourage and be willing to work with Congress on codifying the basic principles of an open Internet into statute—principles with which I agree and which historically have united both sides of the aisle.

Question 10. Do you believe if ISPs give preferential treatment to their own services that is compatible with the value of a free and open internet?

⁴https://arstechnica.com/information-technology/2018/07/comcast-starts-throttling-mobile-video-will-charge-extra-for-hd-streams/?utm_campaign=Newsletters&utm_source=sendgrid&utm_medium=e-mail&mc_cid=cebfe51b52&mc_eid=bf11efc24c

⁵<https://arstechnica.com/information-technology/2018/07/charter-launches-mobile-service-throttles-all-video-to-480p/>

⁶<https://www.att.com/esupport/article.html#!/directv/KM1131836?gsi=A>

Answer. To the extent that an ISP acts in an anticompetitive manner, such action could undermine the free and open Internet. The Federal Trade Commission and the Department of Justice, with their long histories of antitrust enforcement, are best positioned to police any potential anticompetitive conduct.

Question 11. As you know, spectrum will be vital part in deploying 5G. There have been a variety of pushes from industry for spectrum both for millimeter waves and mid-band spectrum below 6 GHz.

What is the balance between mid-band spectrum and millimeter waves, and how have other countries struck that balance as they have worked to deploy 5G?

Answer. The Commission has adopted an all-of-the-above approach to spectrum, including mid-band and millimeter wave spectrum. That's why we have within the last year teed up proceedings on the 2.5 GHz band, the 3.5 GHz band, the 3.7–4.2 GHz band, the 4.9 GHz band, the 26 GHz band, and the 42 GHz band, set for auction the 24 GHz band and the 28 GHz band, teed up an auction for the Upper 37 GHz band, 39 GHz band, and 47 GHz band in 2019, and proposed new service rules for bands above 95 GHz.

Other countries and regions have different approaches, but generally speaking they are also pursuing multiple bands of mid-band and millimeter wave spectrum in order to ensure as broad a foundation as possible of 5G development.

Question 12. How does freeing up mid-band spectrum for 5G use impact rural access, especially with the high demand for these bands for rural areas?

Answer. Increasing the usage of the mid-band spectrum like the 2.5 GHz band and the 3.5 GHz band will be critical to our Nation's 5G efforts as well as ensuring widespread deployment of high-speed broadband services to rural America. I believe that rural consumers have waited long enough for high-speed broadband, and we cannot as a nation afford to lose the race to 5G.

Question 13. The Federal Government has been involved in helping make the case for private companies to bring broadband to underserved areas for a long time. It's crucial that every Federal dollar that goes to these communities is well spent, not duplicative, and gets sent out in a timely manner.

What are some of the challenges for better coordinating Federal resources and efforts to further deploy high-speed broadband?

Answer. The fundamental challenge is ensuring that taxpayer dollars are devoted to connecting unserved areas. The alternative is Federal support for overbuilding projects, which disserves consumers who lack access, undermines the government's role as a fiscally responsible steward, and displaces private investment. We welcome coordination with our Federal partners and private sector entities to ensure we are not duplicating efforts.

Question 14. Do you consider current tools, such as working groups, sufficient to improve efforts to curb overbuilding and duplication?

Answer. Working groups certainly can help and have aided in this effort, and we always are willing to work with our colleagues to curb the use of Federal funding to support overbuilding projects.

Question 15. Robocalls are one of the top complaints received by the FCC. Protecting consumers from these calls will take technological as well as enforcement efforts.

Do you believe stronger enforcement efforts could offer further deterrence for people making illegal robocalls?

Answer. Yes, I believe our stronger enforcement efforts (including imposing the largest fine in the FCC's history) can have a deterring effect on illegal robocallers. I intend to continue our vigorous enforcement actions against these unlawful activities.

Question 16. Are fines enough to crack down on the worst offenders?

Answer. We must have a multi-prong strategy, and that is why the Commission has attacked the robocalls problem on multiple fronts: taking enforcement action against offenders, taking necessary regulatory steps to empower consumers to avoid unwanted robocalls, making available lists of caller IDs used in robocalls to aid development of call filtering tools, and supporting industry efforts to harness technological developments to better protect consumers (such as allowing voice service providers to block robocalls that, based on Caller ID, appear to be from phone numbers that are invalid, unallocated, or unused, or from numbers that are not used to make outgoing calls). With respect to enforcement matters, under the Communications Act, the FCC only has civil authority to combat illegal robocalls. We defer to Congress and other law enforcement agencies regarding criminal action.

Question 17. As you are aware, the Trump administration has suggested that nationalizing the 5G network could be necessary for national security.

Do you believe that the private sector is best positioned to move forward with 5G?
Answer. Yes.

Question 18. Nevada is one of the Nation's leaders in school broadband thanks to E-rate modernization.

Since the modernization order in 2014, we have seen 100 percent of our students reach the FCC's short-term bandwidth goal—this is quite the achievement in some of our very rural counties. But there is still work to be done—in our state alone, over 3,400 Native American students still lack scalable broadband infrastructure. This year, Nevada school districts have requested E-rate funding to bring nearly \$1.5 million in new fiber “special construction” to schools. Our state leaders have established an E-rate matching fund to accelerate these fiber builds as well. However, funding decisions have been delayed, leading to uncertainty.

Can you commit to working with my office and Congress to provide certainty to e-rate funding decisions to help bring broadband to our most rural areas?

Answer. Yes.

Question 19. The FCC has moved quickly to revise child television rules under the Children's Television Act, arguing that new modes of watching require updating the rules. In the proposed rulemaking, you propose to eliminate the requirement that broadcasters air their programming on main program streams, which would allow them to move to multicast streams. Low income kids really rely on this programming for education, so it's very important we get this right.

Why not first issue a Notice of Inquiry, to fully examine the issue rather than move forward on such an aggressive timeline?

Answer. Our approach in this proceeding reflects the exact process prescribed by the Administrative Procedure Act: a notice of proposed rulemaking that “give[s] interested persons an opportunity to participate in the rule making through submission of written data, views, or arguments.” 5 U.S.C. §553(c). Far from a rush to judgment, the NPRM incorporates an extended time period for input, reflecting the FCC's desire to receive thoughtful public comment. The NPRM was adopted in early July, but the comment deadline (September 24, 2018) has not even arrived as of the date of this submission and the reply comment deadline will come in late October. Thereafter, the agency's staff will study the record and recommend the appropriate way forward.

Question 20. Multicast streams have 10 percent of the viewership as a main feed, how will a move to these streams not be hugely disruptive to the current system?

Answer. The issue of use of multicast signals for the provision of children's television programming is currently under consideration as part of our open proceeding. The Commission is soliciting public input on this issue and will make a decision on whether and how to modify existing rules based on the record.

Question 21. In Northeastern Nevada, we have a Designated Market Area (DMA) that is shared with Utah and as a result, many constituents there have trouble getting news about information in Nevada, such as the happenings of the state government. Most importantly, they need emergency updates that come from Nevada.

If they wished, could localities there apply for a dual DMA and can you commit to working with my office on all possible solutions for these constituents?

Answer. Today, cable operators, satellite providers, broadcasters, and counties (only with respect to satellite market modifications) are able to file a petition with the FCC to modify markets for cable and satellite carriage in order to potentially provide in-state stations to consumers who currently reside in areas assigned to a DMA that provides out-of-state stations. Detailed information on this process can be found on the Commission's website. We are able to provide assistance to Congress in this regard if needed.

Question 22. One exciting technology that will be enabled as we move to the Internet of things and 5G is wearable technology and the possibilities for better health outcomes, including for rural Americans.

Can you point to an example you have seen about how this technology is being deployed in a way that improves people's lives?

Answer. Perhaps the best example I have seen came at Augusta Health, a regional health care facility in rural Staunton, Virginia. Medical professionals there explained how they had given wearable devices with wireless sensors to patients who had had surgery in order to monitor their vital signs. As a result of being able to track these signs and intervene more quickly when patients were showing signs of regression, Augusta Health was able to reduce the incidence of sepsis by 38 percent.

More generally, wireless technology can dramatically improve the diagnosis of problems and speed and efficacy of treatment. For instance, the Cleveland Clinic deploys a mobile stroke unit with advanced wireless capability in order to assess and

stabilize a patient 38 minutes more quickly than before (vital, since a stroke victim loses 2 million brain cells per minute). And as highlighted in a November 2017 White House report, telemedicine can connect opioid patients to caregivers when there is no other option, with wearable biosensors detecting real-time drug use and alerting a family member or first responder to intervene.

Question 23. How can Congress help assist the FCC in ensuring the deployment of this technology in the future?

Answer. The Commission is considering this in the August Notice of Inquiry seeking comment on a proposal for an experimental “Connected Care Pilot Program,” led by Commissioner Carr. Based on my own study—which includes visits to telemedicine facilities in Idaho, Utah, Colorado, Florida, Kansas, Rhode Island, and elsewhere—I would recommend Congress consider a few legislative fixes: (1) interstate medical licensure, as cross-state licensure is commonly cited as the biggest barrier to telemedicine across state lines; (2) Medicare/Medicaid reimbursement for telemedicine services; and (3) granting the FCC more flexibility in structuring the types of telemedicine services and networks eligible for support.

Question 24. I have heard from many local communities in Nevada about their concerns about preemption of their authority over the siting and placement of wireless and other telecommunications facilities. Common sense measures to update regulations for new technology are important, but must also ensure that local communities have power to make decisions for themselves.

Do you understand some of the concerns of local communities over the FCC’s recent orders and what have you done to engage with these communities to ensure they feel respected during this process?

Answer. Commissioner Carr has been leading our wireless infrastructure efforts, and he and I are well aware of local concerns regarding this issue. We have conducted extensive outreach to ensure that we consider all legitimate concerns in the rulemaking process. Our processes are designed to encourage public input and provide for a transparent and respectful review of conflicting points of view.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JON TESTER TO
HON. AJIT PAI

Question. I understand the FCC is working on a rule to assess whether to establish a program under which a spectrum licensee may partition and sublease the license to an unaffiliated carrier to serve a rural area. What is the status of that rule? What other steps are you taking to make sure rural carriers that want to buildout in rural America have access to Spectrum?

Answer. RAY BAUM’S Act required the Commission to initiate a proceeding to consider rules regarding the partition and sublease of licenses to small carriers in rural areas by March 23, 2019. Our staff in the Wireless Telecommunications Bureau are currently studying options on how to proceed.

We are also exploring other tools to increase the efficiency of spectrum use and repurpose spectrum for next-generation services, including in rural areas. For example, last year we issued a Report and Order and Further Notice of Proposed Rulemaking to establish uniform license renewal, discontinuance of operation, and geographic partitioning and spectrum disaggregation rules and policies for certain wireless radio services—including potentially increasing buildout requirements in rural America. The comment period is now closed, and our staff is reviewing the record on how to proceed.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN THUNE TO
HON. MICHAEL O’RIELLY

Question. Please describe actions the FCC has taken to meet its statutory obligations in regards to the T-band.

Answer. As you know, the Middle Class Tax Relief and Job Creation Act of 2012 (Public Law 112–96) required the Commission to reallocate and reauction the spectrum in the 470–512 MHz band, commonly referred to as the T-Band, within nine years of enactment. This means that far in advance of February 22, 2021, the FCC must take steps to begin the auction and relocation process. Consistent with passage of the Act in February 2012, I pushed the Commission to cease processing applications for new or expanded T-Band operation and issue a Public Notice seeking information on how to enact the statutory requirement, which it did. Unless the law is modified or eliminated, I support the Commission taking the next steps expeditiously in this matter.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROY BLUNT TO
HON. MICHAEL O'RIELLY

Question. In your dissent to the 2015 TCPA Omnibus Declaratory Ruling, you expressed your disappointment with the Commission's decision, and discussed the need to balance consumer protection with that of businesses trying to contact their consumers for a legitimate business purpose. I agree with this approach along with six of my colleagues, which we vocalized in a letter sent to the FCC on July 24. Is the FCC planning to ensure the appropriate balance is achieved between these two interests when answering the TCPA questions set before it?

Answer. I certainly hope that the Commission will achieve this balance and will advocate internally to my colleagues for such an approach. As your letter eloquently highlighted, "The FCC's past interpretations of the TCPA have resulted in uncertainty about how those calling in good faith can comply with FCC regulations, making it more difficult for consumers to receive communications they want and need. This chills legitimate communications and leads to increasing class action litigation that often does little to help consumers."

In fact, as you mention above, I raised similar concerns in my dissent. Specifically, I stated that any claim that the order protected Americans is a farce and highlighted that, in its overreach, the order would penalize legitimate businesses and institutions acting in good faith to reach their customers using modern technologies. Therefore, I was pleased that the D.C. Circuit struck down the 2015 TCPA Omnibus Declaratory Ruling, providing the Commission with the opportunity to rethink its prior decision.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JERRY MORAN TO
HON. MICHAEL O'RIELLY

Question 1. The MOBILE NOW Act, which was signed into law as part of the most recent omnibus package, called for the FCC and NTIA to identify 100 megahertz of new unlicensed spectrum while also requiring the creation of a "National Plan for Unlicensed Spectrum." What steps will the Commission take to free up much-needed unlicensed spectrum to support growing consumer demand for existing technologies and to provide innovation space for the technologies of the future? How are you coordinating with NTIA?

Answer. In July, the Commission initiated a proceeding to reallocate spectrum in the 3.7 to 4.2 GHz band, or C-band downlink, for licensed use. As the Commission considers this proceeding, the overall plan must also permit unlicensed use of the C-band uplink spectrum, or 6 GHz band. As Chairman Thune recently noted to the Commission, the 6 GHz band is a necessary ingredient to address the need for more unlicensed spectrum. This spectrum, along with the potential opening of the 5.9 GHz band and combined with the existing 5 GHz band, will provide the unlicensed community with access to a significant swath of spectrum, creating wide channels for Gigabit services. Moreover, in March, the Commission issued a notice to contemplate whether underutilized spectrum in the 4.9 GHz band—in close proximity to the 5 GHz band—should be allocated for unlicensed use, what the technical rules should be, and how the Commission should deal with the incumbents. Taken together, I believe that these actions will enable us to meet our statutory obligations under the MOBILE NOW Act.

Question 2. This committee worked hard to ensure that adequate funding for the broadcast channel repack in the omnibus this past March, including money for impacted FM radio stations and Low Power TV and Translators. Next month, phase one of the repack moves begin. What process does the Commission have in place to ensure that, if a broadcaster being moved to a different channel is unable to meet their phased move deadline, through no fault of their own, that they will not be moved off of their current channel?

Answer. I have repeatedly stated that if a broadcaster being moved to a different channel is unable to meet their phased move deadline, through no fault of their own, I would support modifications to that broadcaster's deadline in order to ensure that no broadcaster is forced off the air. I have been in constant communication with both the industry and the Media Bureau, regarding the progress of Phase 0 and any anticipated complications or slowdowns as we move forward. Throughout these conversations, it has been clear that affected broadcasters and the FCC are methodically working through the ten phases of the repack. Most experts are not anticipating huge problems until at least phase three, but I'll be following closely the experiences stations are having with the repack and what issues may be on the

horizon. For instance, I was one of the first to raise awareness of the potential shortage of tower crews that could cause relocation delays.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
HON. MICHAEL O'RIELLY

Question. In many rural communities, students have long commutes on school buses sometimes upwards of half an hour, an hour, or even longer one-way. Given the connectivity challenges many students face in rural communities, how could E-rate help connect school buses with wifi to allow students to use commute time to do homework, projects, or other school work?

Answer. The FCC's Universal Service Fund programs—which are authorized pursuant to Section 254 of the Communications Act—have served to help connect consumers and communities that would not otherwise have access to modern communications networks. Accordingly, it is not surprising to see a desire to expand their scope to other aspects of our increasingly connected lives. At the same time, there are certain statutory, fiscal, and practical limits on this agency's mission that keep us from engaging in certain initiatives, no matter how compelling a particular idea may be. Of course, as I have stated on multiple occasions, any time Congress provides the Commission with clear direction via the passage of legislation, I will implement it as required. In this case, absent new statutory requirements, the Commission currently lacks legal authority to fund such projects under the E-Rate program.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. MICHAEL O'RIELLY

Question 1. Your agency has been tasked with commencing a study of broadband deployment and access on tribal lands by March 2019. The agency has been criticized in the past for having less than robust compliance with the need for tribe consultation. How can we optimize the tribes' participation in the broadband study and the composition of the report?

Answer. My door remains open to any stakeholder who would like to weigh in on any proceeding at the agency, and I have met with tribal representatives on numerous occasions, both at the Commission and while traveling throughout our Nation. I am committed to improving tribal broadband connectivity, and the Commission should discuss policy changes and seek to gain accurate information from tribes regarding the state of communications on tribal lands. At the same time, consultation does not require tribal approval or provide tribal representatives a veto over Commission actions. To facilitate the most accurate and helpful report in 2019, the Commission should seek a dialogue with tribal representatives to obtain necessary information. However, such a process should not be seen as a means to acquiesce to whatever policy changes tribal representatives are seeking.

Question 2. Do you think it's important that the upcoming quadrennial review to review the changes that have been made to media ownership over the past 18 months and the impact that these changes have had on localism, media concentration and diversity?

Answer. Section 202(h) of the Telecommunications Act of 1996 requires that the Commission review its rules on broadcast ownership every four years to “determine whether any of such rules are necessary in the public interest as the result of competition,” and “shall repeal or modify any regulation it determines to be no longer in the public interest.” As statutorily required, we should review all of our remaining media ownership rules, and whether they make sense in the current media marketplace. The law is specific in its focus on existing rules and not those that have been eliminated already.

For instance, in November, the Commission found that some of our rules, including the Newspaper/Broadcast Cross-Ownership (“NBCO”) rule, was not necessary to promote competition, localism, or ensure viewpoint diversity. In February, the Third Circuit Court of Appeals denied a mandamus petition challenging our order, allowing our revised rules to go into effect. Unfortunately, I believe the repeal of the NBCO rule happened 15 years too late, and, as we approach the 2018 Quadrennial Review, I hope that we can make more changes so that our rules will truly reflect the modern media marketplace that the Third Circuit recognized as early as 2004.

Question 3. In 2016, the Court of Appeals chastised the FCC for making changes to media ownership rules without the benefit of having completed statutorily mandated reviews of the media marketplace and media ownership rules that were re-

quired in 2010 and 2014. Basically the court was saying that the FCC's policy making needed to be based on data and analysis. It's my understanding that the FCC needs to start its next data gathering review this year.

Given the court's guidance that any FCC changes to media ownership rules should be grounded in the type of up-to-date data and analysis required by the quadrennial review process, what you would recommend that the next Quadrennial review cover?

Answer. While I have expressed concerns with the Third Circuit's reasoning in this set of cases, I agree that the Commission's efforts on the 2010/2014 Quadrennial Review were shoddy at best, ignoring the record and marketplace data to indefensibly maintain rules that should have been dismissed years ago. Consider that prior to Commission action, the Third Circuit admonished the FCC for its delay in our review and specifically highlighted the NBCO rule, stating that "the 1975 ban remains in effect to this day even though the FCC determined more than a decade ago that it is no longer in the public interest."¹ When the Commission finally did act, it examined the full media landscape then did nothing to adjust our rules in response to that landscape. In fact, despite having the votes to eliminate the cross-ownership rules, the Commission ignored precedent, consensus, and the record before it and in an about-face, decided to maintain the NBCO rule.

For the next Quadrennial Review, I hope that we can more honestly define the media market as it exists today. For instance, while our November Order acknowledged that the video marketplace has substantially evolved, the Commission declined to expand its market definition beyond local broadcast television stations. I believe there is ample evidence that cable operators, over-the-top providers, Internet sites, and social media platforms compete with local broadcasters.

Further, I hope the 2018 Quadrennial Review will more fully review each and every aspect of our Broadcast Ownership Rules. For starters, it's time to review the Commission's AM/FM subcaps. Additionally, I have long called for a reexamination of the duopoly rule. In many markets, duopolies or triopolies could strengthen the overall state of broadcasters and allow stations to concentrate more resources on bringing more and higher quality local content and news to their viewers. In November, the Commission rightfully eliminated the "eight voices test," which made even less sense in 2017 than it did in 2002 when the Commission first sought to eliminate it. As to the relaxation of the top-four restriction, I would have preferred for relief to be provided through bright-line rules rather than relying on staff-driven case-by-case waiver assessments. I trust that as we re-examine this issue, as well as its possible elimination altogether, as part of the 2018 Quadrennial Review we will give serious weight to a full elimination of the duopoly rule.

Question 4. When I asked Chairman Pai at the hearing if the FCC has the authority to address cybersecurity threats, he said that the FCC currently lacks the authority. In your view, which Federal agency, if any, is the lead agency on cybersecurity issues, such as SS7, impacting wireless telephone networks?

Answer. I agree with Chairman Pai that current law provides the Commission with little authority over Internet or communications network security. I have written about, given speeches, testified before Congress, and spoken publicly on that exact point. Cybersecurity is certainly and rightly a policy area that requires a significant amount of attention. Accordingly, it seems that everyone wants to be involved. The Senate Homeland Security and Governmental Affairs Committee held a hearing on this very topic last year, finding that duplicative cyber regulations imposed by various Federal agencies have taken industry's attention away from securing their networks and towards a compliance, check-the-box regime.² That is why Congress assigned responsibility over these issues to the Department of Homeland Security. It is detrimental for any agency or department to try to insert itself into an area under another's jurisdiction. Of course, if Congress passes a statute providing the Commission with authority over this issue, I will fully implement any new authority given to the Commission.

Question 5. The FCC has publicly encouraged wireless carriers to voluntarily address cybersecurity issues related to SS7 that impact their networks. Does the FCC currently have the authority to *require* wireless carriers to address cybersecurity issues related to SS7? If not, please explain why.

Answer. No. Those that suggest the Commission has authority in this space point to specious readings of the law, such as Section 1 of the Communications Act of

¹*Prometheus Radio Project v. FCC*, 824 F.3d 33, 50 (3d Cir. 2016) (*Prometheus III*).

²U.S. Senate Homeland Security and Governmental Affairs Committee, "Cybersecurity Regulation Harmonization" (June 21, 2017), <https://www.hsgac.senate.gov/hearings/cybersecurity-regulation-harmonization>.

1934 providing some universal authority over all communications activity, especially cybersecurity. However, the plain reading of Section 1 clearly shows that it serves as a preamble to justify the creation of the FCC. It sets the stage for Congress moving away from the Federal Radio Commission and to the “modern” Commission and serves as a policy statement, not actual authority. I would be troubled to try to read cybersecurity within any other provisions in our current statutory authority.

Question 6. According to a recent article in the Washington Post, governments in other countries, including the United Kingdom, have “commissioned independent testing of the vulnerabilities in national cellular networks.” Does the FCC currently have the authority to commission independent cybersecurity testing of U.S. wireless networks? If not, please explain why.

Answer. No. While I can’t speak to the regulatory authority provided to foreign regulatory bodies, the Commission’s authority in this space is limited. Instead, the Commission relies on its advisory committees to be kept up to speed on pertinent topics and a partnership with the Department of Homeland Security in its exercise of pertinent authority.

Question 7. Does the FCC currently have the authority to require mobile carriers to assess risks relating to the security of mobile network infrastructure as it impacts the Government’s use of mobile devices? If not, please explain why.

Answer. Government entities, through their procurement processes, can always seek to require mobile carriers to provide certain levels of services in order to receive their business. However, that would probably be done individually by such government entities, rather than by the FCC.

Question 8. Does the FCC currently have the authority to compel mobile carrier network owners/operators to provide information to the FCC to assess the security of the carriers’ communications networks? If not, please explain why.

Answer. The Commission engages in various information collection processes with mobile carrier network owners/operators to provide statutorily mandated reports to Congress. However, I am not familiar with any required report that would permit us to compel mobile carrier network owners/operators to provide information to the FCC to assess the security of the carriers’ communications networks.

Question 9. A recent investigation by Senator Wyden revealed that wireless carriers were providing customer location to private companies without verifying that users had consented to this disclosure of private information. In response, all of the major wireless carriers announced they would stop selling location data via location aggregators.

Answer. I am aware of the recent release of certain consumer location data by a company, Securus, that collects this data, upon receiving consent from the wireless subscriber, as part of its prison payphone offering. It is my understanding that the wireless carriers provided the location information to an aggregator, LocationSmart, which then provided the information to Securus. This is an issue that I am following, and I am in the process of obtaining the facts so that I understand exactly what consent was received from subscribers, how this data was collected, and what led to the disclosure of this information. It is also my understanding that the Commission has opened an investigation into these events. One of the issues that will need to be considered is whether we have authority over the specific facts presented in this case. I do not want to prejudge an issue that is likely to come before me in the coming months, but I am happy to work with you and your staff as we continue to consider this matter.

Question 10. Is location data is protected by 47 U.S.C. § 222, regardless of whether it is collected when the subscriber is making a call, browsing the web from their smartphone, or even when the subscriber’s phone is not being used and is in the subscriber’s pocket? If not, please explain why.

Answer. As I stated in my previous answer, the Commission is currently looking into this very issue, and I will reserve judgement until I have all of the facts and am able to perform a thorough statutory analysis. To my knowledge, the Commission has not addressed this issue before, and I expect that, while I do not have insight into the parameters of the staff investigation, this is one of the issues that the Commission will be exploring.

Question 11. Has the Commission responded to the Third Circuit mandate in the Prometheus Radio Project v. FCC line of cases to examine the impacts of broadcast consolidation on ownership opportunities for women and people of color?

Answer. Yes, it is my understanding that appropriate paperwork was filed with the court in this matter. Chairman Pai deserves much credit for bringing to order an incubator program last month. The number of women-owned and -controlled broadcast stations and the number of African-American-owned and -controlled sta-

tions in the United States is abysmally low. As I stated at a Congressional hearing last October, the situation we have today is a result of our media ownership rules, and those rules have not worked. We must try something new. With our new Incubator Program, the Commission does just that. I truly hope that this program is a success and the court review will validate this approach.

Question 12. Does the Commission intend to collect any data so that it can examine how and whether broadcast consolidation relates to ownership diversity?

Answer. I am not aware of the Chairman's exact plans for the 2018 Quadrennial Review, so I cannot speak with authority to this question.

Question 13. What percentage of broadcast stations are owned by people of color? By women? Are you satisfied with those levels? If not, what kind of meaningful changes can the FCC make to expand ownership diversity?

Answer. According to the Commission's most recent report on the ownership of commercial broadcast stations, women collectively or individually held a majority of the voting interests in 102 full-power commercial television stations, or 7.4 percent. African Americans fared even worse, holding collectively or individually a majority of the voting interest in 12 full-power commercial television stations, or 0.9 percent. Importantly, these are statistics that resulted under the FCC's archaic media ownership rules, which we took an important step to modernize in November. I truly believe that updating our rules to reflect the actual marketplace will allow broadcasters to fully compete in the dynamic marketplace and thrive in many instances. Congress shared this sentiment when it passed the Telecommunications Act of 1996, which included Section 202(h) that required the Commission to review its rules on broadcast ownership every four years in order to "determine whether any of such rules are necessary in the public interest as the result of competition" and to "repeal or modify any regulation it determines to be no longer in the public interest."³ As I have previously stated, the situation we have today is a byproduct of decades old rules, and those rules have not worked. We must try something new.

Question 14. What data, if any, did the Commission rely on to justify its recent assumptions that deregulation in the form of loosening local ownership protections would improve competition and localism in the broadcast market?

Answer. Each time the Commission takes action, it relies on the record to support our decisions. While there are many actions we have taken in the broadcasting space, I will focus my answer on the NBCO rule as an example of our analysis. More than a decade ago, the Third Circuit found that the FCC "reasonably concluded" that the NBCO rule was not necessary to promote competition or localism⁴ and in our November order we fully addressed why it was not needed to ensure viewpoint diversity. According to Pew, "Americans turn to a wide range of platforms to get local news and information."⁵ The Third Circuit recognized this multiplicity of voices, including cable and Internet, in 2004. It simply disagreed with the Commission on the degree to which these services competed with local newspapers. But, something else happened in 2004: a social media platform known as Facebook launched, followed by Twitter in 2006. These social media platforms, along with Google, became go-to sites that many consumers visit to first learn about breaking national or local news. More than a decade later, it is hard to overstate the impact of social media platforms and online outlets on viewpoint diversity.

Question 15. Does the FCC have any intention of soliciting public input with field hearings regarding whether or not local broadcast stations are serving the public interest to inform evaluations of recent media ownership changes or future ownership reviews?

Answer. I am not aware of the Chairman's plans for the 2018 Quadrennial Review, so I cannot speak with authority to this question. However, I have found that past field hearings have offered little additional value to the record.

Question 16. Notwithstanding any recent legislation, in your opinion, which part of the Federal Government should maintain responsibility for updating and maintaining the broadband map? What is the basis for your answer?

Answer. It is critical that policymakers and the public understand where broadband coverage is available throughout America, and I believe that the FCC is well-suited to update and maintain our broadband maps. But to engage in an effective mapping effort, we must make a determination on the appropriate level of granularity for the underlying data, and evaluate the costs of and our mandate for pro-

³Telecommunications Act of 1996, Pub. L. No. 104-104, §202(h), 110 Stat. 56, 111-12 (1996).

⁴*Prometheus Radio Project v. FCC*, 373 F.3d 400-01 (3d Cir. 2004) (*Prometheus I*).

⁵Pew Research Center and Knight Foundation, How People Learn About Their Local Community 1 (Sept. 26, 2011) (How People Learn About Their Local Community), <http://www.pewinternet.org/2011/09/26/how-people-learn-about-their-local-community>.

ducing more specific maps. This notwithstanding, the Commission has taken actions during my tenure to improve the broadband data reporting requirements, allowing for more accurate maps.

Question 17. What is your view on whether the Federal agency should use or rely on the data sets of private companies to fill out the broadband map?

Answer. The Commission should rely on a multitude of sources to provide reliable and accurate data in order to produce the best broadband maps possible. That being said, the Commission's previous data collection processes have had shortcomings, producing a great deal of inconsistencies in companies' submissions. The Commission is currently working on modifying our data forms in order to ensure that the information provided is helpful, consistent, and paints a more accurate picture of broadband deployment.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
HON. MICHAEL O'RIELLY

Question 1. The Wall Street Journal's Editorial Board recently praised Chairman Pai's decision to challenge the Sinclair-Tribune merger, stating that "the FCC Chairman follows the law in stopping a merger." The editorial concluded by saying, "it's up to Congress to change broadcast ownership restrictions." Do you agree that only Congress has the authority to change broadcast ownership restrictions, like the national television audience reach cap?

Answer. Section 202(h) of the Telecommunications Act of 1996 requires that the Commission review its rules on broadcast ownership every four years to "determine whether any of such rules are necessary in the public interest as the result of competition," and "shall repeal or modify any regulation it determines to be no longer in the public interest." Therefore, I respectfully do not agree that only Congress has the authority to change broadcast ownership restrictions. To the contrary, the Commission is statutorily mandated to review and update these rules.

The one exception, of course, is to the national television audience reach cap. As I have stated previously, I do not believe that the Commission has the authority to modify the national audience reach cap, which also extends to eliminating the UHF discount. While the discount may no longer be technologically justified, it is up to Congress to make that determination, not the Commission. This was the clear intent of Congress, from my experience and perspective, when it partially rolled back the FCC's proposed cap increase of 45 percent in 2004.

Question 2. A December 2017 Notice of Proposed Rulemaking explores gutting one of the last few remaining rules protecting consumers from massive consolidation in media: the media ownership cap. Didn't Congress—through the Consolidated Appropriations Act of 2004—very clearly instruct the FCC to set this cap at 39 percent? What authority would the FCC now have to change this cap?

Answer. After extensive debate and too many meetings to count, Congress enacted the relevant portions of the 2004 Consolidated Appropriations Act. The language in the law cannot be clearer from my opinion: it statutorily sets the national ownership limit and correspondingly removes it from the quadrennial review under section 202(h) of the Telecommunications Act.

While this is my interpretation, there is broad disagreement among interested parties over the Commission's authority in this space. Many qualified practitioners, for instance, make colorable arguments that my statutory interpretation is wrong. For these reasons, I believe it is time for the courts to opine on this matter. We need certainty, in a way that only the courts or Congress can provide, as to where the Commission's authority begins and ends. Therefore, I have stated that if the Commission proceeds, after a review of its record, to alter or eliminate the cap, I will support that item. That is not to suggest my position has changed, but only that I believe in getting to finality and am willing to cast a vote that will allow the Commission to take the needed step to get this to court review. Substantively, I believe the cap is not intellectually defensible and should be changed.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
HON. MICHAEL O'RIELLY

Question 1. At the hearing you testified that contribution methodology reform "has been stuck for quite a while" because a proposal by the state members of the Federal-State Joint Board on Universal Service is not "viable amongst the members" of the full board. Explain specifically what the state members' plan proposes and why you think it is not viable?

Answer. The heart of the proposal by State representatives to the Federal-State Joint Board has been to expand the contribution base by requiring broadband companies—and ultimately their consumers—to pay new fees to support USF. I have long opposed the idea of imposing fees on broadband. Fundamentally, taxing broadband deters its adoption and use. Congress, the Commission, and certain consumer groups have recognized this on multiple occasions in the past.

It is also wrong to assume that assessing broadband will cause the current contribution factor to drop dramatically, resulting in lower fees for consumers. Broadening the base may reduce the fees on currently assessed services, but new fees will be applied to more parts of the same consumers' bills. In other words, it would just spread the pain in the hopes that people will not notice or care enough to object. Moreover, the notion that broadening the base would result in a lower contribution factor assumes that spending remains constant, which is unlikely given the recent interest in increasing overall spending.

Question 2. What other proposals have been put forward by you or any other Joint Board members? How many meetings did the Joint Board hold to discuss the state members' proposal? How many times has the Joint Board met this year and last year to discuss contribution methodology reform, and when was the last meeting? Has the plan submitted by the state members been put to a formal vote by the Joint Board and rejected by a majority of the members? If it has not been put to a vote, why not?

Answer. Over the years, the Commission and, specifically, the Joint Board, have explored numerous options to replace the current methodology. I can't speak to Joint Boards overseen by other Commissioners, but I have had numerous conversations with the state representatives on their proposal, including a formal meeting held in Phoenix. The state proposal has not been presented before the Joint Board for a vote because a majority of FCC members vehemently oppose capturing broadband in the contribution methodology. I believe such action would be extremely harmful, and we are under no obligation to vote on a proposal from the Joint Board that is doomed for failure when it comes to the Commission.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. EDWARD MARKEY TO
HON. MICHAEL O'RIELLY

Question. The Commission is currently considering a forbearance petition to limit protections ensuring incumbent Local Exchange Carriers provide competing telecommunications carriers access to their networks at reasonable rates, terms, and conditions if there is not sufficient competition in the market. Will the Commission take into consideration the special circumstances of how Hurricane Maria devastated the local telecommunications infrastructure as it considers this proposal?

Answer. Without prejudging the petition before the Commission, I think it is fair to say that I have always supported a robust record in order to make the best decision possible. To the extent parties submit relevant information, I will give it appropriate consideration.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
HON. MICHAEL O'RIELLY

Question. What is your view on what a meaningful tribal consultation should look like?

Answer. My door remains open to any stakeholder who would like to weigh in on any proceeding at the agency, and I have met on numerous occasions with tribal representatives, both at the Commission and while traveling throughout our Nation. Tribal consultation means just that: The Commission should discuss policy changes and seek to gain accurate information from tribes regarding the state of communications on tribal lands. Consultation does not *require* tribal approval or provide tribal representatives a veto over Commission actions.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. MAGGIE HASSAN TO
HON. MICHAEL O'RIELLY

Question. It is my understanding that Commissioner Rosenworcel worked to include maternal health issues in the recently passed Notice of Inquiry on the FCC's proposed telehealth pilot program. Given that the inclusion of maternal health issues is critical for rural women and their families, will you commit to maintaining them, if this program moves forward?

Answer. In August, the Commission launched a Notice of Inquiry (NOI), led by Commissioner Carr, on a pilot program to examine whether to expand the Commission's telehealth program. Importantly, an NOI represents the very beginning of a process. As I stated at the Open meeting, as I follow the record in this proceeding, my goal is to ensure that any new program is: legally sound; coordinated both within the Universal Service Fund (USF) and with other agencies' programs to avoid duplication; cost-effective for consumers and businesses that would fund it; and accountable to the agency and the American public. The NOI raised some concerns along these lines, which I highlighted in my statement. I am pleased that Commissioner Carr got us to this point, but much work lies ahead. I will commit to rolling up my sleeves to address these matters and others, consistent with my principles, before any Notice of Proposed Rulemaking is considered. As it pertains to maternal health, I have witnessed the impact of the deterioration of access to certain women's health care in many rural parts of America and fully recognize that telehealth technologies, many of which are already in operation today to great success, can greatly improve this situation. As such, I would be in favor of including provisions related to maternal health, if the pilot project proceeds forward.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CATHERINE CORTEZ MASTO
TO HON. MICHAEL O'RIELLY

Question 1. A recent FCC Inspector General report recently concluded, despite the FCC's repeated claims that comment period for the net neutrality repeal was the subject of a cyberattack, that it was actually just the comment system simply being overwhelmed with public outcry against the rollback of net neutrality.

When did you first learn that the attack may not have happened?

Answer. I was not interviewed or involved in the Inspector General's (IG) investigation. I learned about the IG's findings just prior to its release on August 6, 2018.

Question 2. As you know, spectrum will be vital part in deploying 5G. There have been a variety of pushes from industry for spectrum both for millimeter waves and mid-band spectrum below 6 GHz.

What is the balance between mid-band spectrum and millimeter waves, and how have other countries struck that balance as they have worked to deploy 5G?

Answer. Experts agree that we need additional spectrum to meet the demands of a broad range of applications and to provide greater capacity, faster speeds, and lower latency. Next generation systems will capitalize on both new and existing licensed and unlicensed networks, utilizing low-, mid-and high-band spectrum, including millimeter wave frequencies. More than two years ago, I started focusing my attention on the mid bands, after it became apparent that a global shift in spectrum policy had occurred and the world was eyeing these frequencies as a component for 5G deployment. Thus, it became vital for the United States to have a serious mid-band play to complement our spectrum work in the low and high bands. Other nations seeking to lead on 5G have tended to focus their respective spectrum allocations on mid-bands and generally lacked a millimeter wave strategy.

Question 3. How does freeing up mid-band spectrum for 5G use impact rural access, especially with the high demand for these bands for rural areas?

Answer. The mid-band frequencies most often discussed for possible reallocation to flexible wireless use, including 5G services, are 3.55 to 3.7 GHz, 3.45 to 3.55 GHz, and 3.7 to 4.2 GHz. The first two bands are relatively unused by commercial providers because of protections afforded the Department of Defense. Thus, allowing commercial entities to use these bands under certain conditions should expand the options for providers, including those in rural areas. In fact, mid-band spectrum is particularly attractive for rural mobile systems because it propagates farther than the millimeter waves. To the extent your question touches upon the geographic license sizes for the CBRS Priority Access Licenses (3.55 to 3.7 GHz), I have stated repeatedly that the Commission is working to make sure the license sizes work for as many entities as possible, reflecting that it is a prime spectrum for offering 5G services nationwide.

In terms of the C-band downlink (3.7 to 4.2 GHz), the most prevalent users are a handful of licensed satellite providers. In order to successfully complete the reallocation, the needs of current end users of the band will have to be addressed in one form or another.

Question 4. The Federal Government has been involved in helping make the case for private companies to bring broadband to underserved areas for a long time. It's crucial that every Federal dollar that goes to these communities is well spent, not duplicative, and gets sent out in a timely manner.

What are some of the challenges for better coordinating Federal resources and efforts to further deploy high-speed broadband?

Answer. I completely agree.

While efforts to provide new Federal money towards broadband deployment are commendable, there is a potential for certain problems to arise. One such problem stems from the potential to allow certain funding to be used for fully-served or what some consider underserved areas. Regrettably, the definition of “unserved” has been formulated to include areas already having service, or already featuring multiple broadband providers. Moreover, there is a major disagreement over what should qualify as broadband for purposes of Federal funding. I certainly would like for all Americans to have sufficient broadband speeds for whatever tasks they seek to accomplish. However, there is simply insufficient funding to subsidize “fiber” broadband builds, either wired or wireless, to every household nationwide—an effort that would cost hundreds of billions of dollars. Allowing different Federal funding programs to have their own speed requirements greatly increases the likelihood that a tremendous effort will go to overbuilding in areas with preexisting service, including areas funded or expected to be funded by the Commission.

Fundamentally, Federal funding should be targeted to addressing those 14 million-plus Americans without *any* broadband today. If not addressed statutorily, the next best option would be to ensure that program rules are written with strict prohibitions on duplication with other existing programs, alignment of speed requirements among Federal programs, and a focus on the truly unserved.

Question 5. Do you consider current tools, such as working groups, sufficient to improve efforts to curb overbuilding and duplication?

Answer. Unfortunately, past experiences suggest that such efforts do not prevent inefficiencies, abuse, or misuse. For instance, coordination that consists of merely having discussions among bureaucrats is not sufficient to prevent overbuilding and duplication. While I have little doubt that added dialogue among our three entities could be helpful, such dialogue does not solve the underlying problems that result in duplication, wasted spending, or worse. More affirmative protections are needed in law to truly prevent duplication.

Question 6. Robocalls are one of the top complaints received by the FCC. Protecting consumers from these calls will take technological as well as enforcement efforts.

Do you believe stronger enforcement efforts could offer further deterrence for people making illegal robocalls?

Answer. I certainly join with you and most consumers in seeking a solution that addresses the consumer problem of illegal robocalls, many of which initiate overseas. Many of these calls are intended to defraud or deceive consumers from their hard-earned income. The FCC certainly has been very active exploring different means to end such illegal practices, through both our rulemaking authority and in enforcement actions. While I believe these actions are important and should be continued, the low cost of illegal robocalls has unfortunately undermined the effectiveness of enforcement.

Question 7. Are fines enough to crack down on the worst offenders?

Answer. As I stated in my previous answer, while fines are important, it is hard to crack down on illegal robocall offenders. The cost to make such calls is cheap, and many of the bad actors are overseas, making the collection of such fines challenging. Again, while enforcement is important and necessary, fully cracking down on illegal robocalls remains a big challenge.

Question 8. As you are aware, the Trump administration has suggested that nationalizing the 5G network could be necessary for national security.

Do you believe that the private sector is best positioned to move forward with 5G?

Answer. Yes.

Question 9. Nevada is one of the Nation’s leaders in school broadband thanks to E-rate modernization.

Since the modernization order in 2014, we have seen 100 percent of our students reach the FCC’s short term bandwidth goal—this is quite the achievement in some of our very rural counties. But there is still work to be done—in our state alone, over 3,400 Native American students still lack scalable broadband infrastructure. This year, Nevada school districts have requested E-rate funding to bring nearly \$1.5 million in new fiber “special construction” to schools. Our state leaders have established an E-rate matching fund to accelerate these fiber builds as well. However, funding decisions have been delayed, leading to uncertainty.

Can you commit to working with my office and Congress to provide certainty to e-rate funding decisions to help bring broadband to our most rural areas?

Answer. Yes, I always stand ready to work with Congress on any of our USF programs. However, it should be noted that I have raised fundamental concerns regarding such E-Rate fiber builds. Beyond being legally suspect, funding fiber construction projects has the ability to significantly undermine the competitive process and alter the competitive marketplace for such services in an area.

Question 10. The FCC has moved quickly to revise child television rules under the Children's Television Act, arguing that new modes of watching require updating the rules. In the proposed rulemaking, you propose to eliminate the requirement that broadcasters air their programming on main program streams, which would allow them to move to multicast streams. Low income kids really rely on this programming for education, so it's very important we get this right.

Why not first issue a Notice of Inquiry, to fully examine the issue rather than move forward on such an aggressive timeline?

Answer. Both Notices of Inquiry and Notices of Proposed Rulemaking are vehicles that permit the agency to ask the necessary questions, obtain the relevant information, and fully and transparently consider all issues raised regarding any subject matter. Moreover, I respectfully disagree that the Commission has an aggressive timeline to move forward on this item. We are currently at the beginning stages of our comment period, with initial comments due on September 24 and reply comments due on October 23. This comment period of 90 days is typical, if not longer than other Commission proceedings. Once the record closes the Commission will review the record. There is no date set for determining a final path forward.

It is important for me to stress, that the launch of this rulemaking is the *beginning* of the process, not the end. That means everyone will have plenty of time to provide the requisite analysis of the proposed rule changes outlined in the NPRM before the Commission moves forward on any final decision. We can and will obtain the same data in an NPRM that we could in any NOI.

Question 11. Multicast streams have 10 percent of the viewership as a main feed, how will a move to these streams not be hugely disruptive to the current system?

Answer. As you highlighted, the NPRM considers allowing broadcasters the opportunity to move their children's programming to a multicast stream. This is an important protection for over-the-air only viewers, who do not have access to the plethora of children's programming offered from cable or over-the-top providers. To the over-the-air viewer, it should not matter if their programming is on channel 3.0 or 3.1. All that should matter is that they have access to the programming. Throughout our proceeding, the Commission intends to collect important input on how such a relocation would impact the current system. We also hope to learn who relies on "Kid Vid" programming today. According to initial studies of U.S. households, only 1.04 percent have children present in the home and have neither cable nor Internet access. Moreover, of U.S. households, only 0.63 percent have children present in the home, have neither cable nor Internet access, and a household income of less than \$30,000 per year. This is not to suggest that this population can or will be ignored. On the contrary, the multicasting option was designed to address these specific viewers.

Question 12. One exciting technology that will be enabled as we move to the Internet of things and 5G is wearable technology and the possibilities for better health outcomes, including for rural Americans.

Answer. Can you point to an example you have seen about how this technology is being deployed in a way that improves people's lives?

I have seen demonstrations of clothing that integrates wearable technologies, enabling remote data monitoring of those wearing the materials. This data is not only beneficial to improve workouts for ultra-athletes but can serve to monitor and alert those individuals who may be at risk for particular ailments, such as heart attacks. The reality is that, like all of 5G, we cannot predict with any accuracy the exciting new services wearable technologies may bring to improve the lives of Americans.

Question 13. How can Congress help assist the FCC in ensuring the deployment of this technology in the future?

Answer. Through the introduction of legislation such as the SPEED Act, STREAMLINE Small Cell Deployment Act, the AIRWAVES Act, and SPECTRUM NOW Act, as well as the passage of the MOBILE NOW Act, Congress has made clear its priority to expand 5G deployment through both infrastructure reform and making additional commercial spectrum available to the private sector. I stand ready to work with the Committee on these and other bills put forward to achieve these goals.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JON TESTER TO
HON. MICHAEL O'RIELLY

Question. I understand the FCC is working on a rule to assess whether to establish a program under which a spectrum licensee may partition and sublease the license to an unaffiliated carrier to serve a rural area. What is the status of that rule? What other steps are you taking to make sure rural carriers that want to buildout in rural America have access to Spectrum?

Answer. The Commission has long sought ideas and ways to facilitate secondary market transactions, including license partitioning and disaggregation and various leasing models, by those who may not wish to serve all of a particular license area. The Chairman is in a better position to outline the timing and status of this review.

In terms of my efforts to promote greater buildout via spectrum licenses, I believe that releasing as much spectrum as possible into the marketplace is one way to give smaller providers a greater opportunity to obtain licenses. This is why I have pushed so hard to reallocate as much mid-band and high-band spectrum for wireless flexible use, including mobile broadband. In my view, reducing scarcity, rather than limiting access, is the better course of action.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN THUNE TO
HON. BRENDAN CARR

Question. Please describe actions the FCC has taken to meet its statutory obligations in regards to the T-Band.

Answer. Mr. Chairman, thank you for the question and for your leadership on public safety issues. It is my understanding that the FCC has taken a number of actions in recent years to meet its statutory obligations pursuant to the Spectrum Act relating to the T-Band. Those actions are as follows:

- In April 2012, the FCC issued a Public Notice that froze the processing of applications for new or expanded T-Band operations. That same month, the FCC adopted an Order that waived the January 2013 deadline for the migration of T-Band licensees to narrowband technologies, due to the need for future relocation.
- In February 2013, the FCC issued a Public Notice to obtain additional information to help inform future decisions regarding the T-Band.
- In October 2014, the FCC adopted an Order opening up the 700 MHz narrowband reserve channels (24 reserve channel pairs) for general licensing and gave T-Band public safety licensees priority access to those channels.
- Finally, in February 2015, the FCC issued a Notice of Proposed Rulemaking regarding the 800 MHz band that proposed to give T-Band incumbents priority access to interstitial channels.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER WICKER TO
HON. BRENDAN CARR

Question 1. Commissioner Carr, this month Mississippi celebrated the groundbreaking of a new Center for Emergency Services on the University of Mississippi Medical Center's campus in Jackson. This center will enhance our disaster response by helping emergency medical personnel and first responders deliver faster, quality care to those in need. This center will support the deployment of the Mississippi Tele-Assist System, which involves deploying emergency vehicles with the ability to transmit life-saving images using Internet connectivity. In your view, how can we leverage existing services, such as those that will be provided through the new Mississippi Center for Emergency Services, to maximize the impact and effectiveness of the Connected Care Pilot Program, particularly for our first responders and emergency medical personnel?

Answer. Senator, thank you for the question and for your leadership on telehealth issues. The idea for the Connected Care Pilot Program stemmed from my initial visit with you in Jackson and the time I spent at the University of Mississippi Medical Center learning about their advanced telehealth technologies.

As part of the Notice initiating the Connected Care Pilot Program, the Commission seeks comment on whether and how the pilot program could fund connectivity for emergency medical service facilities, such as ambulances, recognizing that EMS-based telehealth may help triage patients more quickly and lead to cost savings for local governments. I would welcome the chance to learn more about the Mississippi

Tele-Assist System and how emergency services might be leveraged as part of the Connected Care Pilot Program.

Question 2. Commissioner Carr, will the FCC consider using the Connected Care Pilot Program to help meet the needs of rural emergency responders in improving their care delivery and coordination to special needs populations, like children?

Answer. Yes. I think this is an important way that the Pilot Program could help bridge the health care digital divide.

Question 3. Commissioner Carr, in rural areas patients often lack access to primary care facilities. In many instances, local schools (and homes) serve as a site of health care service in these areas. Will the FCC consider permitting schools to be “sites of service” in telehealth programs supported by the Connected Care Pilot Program?

Answer. Senator, you raise a good point. I will plan to look into this idea further, consistent with the Commission’s statutory authority to provide connectivity to such sites.

Question 4. Commissioner Carr, will the FCC consider using the Connected Care Pilot Program to support tele-mental health care delivery to rural areas and other underserved communities?

Answer. Yes. I believe this is an important health care application where remote connectivity can be especially helpful, particularly in rural areas and for veteran populations.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JERRY MORAN TO
HON. BRENDAN CARR

Question. According to studies, the deployment of 5G wireless technology is expected to contribute \$275 billion in new investment, \$500 billion in economic growth, and up to 3 million new jobs to the U.S economy. These projected benefits highlight why the U.S. needs to keep pace and surpass our foreign competitors like China and South Korea. While I have supported legislation like the RAPID Act and the MOBILE NOW Act to streamline overly-cumbersome siting requirements and regulations, what else should be done to increase U.S. competitiveness in 5G deployment while appropriately maintaining local and state authority over larger macro-tower siting?

Answer. Senator, thank you for the question and for your leadership on these issues. As I envision it we must focus on two things to keep pace and surpass our foreign competitors in the race to 5G: spectrum and infrastructure. On the spectrum side, we became the first country in the world to allocate high-band spectrum for 5G, and we’re now opening even more 5G bands. At the FCC, we have already assigned more high-band spectrum for 5G than any country in the world—we’re more than four gigahertz ahead of second-place China. Additionally, we are looking to free up more low-, mid-, and high-band spectrum. We need to keep this up.

On the infrastructure side, we must continue to remove barriers to infrastructure deployment to ensure our regulatory structures are 5G Ready. Your efforts on the RAPID Act are very helpful in this regard. The FCC has been taking steps, as well, to push the regulatory costs out of the system and encourage more deployment. In March, for instance, we adopted an order that exempts small cells from certain Federal historical and environmental review procedures that were designed for those large, hundred-foot towers. This decision extended the same regulatory treatment to small cells that the Commission has always applied to the deployment of other types of infrastructure, including Wi-Fi routers and consumer signal boosters. This one step is expected to cut about 30 percent of the total cost of deploying small cells. In fact, an Accenture study determined that our action could save \$1.56 billion, which could be used to deploy 55,000 new cell sites and create more than 17,000 jobs. Additionally, the FCC is scheduled to vote at its September 26 Open Meeting on a 5G order that is expected to pave the way for small cell deployment, including by saving \$2 billion in unnecessary fees and creating more than 27,000 new jobs.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
HON. BRENDAN CARR

Question. In many rural communities, students have long commutes on school buses sometimes upwards of half an hour, an hour, or even longer one-way. Given the connectivity challenges many students face in rural communities, how could E-rate help connect school buses with wifi to allow students to use commute time to do homework, projects, or other school work?

Answer. Senator, thank you for the question and for your leadership on these issues. I agree with you that we should continue looking for ways to close the digital divide. There may be a range of solutions to help do that, as you suggest. I would be happy to work with you and your staff to think about additional policies we can implement to help ensure connectivity for students around the country.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. BRENDAN CARR

Question 1. Your agency has been tasked with commencing a study of broadband deployment and access on tribal lands by March 2019. The agency has been criticized in the past for having less than robust compliance with the need for tribe consultation. How can we optimize the tribes' participation in the broadband study and the composition of the report?

Answer. Senator, thank you for the question and for your leadership on these issues. I agree with you on the importance of ensuring broadband deployment and access on Tribal lands. Frankly, broadband deployment and access on tribal lands falls far short of where it needs to be. The deployment rates for Tribal lands lag well behind those of the rest of the country, which tells me that more work remains to be done to address this digital divide. I believe the FCC can improve its broadband data collection methods, including on Tribal lands. Last year, the FCC initiated a proceeding to modify its Form 477 data collection process to help improve the granularity and accuracy of deployment data we collect from carriers. I look forward to seeing this proceeding move forward. Additionally, pursuant to a request from Congress in the Consolidated Appropriations Report of 2018, the FCC will be conducting a rulemaking to address the availability of broadband services and access on Tribal lands. I welcome the chance to confer with Tribes as part of this proceeding.

Question 2. Do you think it's important that the upcoming quadrennial review review the changes that have been made to media ownership over the past 18 months and the impact that these changes have had on localism, media concentration and diversity?

Answer. Thank you for the question. Localism, competition, and diversity have long served as the touchstones of the FCC's media policies. We should continue to be guided by these principles and the realities of the modern media marketplace whenever we review our rules.

Question 3. In 2016, the Court of Appeals chastised the FCC for making changes to media ownership rules without the benefit of having completed statutorily mandated reviews of the media marketplace and media ownership rules that were required in 2010 and 2014. Basically the court was saying that the FCC's policy making needed to be based on data and analysis. It's my understanding that the FCC needs to start its next data gathering review this year. Given the court's guidance that any FCC changes to media ownership rules should be grounded in the type of up-to-date data and analysis required by the quadrennial review process, what you would recommend that the next Quadrennial review cover?

Answer. Thank you for the question. Since the 1940s, the FCC has had rules on the books that limit the number of television stations any single entity can own. Over the decades, as the media landscape has evolved, the Commission has revisited these rules to account for new competitors and advances in technology. Those changes have only accelerated in recent years with the advent of online and streaming offerings. In light of these changes, I am glad the FCC will be launching the next quadrennial review in the near future. The FCC must assess the advancements in the media marketplace using the most adequate and up-to-date data, as well as in accordance with the statutory directive that we consider whether our media ownership rules remain "necessary in the public interest as the result of competition."

Question 4. When I asked Chairman Pai at the hearing if the FCC has the authority to address cybersecurity threats, he said that the FCC currently lacks the authority. In your view, which Federal agency, if any, is the lead agency on cybersecurity issues, such as SS7, impacting wireless telephone networks?

Answer. Senator, thank you for the question. The FCC has an important and statutorily-mandated role to play in helping to ensure that networks are safe and resilient. This is especially true in the context of 9-1-1 networks. With respect to cyberthreats in particular, the government must avoid a siloed approach and thus the FCC should continue to bring our expertise to bear on these issues in coordination with other Federal partners that are working in this space, including the Department of Homeland Security.

Question 5. The FCC has publicly encouraged wireless carriers to voluntarily address cybersecurity issues related to SS7 that impact their networks. Does the FCC currently have the authority to *require* wireless carriers to address cybersecurity issues related to SS7? If not, please explain why.

Answer. While I am not aware of a specific grant of authority that addresses SS7 functions, the FCC has an important role to play in promoting cybersecurity, and I am happy to work with you or your staff on any specific SS7 issues that might require additional discussion.

Question 6. According to a recent article in the *Washington Post*, governments in other countries, including the United Kingdom, have “commissioned independent testing of the vulnerabilities in national cellular networks.” Does the FCC currently have the authority to commission independent cybersecurity testing of U.S. wireless networks? If not, please explain why.

Answer. Thank you for the question. The FCC takes the security of communications infrastructure seriously. Right now, we have a proceeding ongoing that asks for comment on testing and other regimes. I have an open mind on these issues, and I am currently reviewing the record in that proceeding.

Question 7. Does the FCC currently have the authority to require mobile carriers to assess risks relating to the security of mobile network infrastructure as it impacts the Government’s use of mobile devices? If not, please explain why.

Answer. The FCC has an important and statutorily-mandated role to play when it comes to promoting safe, secure, and resilient networks. The FCC should continue to bring its expertise to bear in promoting cybersecurity, and we should ensure that we do so in coordination with other Federal partners.

Question 8. Does the FCC currently have the authority to compel mobile carrier network owners/operators to provide information to the FCC to assess the security of the carriers’ communications networks? If not, please explain why.

Answer. As indicated in response to a question above, the FCC has an important and statutorily-mandated role to play when it comes to promoting safe, secure, and resilient networks. The FCC should continue to apply its expertise to promote cybersecurity, and we should ensure that we do so in coordination with other Federal partners.

Question 9. A recent investigation by Senator Wyden revealed that wireless carriers were providing customer location to private companies without verifying that users had consented to this disclosure of private information. In response, all of the major wireless carriers announced they would stop selling location data via location aggregators.

Is subscriber location data, when created by wireless carriers through their cell towers or other network infrastructure, is Customer Proprietary Network Information (CPNI)? If not, please explain why.

Answer. My understanding is that subscriber location data can qualify as CPNI.

Question 10. Is location data is protected by 47 U.S.C. § 222, regardless of whether it is collected when the subscriber is making a call, browsing the web from their smartphone, or even when the subscriber’s phone is not being used and is in the subscriber’s pocket? If not, please explain why.

Answer. I am not aware that the FCC has previously addressed this question. Whether required by law or not, consumers rightly expect that their providers are transparent about the use of their data.

Question 11. Has the Commission responded to the Third Circuit mandate in the *Prometheus Radio Project v. FCC* line of cases to examine the impacts of broadcast consolidation on ownership opportunities for women and people of color?

Answer. Thank you for the question. To the best of my knowledge, the FCC responded to this line of cases in its November 2017 Order on Reconsideration, as well as its August 2018 Order establishing a broadcaster incubator program.

Question 12. Does the Commission intend to collect any data so that it can examine how and whether broadcast consolidation relates to ownership diversity?

Answer. While I do not set the FCC’s agenda, my expectation and understanding is that the Commission’s quadrennial review of our media ownership rules will provide forum for a robust discussion of the issues raised in that proceeding. I would welcome feedback on all relevant issues from interested stakeholders.

Question 13. What percentage of broadcast stations are owned by people of color? By women? Are you satisfied with those levels? If not, what kind of meaningful changes can the FCC make to expand ownership diversity?

Answer. Senator, thank you for the question. According to the FCC’s 2014 Report on Ownership of Commercial Broadcast Stations:

- Women collectively or individually held a majority of the voting interests in 997 broadcast stations, which equates to approximately 6.3 percent of full power commercial television stations, 13.1 percent of low power television stations, 8.3 percent of commercial AM radio stations, and 6.7 percent of commercial FM radio stations.
- Hispanic/Latino persons collectively or individually held a majority of the voting interests in 571 broadcast stations, equating to approximately 3 percent of full power commercial television stations, 9.4 percent of low power television stations, 5.2 percent of commercial AM radio stations, and 3.2 percent of commercial FM radio stations.
- Racial minorities collectively or individually held a majority of the voting interests in 499 broadcast stations, equating to 3.0 percent of full power commercial television stations, 3.9 percent of low power television stations, 6 percent of commercial AM radio stations, and 3 percent of commercial FM radio stations.

These numbers show that we are clearly not where we need to be with regards to media ownership diversity. To that end, I am glad the Commission recently adopted an order to create an incubator to help address issues faced by new entrants into the media marketplace. Additionally, I support efforts to streamline our media regulations to better reflect the current media landscape.

Question 14. What data, if any, did the Commission rely on to justify its recent assumptions that deregulation in the form of loosening local ownership protections would improve competition and localism in the broadcast market?

Answer. Thank you for the question. As the November 2017 Order states, the FCC relied on the records from the 2010 and 2014 media ownership reviews, as well as the issues raised on reconsideration. Under our rules, any interested party can petition the FCC to reconsider a final decision in a notice-and-comment rulemaking, and a number of parties did so. In response, the Commission provided public notice and afforded all stakeholders an opportunity to comment.

Question 15. Does the FCC have any intention of soliciting public input with field hearings regarding whether or not local broadcast stations are serving the public interest to inform evaluations of recent media ownership changes or future ownership reviews?

Answer. Thank you for the question, Senator. In my time on the Commission, I have made it a point to get outside of D.C. and solicit feedback directly from the consumers, carriers, and broadcasters impacted by the FCC's policies. For my part, I intended to continue to spend time in the field hearing from stakeholders about the issues that are important to them.

Question 16. Notwithstanding any recent legislation, in your opinion, which part of the Federal Government should maintain responsibility for updating and maintaining the broadband map? What is the basis for your answer?

Answer. Thank you for the question. In my opinion, having an accurate map is more important than where the broadband map is housed. As such, I defer to Congress's judgment on which agency is best positioned to update and maintain the map.

Question 17. What is your view on whether the Federal agency should use or rely on the data sets of private companies to fill out the broadband map?

Answer. Senator, thank you for the question. Broadly speaking, I believe we need to make sure we have the most accurate and reliable data, whether that is provided by private carriers or by another source. I understand the concerns raised by stakeholders regarding the accuracy of the FCC's mapping data. As noted in question #1, in 2017, the FCC initiated a proceeding to modify its Form 477 data collection process to help improve the granularity and accuracy of deployment data we currently collect from carriers. I look forward to reviewing the record in this proceeding and thinking about ways to improve the existing data collection process.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
HON. BRENDAN CARR

Question 1. The Wall Street Journal's Editorial Board recently praised Chairman Pai's decision to challenge the Sinclair-Tribune merger, stating that "the FCC Chairman follows the law in stopping a merger." The editorial concluded by saying, "it's up to Congress to change broadcast ownership restrictions." Do you agree that only Congress has the authority to change broadcast ownership restrictions, like the national television audience reach cap?

Answer. Thank you for the question. In 2016, the FCC majority under Chairman Wheeler determined that “the Commission has the authority to modify the national audience reach cap” and that “no statute bars the Commission from revisiting the cap.” In 2017, the FCC adopted a Notice of Proposed Rulemaking (NPRM) that seeks comment on whether the prior FCC got it right in reaching that conclusion. For my part, I am currently reviewing the record in that proceeding.

Question 2. A December 2017 Notice of Proposed Rulemaking explores gutting one of the last few remaining rules protecting consumers from massive consolidation in media: the media ownership cap. Didn’t Congress—through the Consolidated Appropriations Act of 2004—very clearly instruct the FCC to set this cap at 39 percent? What authority would the FCC now have to change this cap?

Answer. Thank you for the question. As indicated above, in 2016, the FCC majority under Chairman Wheeler determined that “the Commission has the authority to modify the national audience reach cap” and that “no statute bars the Commission from revisiting the cap.” In 2017, the FCC adopted a Notice of Proposed Rulemaking (NPRM) that seeks comment on whether the prior FCC got it right in reaching that conclusion. For my part, I am continuing to review the record in that proceeding, and I welcome your views on this question as well as that of your colleagues.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. BRIAN SCHATZ TO
HON. BRENDAN CARR

Question. Thank you for your leadership on the “Connected Care” pilot program. Improving telehealth is a bipartisan issue. I have worked to advance telehealth with Senators Thune and Wicker, among others, because I have seen firsthand how telemedicine can make it easier for patients to see their doctors, bring specialized care to more places, and literally save lives. Telemedicine doesn’t work if patients can’t access the Internet or afford it, so this trial will be important. Do you commit to an open and fair process for the pilot program and to test it across the country, including in insular, urban as well as rural areas?

Answer. Thank you for the question, Senator, and for your leadership on telehealth issues. As indicated in your question, the FCC unanimously adopted a Notice of Inquiry at its August 2 meeting that seeks comment on establishing a new \$100 million “Connected Care Pilot Program.” This program would support telehealth for low-income Americans, especially those living in rural areas and veterans. As part of the Notice, the Commission seeks comment on how the pilot program can improve health outcomes by focusing on particular populations, demographic groups, or geographic areas of the country. The Notice also seeks comment on the application process for participants in the pilot program. I look forward to reviewing the record in the proceeding. However, I can assure you that I am committed to supporting an open and fair process for the program, including the selection of participants and test projects. To your question, I welcome the chance to review how insular and urban areas can benefit and participate in the program. I look forward to working with you and your staff on these issues.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. EDWARD MARKEY TO
HON. BRENDAN CARR

Question. The Commission is currently considering a forbearance petition to limit protections ensuring incumbent Local Exchange Carriers provide competing telecommunications carriers access to their networks at reasonable rates, terms, and conditions if there is not sufficient competition in the market. Will the Commission take into consideration the special circumstances of how Hurricane Maria devastated the local telecommunications infrastructure as it considers this proposal?

Answer. Senator, thank you for the question. As you know, in May 2018, USTelecom filed a petition seeking forbearance from certain obligations under sections 251, 252, 271, and 272 of the Communications Act. Because this is a pending proceeding, I have not reached a final position on the issues and so cannot offer a definitive view on the merits of the petition. However, I do believe it is important to consider all relevant data in the record, which I look forward to reviewing in more detail.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
HON. BRENDAN CARR

Question. What is your view on what a meaningful tribal consultation should look like?

Answer. Senator, thank you for the question and for your leadership on these issues. The FCC's March 2018 decision in our wireless infrastructure proceeding, which aimed to accelerate the deployment of next-generation broadband to communities across the country, is a good example. It's a proceeding in which the FCC exceeded the obligations imposed by law regarding to consultation.

In reaching our decision on the merits in that case, the FCC benefited from extensive engagement with Tribal Nations—consultations that spanned three years. Indeed, when the prior Commission took steps to update our infrastructure rules, I am not aware of the FCC engaging in any similar effort. In this case, FCC leadership and staff participated in consultations in at least nine different states, including Oklahoma, South Dakota, California, New Mexico, and Arizona. FCC officials attended Tribal conferences, hosted Tribal representatives at the FCC, and conducted dozens and dozens of meetings and conference calls concerning the subject matter the FCC voted on.

These consultations resulted in significant outcomes. For instance, the Order maintained the current approach to small cell and other deployments on Tribal lands, given the feedback we received. It adopted reforms that will give Tribes more information, earlier in the process for those reviews that go through NHPA procedures. It rejected requests to limit the geographic area where Tribes can express interests and participate in the process. It also expressly recognized the circumstances in which Tribes can be paid fees for their consulting services. And in those cases, it rejected calls that we limit or otherwise regulate the fees that Tribes can charge.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. MAGGIE HASSAN TO
HON. BRENDAN CARR

Question. It is my understanding that Commissioner Rosenworcel worked to include maternal health issues in the recently passed Notice of Inquiry on the FCC's proposed telehealth pilot program. Given that the inclusion of maternal health issues is critical for rural women and their families, will you commit to maintaining them, if this program moves forward?

Answer. Senator, thank you for the question and for your leadership on telehealth issues. At its August 2 meeting, the Commission unanimously adopted a Notice of Inquiry seeking comment on establishing a new \$100 million "Connected Care Pilot Program." This program would support telehealth for low-income Americans, especially those living in rural areas and veterans. Too many Americans living in our Nation's rural communities are at risk of falling behind when it comes to high-quality affordable healthcare. This Notice tees up a full range of questions to assess how the FCC can advance the trend in telehealth beyond brick-and-mortar facilities towards connected care everywhere.

As you note, as part of the Notice, the FCC asks how the Pilot Program can help improve maternal health, particularly for women in rural areas. I agree with Commissioner Rosenworcel that maternal health is a key area where telehealth can yield dividends. In fact, during one of my first telehealth-related visits to the University of Virginia Medical Center, I had the opportunity to see how fetal monitoring applications are helping improve high-risk pregnancy outcomes. So I appreciate the leadership that you and Commissioner Rosenworcel have shown on this important issue, and I look forward to reviewing the record that we receive.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CATHERINE CORTEZ MASTO
TO HON. BRENDAN CARR

Question 1. A recent FCC Inspector General report recently concluded, despite the FCC's repeated claims that comment period for the net neutrality repeal was the subject of a cyberattack, that it was actually just the comment system simply being overwhelmed with public outcry against the rollback of net neutrality.

When did you first learn that the attack may not have happened?

Answer. Senator, thank you for the question. I first learned that the FCC's comment system may not have been subject to a cyberattack during the week of August 6, 2018, when I was contacted by the FCC's Office of Inspector General to share its findings. However, as I was traveling for work in Alaska that week, I did

not have an opportunity to learn all of the details of the Inspector General's investigation until the following week.

Question 2. As you know, spectrum will be vital part in deploying 5G. There have been a variety of pushes from industry for spectrum both for millimeter waves and mid-band spectrum below 6 GHz.

What is the balance between mid-band spectrum and millimeter waves, and how have other countries struck that balance as they have worked to deploy 5G?

Answer. Thank you for the question and your leadership on these issues. I agree with you that spectrum is a vital part in the race to 5G, and I am glad the FCC is now looking to prioritize freeing up mid-band spectrum for commercial use. While the U.S. has, to date, freed up more spectrum than any other country in the world—we're more than 4 GHz ahead of second place China—there's still work to be done in the mid-band, where other countries have already freed up substantial amounts of spectrum. The August 2017 Mid-Band Notice of Inquiry, which was voted on before I became a Commissioner, as well as the Notice of Inquiry we adopted in July to look into 500 MHz of spectrum in the C-band, are both steps in the right direction.

Question 3. How does freeing up mid-band spectrum for 5G use impact rural access, especially with the high demand for these bands for rural areas?

Answer. Senator, I appreciate the question. When I think about success—when I think about winning the race to 5G—the finish line is not the moment we see next-gen deployments in New York or San Francisco. Success means ensuring that all Americans, no matter where they live, have a fair shot at fast, affordable broadband. This includes both efforts to streamline infrastructure deployment, but also to free up additional spectrum to bring more broadband to more Americans.

Question 4. The Federal Government has been involved in helping make the case for private companies to bring broadband to underserved areas for a long time. It's crucial that every Federal dollar that goes to these communities is well spent, not duplicative, and gets sent out in a timely manner.

What are some of the challenges for better coordinating Federal resources and efforts to further deploy high-speed broadband?

Answer. Senator, thank you for the question. It is a good thing that many agencies are focused on ways to encourage broadband deployment. That shows that deployment is an important Federal priority, as it should be. However, that means that sometimes our individual missions and priorities overlap, underscoring the need for coordination. So the FCC must continue our efforts to coordinate with our Federal partners and share our own views on the best ways to bring broadband to underserved areas without wasteful spending. We are continuing to engage in those efforts.

Question 5. Do you consider current tools, such as working groups, sufficient to improve efforts to curb overbuilding and duplication?

Answer. I believe working groups are helpful in improving interagency coordination and communication. But I am certainly open to additional tools to help ensure that we identify and curb overbuilding and duplication. There are still too many communities that lack sufficient broadband. I have spent time in many of them, including in Mountain Springs, Nevada, where, at a community forum, I heard how efforts to site broadband on Federal lands continues to slow down the deployment of next-generation connectivity.

Question 6. Robocalls are one of the top complaints received by the FCC. Protecting consumers from these calls will take technological as well as enforcement efforts.

Do you believe stronger enforcement efforts could offer further deterrence for people making illegal robocalls?

Answer. Thank you for the question. Yes, I do believe that strong enforcement efforts by the FCC can help deter illegal robocalls. The FCC has elevated robocalls to its top enforcement priority in the last few years, and I welcome our efforts on this front.

Question 7. Are fines enough to crack down on the worst offenders?

Answer. Senator, I do not believe that fines alone are sufficient to deter bad actors in this space. The FCC has been pursuing other technical solutions as well, including seeking comment on establishing database to help get a better handle on situations where a consumer gives a business permission to call them, but then their telephone number is subsequently reassigned to another consumer. Additionally, last summer the FCC released a Notice of Inquiry on its role in facilitating call authentication methods aimed at reducing spoofing. Finally, I would support

stronger penalties for those who engage in illegal robocalls, including revoking Commission licenses where appropriate.

Question 8. As you are aware, the Trump administration has suggested that nationalizing the 5G network could be necessary for national security.

Do you believe that the private sector is best positioned to move forward with 5G? Answer. Senator, thank you for the question. I have spoken on the issue of 5G nationalization previously (<https://www.fcc.gov/document/commissioner-carr-statement-deployment-5g>). To be clear, the U.S. benefited from the deployment of world-leading 4G networks precisely because we got the government out of the way. The path to winning the race to 5G is to free up spectrum and update our infrastructure rules to clear the path for the private sector to invest and deploy.

Question 9. Nevada is one of the Nation's leaders in school broadband thanks to E-rate modernization.

Since the modernization order in 2014, we have seen 100 percent of our students reach the FCC's short term bandwidth goal—this is quite the achievement in some of our very rural counties. But there is still work to be done—in our state alone, over 3,400 Native American students still lack scalable broadband infrastructure. This year, Nevada school districts have requested E-rate funding to bring nearly \$1.5 million in new fiber “special construction” to schools. Our state leaders have established an E-rate matching fund to accelerate these fiber builds as well. However, funding decisions have been delayed, leading to uncertainty.

Can you commit to working with my office and Congress to provide certainty to e-rate funding decisions to help bring broadband to our most rural areas?

Answer. Yes.

Question 10. The FCC has moved quickly to revise child television rules under the Children's Television Act, arguing that new modes of watching require updating the rules. In the proposed rulemaking, you propose to eliminate the requirement that broadcasters air their programming on main program streams, which would allow them to move to multicast streams. Low income kids really rely on this programming for education, so it's very important we get this right.

Why not first issue a Notice of Inquiry, to fully examine the issue rather than move forward on such an aggressive timeline?

Answer. Thanks for the question. As you know, in July, the FCC adopted a Notice of Proposed Rulemaking that seeks comment on our rules governing children's educational programming. The Notice queues up a full range of issues for the FCC's consideration. It does not commit the FCC to taking any particular action on any particular timeframe. I look forward to reviewing the record once it is complete.

Question 11. Multicast streams have 10 percent of the viewership as a main feed, how will a move to these streams not be hugely disruptive to the current system?

Answer. Senator, I appreciate the question. This is one of the issues that has been teed up for the FCC to consider in our pending rulemaking. I have an open mind on the question and look forward to reviewing the administrative record and learning from the views expressed there by a range of stakeholders.

Question 12. One exciting technology that will be enabled as we move to the Internet of things and 5G is wearable technology and the possibilities for better health outcomes, including for rural Americans.

Can you point to an example you have seen about how this technology is being deployed in a way that improves people's lives?

Answer. Senator, thank you for the question. With remote patient monitoring and mobile health applications that can be accessed on a smartphone or tablet, we now have the technology to deliver high-quality care directly to patients, regardless of where they are located. One of the most memorable examples I have seen is Ms. Annie, who is a patient of a clinic located in Ruleville, Mississippi, in the Mississippi Delta. The Delta is ground zero for the country's diabetes epidemic. It sees diabetes at rates that are about twice the national average. In addition to having one of the highest rates of diabetes in the state, more than half of all children in this area live in poverty. That only adds to the challenge of finding and accessing affordable health care.

Miss Annie noticed the first signs of her diabetes when she woke up one day with blurred vision. After seeing little progress in managing her diabetes with traditional care options, Ms. Annie signed up for a remote patient monitoring pilot program. She walked me through the blood sugar monitor that she uses at home. The monitor uses Bluetooth to connect to her iPad, which chimes every morning to remind her to check her blood sugar. Ms. Annie then pricks her finger and her A1C level is displayed on-screen. Based on that, the iPad app suggests appropriate actions—from a particular food or exercise, to watching a relevant video. If she forgets to enter her numbers that day, she'll get a phone call from a nurse. With this technology,

Ms. Annie's A1C levels have gone down and she says she's never felt better. I believe that, by aligning public policy in support of this movement in telehealth, we can achieve more health outcomes like Miss Annie's.

Question 13. How can Congress help assist the FCC in ensuring the deployment of this technology in the future?

Answer. At its August 2 meeting, the Commission unanimously adopted a Notice of Inquiry seeking comment on establishing a new \$100 million "Connected Care Pilot Program." This program would support telehealth for low-income Americans, especially those living in rural areas and veterans. Too many Americans living in our Nation's rural communities are at risk of falling behind when it comes to high-quality affordable healthcare. This Notice tees up a full range of questions to assess how the FCC can advance the trend in telehealth beyond brick-and-mortar facilities towards connected care everywhere. We are currently receiving comments in this proceeding, and I look forward to reviewing the record in more detail in the near future.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JON TESTER TO
HON. BRENDAN CARR

Question. I understand the FCC is working on a rule to assess whether to establish a program under which a spectrum licensee may partition and sublease the license to an unaffiliated carrier to serve a rural area. What is the status of that rule? What other steps are you taking to make sure rural carriers that want to buildout in rural America have access to Spectrum?

Answer. Senator, thank you for the question. I understand that Bureau staff is currently working on the rulemaking proceeding that you reference.

Additionally, the FCC has been undertaking additional efforts to remove barriers to infrastructure deployment to ensure our regulatory structures are 5G Ready—to ensure the United States wins the race to 5G. In March, for instance, we adopted an order that exempts small cells from certain Federal historical and environmental review procedures that were designed for those large, hundred-foot towers. This decision extended the same regulatory treatment to small cells that the Commission has always applied to the deployment of other types of infrastructure, including Wi-Fi routers and consumer signal boosters. This one step is expected to cut about 30 percent of the total cost of deploying small cells. In fact, an Accenture study determined that our action could save \$1.56 billion, which could be used to deploy 55,000 new cell sites and create more than 17,000 jobs. Additionally, the FCC is scheduled to vote at its September 26 Open Meeting on a 5G order that is expected to pave the way for small cell deployment, including by saving \$2 billion in unnecessary fees and creating more than 27,000 new jobs.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOHN THUNE TO
HON. JESSICA ROSENWORCEL

Question. Please describe actions the FCC has taken to meet its statutory obligations in regards to the T-band.

Answer. Today, many public safety authorities in the Nation's largest metropolitan areas, including Boston, Chicago, Dallas, Houston, Los Angeles, Miami, New York, Philadelphia, Pittsburgh, San Francisco, and Washington have licenses in the 470–512 MHz band. However, in the Middle Class Tax Relief and Job Creation Act of 2012, Congress tasked the Federal Communications Commission with recovering and auctioning this spectrum for commercial use by February of 2021. The law specifically requires that proceeds from the T-band auction be used for T-band relocation.

Following its passage, the FCC froze the processing of applications for new or expanded T-band operations in order to avoid adding to the cost and complexity of public safety relocation. The FCC also waived an earlier deadline associated with the migration to narrowband technologies. In addition, in February of 2013, the FCC released a public notice seeking comment on the technical, financial, administrative, legal, and policy implications of implementing this aspect of the Middle Class Tax Relief and Job Creation Act. Following on this effort, in October of 2014 the FCC opened up the 700 MHz narrowband reserve channels for general licensing and afforded T-band public safety licensees priority access to these channels in T-band areas. However, in light of the time that has elapsed since the agency first sought comment on T-band relocation, I believe a prudent next step would involve refreshing the record on this subject, both so that the agency can take steps to pre-

pare for commercial auction and also so it can provide Congress with updated information on the relocation of existing public safety services that rely on these airwaves.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JERRY MORAN TO
HON. JESSICA ROSENWORCEL

Question. How can “crowdsourcing” data assist the commission in producing more accurate information regarding broadband availability depicted on the Mobility Fund Phase II eligibility map?

Answer. The wireless maps the Federal Communications Commission uses are not what they should be. They have too many inaccuracies to be reliable. They overstate signal strength in rural America and understate where universal service support is needed to ensure that communities are not left behind.

This is a problem. However, the agency is not without tools to clean up this mess.

First, the FCC can use the wisdom of crowds to fix what is wrong. More than 200,000 volunteers have downloaded the agency’s Speed Test app that collects anonymized wireless broadband performance data. We need to find a way to put this information to use. Excluding crowdsourcing from our innovation toolkit means forgoing the opportunity for better maps.

Second, the FCC already has committed to having the Universal Service Administrative Company (USAC) test and validate the network coverage of winning bidders in its Mobility Fund auction—after they have built out using this new source of universal service support. Why not give USAC a role up front and have them assist with validating existing data before the auction? Even doing some sampling like this could yield important information about systematic problems with our existing maps. Moreover, this kind of review, like audits, can be an essential tool to ensure program effectiveness.

Finally, the FCC should mobilize other resources at its disposal. That includes the personnel the agency has available for spot testing in field offices in Atlanta; Boston; Chicago; Columbia, Maryland; Dallas; Denver; Honolulu; Los Angeles; Miami; New Orleans; New York; Portland, Oregon; and San Francisco. In short, there’s no reason why the FCC should not use the widely-dispersed spectrum expertise and tools it already has deployed across the country.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. SHELLEY MOORE CAPITO TO
HON. JESSICA ROSENWORCEL

Question. In many rural communities, students have long commutes on school buses sometimes upwards of half an hour, an hour, or even longer one-way. Given the connectivity challenges many students face in rural communities, how could E-rate help connect school buses with wifi to allow students to use commute time to do homework, projects, or other school work?

Answer. According to the Senate Joint Economic Committee, the Homework Gap is real. By their estimate, it affects 12 million children across the country. They are everywhere. In my time at the FCC, I have spoken with students in Texas who do homework at fast food restaurants with a side of fries—just to get a free Wi-Fi signal. I have heard from students in Pennsylvania who make elaborate plans every day to head to the homes of friends and relatives just to be able to get online. I have listened to a high school football player in rural New Mexico who lingers in the pitch-black dark of the school parking lot after games with a device in hand because it is the only place he can get a reliable connection. These kids have grit. But it shouldn’t be this hard. Because today no child can be left offline—and developing digital skills is flat-out essential for education and participation in the modern economy.

More needs to be done to address the Homework Gap, because it’s an especially cruel part of the new digital divide. To this end, some communities are installing Wi-Fi routers on district school buses. After all, in rural areas, students often ride the bus an hour to get to school and an hour to get home at night. So these communities turn ride time into connected time for homework. These buses are hitting the road everywhere from Huntsville, Alabama to Marengo, Illinois to Watkins Glen, New York and many more places in between. It’s a smart idea that deserves attention and support, including from the FCC’s E-Rate program, as you suggest. It also is the subject bipartisan legislation. S. 2958 specifically directs the FCC to make the provision of Wi-Fi access on school buses eligible for E-Rate support.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. JESSICA ROSENWORCEL

Question 1. Your agency has been tasked with commencing a study of broadband deployment and access on tribal lands by March 2019. The agency has been criticized in the past for having less than robust compliance with the need for tribe consultation. How can we optimize the tribes' participation in the broadband study and the composition of the report?

Answer. Pursuant to the Ray Baum's Act, adopted as part of the Consolidated Appropriations Act of 2018, the Federal Communications Commission must submit a report to Congress "evaluating broadband coverage in Indian country and on land held by a Native Corporation pursuant to the Alaska Native Claims Settlement Act." Following this effort, the agency is required to conduct a proceeding addressing the unserved areas identified in the report.

These tasks are important because for too long tribal lands have lagged in the deployment of modern communications infrastructure. Moreover, this problem will never be managed without first improving our measurement of where broadband facilities are and are not in tribal communities. To this end, the Government Accountability Office, in a report released September 7, 2018, found that while the FCC "collects data on broadband availability from providers," "these data do not accurately or completely capture broadband access on tribal lands." The GAO further observed that the "FCC does not collect information on several factors—such as affordability, quality, and denials of service—that FCC and tribal stakeholders stated can affect the extent to which Americans living on tribal lands can access broadband services." As a result, the GAO recommended that the agency establish "a formal process to obtain input from tribal governments on the accuracy of provider-submitted broadband data" in order to help improve the accuracy of the FCC's broadband data for tribal lands.

I believe the starting point for the FCC's report to Congress should be the issues identified by the GAO. The agency needs to address the deficiencies outlined in this report and in doing so must directly engage with tribes, consistent with the Federal Government's trust responsibility as detailed in the agency's June 2000 Statement of Policy on Establishing a Government-to-Government Relationship with Indian Tribes.

Question 2. Do you think it's important that the upcoming quadrennial review, review the changes that have been made to media ownership over the past 18 months and the impact that these changes have had on localism, media concentration, and diversity?

Answer. Yes.

Question 3. In 2016, the Court of Appeals chastised the FCC for making changes to media ownership rules without the benefit of having completed statutorily mandated reviews of the media marketplace and media ownership rules that were required in 2010 and 2014. Basically, the court was saying that the FCC's policy-making needed to be based on data and analysis. It's my understanding that the FCC needs to start its next data gathering review this year.

Given the court's guidance that any FCC changes to media ownership rules should be grounded in the type of up-to-date data and analysis required by the quadrennial review process, what would you recommend that the next quadrennial review cover?

Answer. Under Section 202(h) of the Telecommunications Act, the FCC is required to review its media ownership rules every four years to determine whether they are "necessary in the public interest as a result of competition." The last two such reviews began in 2010 and 2014. Accordingly, the FCC is expected to begin a review this year. However, within the last year, acting on reconsideration of earlier efforts, the FCC made substantial changes to its rules. It is essential that the agency study the impact of these changes in the marketplace. To this end, the next quadrennial review must include robust data collection, analysis, and an assessment of the consequences of changing our media ownership rules on localism, competition, and diversity.

Question 4. When I asked Chairman Pai at the hearing if the FCC has the authority to address cybersecurity issues related to SS7 that impact their networks. Does the FCC currently have the authority to *require* wireless carriers to address cybersecurity issues related to SS7? If not, please explain why.

Answer. Yes. The very first sentence of the Communications Act tasks the agency with a duty to "make available, so far as possible, to all the people of the United States . . . a rapid, efficient, Nation-wide, and world-wide wire and radio communications service . . . for the purpose of the national defense" and for "promoting

safety of life and property.” Accordingly, the FCC has a clear mandate to help ensure the safety and resiliency of our Nation’s communications networks.

To this end, the agency needs to address communications vulnerabilities like SS7. SS7 is a signaling protocol that permits carriers to communicate with one another to deliver calls and text messages between and among their networks. While SS7 offers practical benefits, it is known to have significant cybersecurity problems. It is well understood that criminals and foreign governments can exploit flaws in SS7 to track mobile users, intercept calls and texts, and even steal sensitive information available on devices.

The FCC is uniquely situated to comprehensively address problems with SS7—and has both the network expertise and statutory authority necessary to do so. To date, the FCC’s Communications Security, Reliability, and Interoperability Council recommended that communications service providers implement specific security measures to help prevent exploitation of SS7 network infrastructure. The FCC’s Public Safety and Homeland Security Bureau, in turn, released a Public Notice recommending that communications service providers implement these measures. In addition, the Bureau sought comment on the progress being made to address SS7 vulnerabilities. At this point, the FCC needs to move beyond studies and voluntary recommendations to ensure that the measures identified by CSRC are implemented in a timely fashion. As part of the agency’s effort to do so it should coordinate with other authorities with appropriate jurisdiction and expertise, including the Department of Homeland Security and the Department of Defense.

Question 5. The FCC has publicly encouraged wireless carriers to voluntarily address cybersecurity issues related to SS7 that impact their networks. Does the FCC currently have the authority to require wireless carriers to address cybersecurity issues related to SS7? If not, please explain why.

Answer. Yes. As noted above, the FCC has a clear mandate to help ensure the safety and resiliency of our Nation’s communications networks. In addition to this authority detailed in Section 151 of the Communications Act—the very first sentence of the law—the agency has additional statutory power pursuant to Section 222, which describes duties of telecommunications carriers to protect the confidentiality of customer proprietary network information.

Question 6. According to a recent article in the *Washington Post*, governments in other countries, including the United Kingdom, have “commissioned independent testing of the vulnerabilities in national cellular networks.” Does the FCC currently have the authority to commission independent cybersecurity testing of U.S. wireless networks? If not, please explain why.

Answer. Yes. However, I recognize that the decision to commission such testing would lie with the Chairman of the FCC. That said, I believe that the FCC’s 13 field offices should, as a matter of regular practice, test for vulnerabilities in our wireless networks in order to identify problems and promote best practices in cyber hygiene.

Question 7. Does the FCC currently have the authority to require mobile carriers to assess risks relating to the security of mobile network infrastructure as it impacts the government’s use of mobile devices? If not, please explain why.

Answer. Yes. A broad range of national security and public safety functions of the Federal Government rely on our commercial telecommunications networks, which are subject to the oversight and authority of the FCC.

Question 8. Does the FCC currently have the authority to compel mobile carrier network owners/operators to provide information to the FCC to assess the security of the carriers’ communications networks? If not, please explain why.

Answer. Yes. Pursuant to Section 316 of the Communications Act, the FCC retains broad authority over licenses, including authority to seek information from licensees.

Question 9. A recent investigation by Senator Wyden revealed that wireless carriers were providing customer location to private companies without verifying that users had consented to this disclosure of private information. In response, all of the major wireless carriers announced they would stop selling location data via location aggregators.

Is subscriber location data, when created by wireless carriers through their cell towers or other network infrastructure, is customer proprietary network information (CPNI)? If not, please explain why.

Answer. Yes.

Question 10. Is location data protected by 47 U.S.C. Section 222, regardless of whether it is collected when the subscriber is making a call, browsing the web from their smartphone, or even when the subscriber’s phone is not being used and is in the subscriber’s pocket? If not, explain why.

Answer. Location data is protected by Section 222 of the Communications Act, in connection with the provision of a telecommunications service. Under the law, customer proprietary network information includes “information that relates to quantity, technical configuration, type, destination, location and amount of use of a telecommunication service subscribed to by any customer of a telecommunications carrier, and that is made available to the carrier by the customer solely by virtue of the carrier-customer relationship. Moreover, under Section 222, a carrier that receives customer proprietary network information may only use, disclose or permit access to such individually identifiable information in its provision of a telecommunications service from which such information is derived or services necessary to, or used in the provision of such telecommunications service, absent the carrier obtaining the customer’s prior express authorization for its broader use.

In a unanimous Declaratory Ruling in 2013 the FCC further clarified that Section 222 “applies to information” such as location data, provided that it “fits the statutory definition of customer proprietary network information when such information is collected by the subscriber’s mobile device, provided the collection is undertaken at the carrier’s direction and that the carrier or its designee has access to or control over that information.” However, the scope of protections presently afforded under Section 222 remains untested in the wake of the FCC’s decision to roll back its net neutrality policies and the Joint Resolution of Disapproval from Congress in 2017 concerning the agency’s broadband privacy rules.

Question 11. In June, the FCC’s repeal of its net neutrality rules went into effect, leaving consumers and small businesses without assurances that ISPs won’t block or throttle web traffic or introduce paid prioritization schemes, and without any opportunity for redress if ISPs do engage in those activities.

States and localities have begun to take steps to protect consumers and businesses in their states from ISP abuses. What do you make of all of this state and local activity around net neutrality?

Answer. With its decision to roll back net neutrality, the FCC put itself of the wrong side of history, the wrong side of the law, and the wrong side of the American public. Its misguided decision awoke a sleeping giant—because across the country the American public is demanding action. States, cities, and towns are coming forward with new laws, resolutions, and executive orders to make right what the FCC got wrong. These efforts are a welcome development.

Question 12. Is it appropriate for states and localities to protect consumers where the FCC has abandoned them?

Answer. Yes. I support efforts by states and localities to try and address the gap left by the FCC refusing to exercise its authority and provide basic oversight of the terms of broadband service.

Question 13. How would you respond to critics of state net neutrality action regarding concerns about complying with varying standards across states and whether states have the authority to protect consumers given the FCC’s attempt to pre-empt state action?

Answer. I respect the rights of states and localities to try and fill the consumer protection gap in the wake of the FCC’s net neutrality repeal by using whatever jurisdiction they may have at their disposal.

Question 14. Has the Commission responded to the Third Circuit mandate in the Prometheus Radio Project v. FCC line of cases to examine the impacts of broadcast consolidation on ownership opportunities for women and people of color?

Answer. On three separate occasions, the Third Circuit Court of Appeals has directed the FCC to consider the impact its rule changes have on media ownership diversity. The FCC’s most recent effort to respond to this call from court took place in August of 2018. The agency adopted an incubator program that is designed to increase the diversity of broadcast ownership. However, this proposal is extraordinarily limited. It provides existing radio station licensees with the right to exceed certain radio ownership limits if they offer a bit of aid to a qualifying entrant in the same market. It does not apply in all circumstances and does not include any opportunities for television broadcasting. I do not expect that this modest effort, however well intended, will substantially diversify the ownership of broadcast licenses in the United States. I believe that more needs to be done to make progress on this front. To this end, I believe that reinstating the minority tax certificate program, which provided incentives to companies that sell radio or television stations to socially and economically disadvantaged businesses, would materially increase media ownership diversity.

Question 15. Does the Commission intend to collect any data so that it can examine how and whether broadcast consolidation relates to ownership diversity?

Answer. The FCC collects broadcast ownership data through its biennial commercial broadcast ownership reporting form, known as FCC Form 323. This collection is designed to assist the agency with assessing the state of media ownership diversity. The data also is used to identify trends across time and the impact of agency rules on broadcast ownership.

Question 16. What percentage of broadcast stations are owned by people of color? By women? Are you satisfied with those levels? If not what kind of meaningful changes can the FCC make to expand ownership diversity?

Answer. According to the most current FCC data available, which was released in 2017 but reflects ownership as of 2015, minorities collectively or individually held a majority of voting interests in 2.6 percent of full-power commercial television stations, 1.8 percent of Class A television stations, and 2.4 percent of low-power television stations. Across all broadcast interests, American Indian and Alaska Natives owned 40 broadcast stations, Asians owned 152, African-Americans owned 180 broadcast stations, Native Hawaiians and other Pacific Islanders owned 20 broadcast stations, and persons of two or more races owned 10 broadcast stations.

The same data demonstrate that women held a majority of voting interests in 7.4 percent of full-power commercial television stations, 9.3 percent of Class A television stations, and 11 percent of low-power television stations.

I am not satisfied with these levels. Moreover, I am concerned that the recent changes to FCC media ownership rules will result in greater media consolidation, making it even less likely that women and people of color will become owners of broadcast stations.

Question 17. What data, if any, did the Commission rely on to justify its recent assumptions that deregulation in the form of loosening local ownership protections would improve competition and localism in the broadcast market.

Answer. In November 2017, the FCC approved a decision that eliminated the newspaper-broadcast ownership rule, the radio-television cross ownership rule, the eight-voices test, and allowed for case-by-case waiver for companies to own two of the top four stations in a single market. To justify this action, the FCC relied on data collected and reviewed in its 2010 and 2014 quadrennial reviews, which were completed in 2016. I did not support this decision.

Question 18. Does the FCC have any intention of soliciting public input with field hearings regarding whether or not local broadcast stations are serving the public interest to inform evaluations of recent media ownership changes or future ownership reviews?

Answer. To my knowledge, the FCC does not currently have plans to hold field hearings concerning the agency's media ownership rules. However, I believe soliciting public input directly from the public in this fashion is important before the agency makes any further changes to its media ownership rules.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. RICHARD BLUMENTHAL TO
HON. JESSICA ROSENWORCEL

Question 1. Can you discuss the harms the Chairman's proposals would cause to the Lifeline program, and especially the veterans that rely on the program?

Answer. We owe a debt of gratitude to those who have served in the military. They have made sacrifices at home, with their families, and on the battlefield. We also owe those who have worn the uniform, policies that ensure that when they return to civilian life, opportunities await.

Unfortunately, by this measure, the Federal Communications Commission comes up short. Last year, the agency unveiled a plan to make deep cuts to Lifeline, a program that helps 1.3 million veterans afford basic telephone and broadband service. However, they are not the only community that will be harmed by the FCC's proposal. There are 500,000 Lifeline subscribers on Puerto Rico who rely on the program to help rebuild their lives in the aftermath of a devastating storm. There are 2 million elderly across the country who count on Lifeline to stay connected, stay healthy, and stay safe. In addition, many victims of domestic abuse and homeless youth rely on the program.

While I support efforts to update and modernize Lifeline, I believe that the proposed reforms to this program are cruel. They would dismantle the program with a cavalier disregard for the communities that depend on this service—including veterans. For this reason, a wide range of organizations, including the National Association of American Veterans and AARP have expressed serious concern with the agency's proposal.

Question 2. The Wall Street Journal’s Editorial Board recently praised Chairman Pai’s decision to challenge the Sinclair-Tribune merger, stating that “the FCC Chairman follows the law in stopping a merger.” The editorial concluded by saying “it’s up to Congress to change broadcast ownership restrictions.” Do you agree that only Congress has the authority to change broadcast ownership restrictions, like the national television ownership cap.

Answer. Yes, I believe that Congress is best-suited to make changes to the national television ownership cap.

Question 3. A December 2017 Notice of Proposed Rulemaking explores gutting one of the last few remaining rules protecting consumers from massive consolidation in media: the media ownership cap. Didn’t Congress—through the Consolidated Appropriations Act of 2004—very clearly instruct the FCC to set this cap at 39 percent? What authority would the FCC now have to change this cap?

Answer. Yes, in the Consolidated Appropriations Act of 2004 Congress clearly instructed the FCC to set this cap at 39 percent.

Question 4. Prior to repeal of net neutrality, several public interest organizations warned that we would see small changes first, such as imposing additional fees for high definition video, as ISPs tested the waters to see what they could get away with. Public Knowledge’s Harold Feld testified to the Maryland Senate in March that “primary broadband providers will take advantage of this to find new ways to charge customers if they want to get high quality service.” Since then, Comcast and Verizon have begun to throttle mobile video for certain data plans unless consumers upgraded to more expensive services. Is the Commission looking at these practices under the transparency requirements in its 2017 rules?

Answer. No, not to my knowledge.

Question 5. If the FCC has concerns about any of these practices what, if anything, can it do about them under the 2017 rules?

Answer. So long as a broadband provider accurately describes its practices in the fine print, consumers and this agency have little recourse.

Question 6. In May 2018, the *New York Times* disclosed that the big four mobile providers were allowing the company LocationSmart direct access to the real-time location of their customers for tracking and advertisers. The LocationSmart example is demonstrative of how much the broadband and mobile companies know about our daily lives. Just a few companies occupy a unique position as the gatekeeper—to watch our movements and our borrowing history, often without our consent.

Do consumers benefit from their broadband companies being able to track and sell their browsing history?

Answer. For any benefit to occur, it is imperative that consumers clearly consent before broadband companies use and sell this information.

Question 7. Is allowing broadband companies to sell our browsing history necessary toward building out faster networks?

Answer. No, I do not believe it is necessary.

Question 8. Without the broadband privacy rules, do consumers have any meaningful recourse protect their browsing history from being used or shared by broadband providers?

Answer. No.

Question 9. Do you agree with me that Congress needs to pass comprehensive privacy legislation to protect the privacy of broadband subscribers?

Answer. Yes, comprehensive privacy legislation would be one way to protect the privacy of broadband consumers.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. EDWARD MARKEY TO
HON. JESSICA ROSENWORCEL

Question. The Commission is currently considering a forbearance petition to limit protections ensuring incumbent Local Exchange Carriers provide competing telecommunications carriers access to their networks at reasonable rates, terms, and conditions if there is not sufficient competition in the market. Will the Commission take into consideration the special circumstances of how Hurricane Maria devastated the local telecommunications infrastructure as it considers this proposal?

Answer. I believe that the Federal Communications Commission should take these special circumstances into account.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TOM UDALL TO
HON. JESSICA ROSENWORCEL

Question. What is your view on what a meaningful tribal consultation should look like?

Answer. The Federal Communications Commission has a duty to consult with tribes before implementing any regulation or policy that will significantly or uniquely affect tribal governments, their land, or their resources. This responsibility is memorialized in the FCC Policy Statement on Establishing a Government-to-Government Relationship with Indian Tribes.

It is essential that the agency honor this Policy Statement in all of its proceedings and efforts. To this end, I believe successful consultation is a two-way exchange of information, a willingness to listen, and an attempt to understand all stakeholders with interest in the matter before the agency. It also requires a genuine effort to reach consensus or develop approaches that represent a fair compromise. However, simply listing ever minor contact the FCC has had with Tribal authorities in a proceeding does not reflect meaningful consultation—especially when not a single Tribe expresses support for the action taken.

To ensure meaningful consultation going forward, the FCC should update the Policy Statement to standardize outreach in a manner consistent with the Federal trust responsibility. This document has not been revisited since it was adopted more than a decade and a half ago. I believe clarifying expectations for outreach and engagement in this document would help ensure more meaningful tribal consultation going forward.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. TAMMY DUCKWORTH TO
HON. JESSICA ROSENWORCEL

Question. The Universal Service Fund (USF) High-Cost program is a crucial component to broadband deployment in rural areas. The FCC helped to address the USF budget shortfalls in the last Fiscal Year, but the program remains underfunded. The uncertainty of a budget control that has gone from approximately 4 percent to more than 15 percent in two years undermines investment opportunities and may prevent rural areas from getting the broadband they deserve. The Alternative Cost Model is also underfunded, resulting in fewer locations being served. Will you commit to working with your fellow commissioners to ensure that both parts of the USF High-Cost program that supports voice and broadband are each sufficiently funded and not subject to continuing shortfalls?

Answer. Yes, I commit to working with my colleagues on funding issues related to the high-cost universal service program.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CATHERINE CORTEZ MASTO
TO HON. JESSICA ROSENWORCEL

Question 1. A recent Inspector General report recently concluded, despite the FCC's repeated claims that comment period for the net neutrality repeal was the subject of a cyberattack, that it was actually just the comment system being overwhelmed with public outcry against the rollback of net neutrality.

When did you first learn that the attack may not have happened?

Answer. I have long harbored serious doubts about the alleged DDoS attack. These doubts were confirmed by the Federal Communications Commission's report from the Inspector General.

Question 2. Did you believe there was a better way for the FCC to respond to the situation than how it did?

Answer. Yes. The agency should have been transparent and honest about the comment system problems from the very start.

Question 3. The Federal Government has been involved in helping make the case for private companies to bring broadband to underserved areas for a long time. It's crucial that every Federal dollar that goes to these communities is well spent, not duplicative, and gets sent out in a timely manner.

What are some of the challenges for better coordinating Federal resources and efforts to further deploy high-speed broadband?

Answer. There are a number of Federal resources dedicated to the deployment of high-speed broadband. The FCC is responsible for the high-cost universal service program, which distributes over \$4 billion each year to promote to promote and maintain modern communications networks in rural areas. In addition, the FCC is

responsible for wireless licenses and can require build-out of spectrum secured via auction. These requirements can be designed to increase the likelihood that deployment takes place in both urban and rural communities. Meanwhile, the Rural Utilities Service at the Department of Agriculture has a mix of loan and grant programs for underserved rural areas. These include Community Connect Grants, Distance Learning and Telemedicine Grants, Rural Broadband Access Loan and Loan Guarantees, and Telecommunications Infrastructure Loans and Guarantees. In addition, the Rural Utilities Service has been appropriated funding for a Broadband Pilot Program. Taken together, these programs at the Department of Agriculture provide hundreds of millions of dollars in additional resources to extend the reach of broadband.

Despite all of these programs and efforts, the FCC's latest data demonstrate that 19 million Americans in rural communities remain unserved by broadband. This is unacceptable. With so many Federal resources dedicated to deployment, it is imperative that we improve coordination so that our limited dollars can do more. Agencies across the Federal Government should work hand in hand when it comes to the distribution of these funds and the areas to which those funds are targeted. To this end, I believe the FCC should enter into a Memorandum of Understanding with the Department of Agriculture and any other Federal entities responsible for infrastructure programs that expressly support broadband—in order to ensure that efforts are not in conflict with one another or unnecessarily duplicated.

Question 4. Do you consider current tools, such as working groups, sufficient to improve efforts to curb overbuilding and duplication?

Answer. Across the government, there should be a premium to devote scarce resources to first bringing service to rural areas where it does not exist. To this end, working groups should be a helpful tool, however, additional efforts should always be encouraged to facilitate cost-effective policy solutions. This includes developing a more accurate and timely picture of where broadband service exists as part of an improved national broadband map.

Question 5. Robocalls are one of the top complaints received by the FCC. Protecting consumers from these calls will take technological as well as enforcement efforts.

Do you believe enforcement efforts could offer further deterrence for people making illegal calls?

Answer. Yes. In addition, to increase deterrence Congress may wish to authorize higher fines under the Communications Act for persistent and high-volume robocall fraud.

Question 6. Are fines enough to crack down on the worst offenders?

Answer. No. The FCC and other authorities need to do more to combat the robocalling epidemic. These efforts should include using every enforcement tool at our disposal. However, it is also important that the FCC set smart policies, consistent with the law, that constrain unlawful robocalls.

Question 7. As you are aware, the Trump administration has suggested that nationalizing the 5G network could be necessary for national security.

Do you believe that the private sector is best positioned to move forward with 5G?

Answer. Yes.

Question 8. Nevada is one of the Nation's leaders in school broadband thanks to E-Rate modernization. Since the modernization order in 2014, we have seen 100 percent of our students reach the FCC's short term bandwidth goal—this is quite an achievement in some of our very rural counties. But there is still work to be done—in our state alone, over 3,400 Native American students still lack scalable broadband infrastructure. This year, Nevada school districts have requested E-rate funding to bring nearly \$1.5 million in new fiber “special construction” to schools. Our state leaders have established an E-rate matching fund to accelerate these fiber builds as well. However, funding decisions have been delayed, leading to uncertainty.

Can you commit to working with my office and Congress to provide certainty to E-rate funding decisions to help bring broadband to our most rural areas?

Answer. Yes, absolutely.

Question 9. The FCC has moved quickly to revise child television rules under the Children's Television Act, arguing that new modes of watching require updating the rules. In the proposed rulemaking, you propose to eliminate the requirement that broadcasters air their programming on main program streams, which would allow them to move to multicast streams. Low income kids really rely on this programming for education, so it's very important we get this right.

Do you believe the FCC should first issue a Notice of Inquiry, to fully examine the issue rather than move forward on such an aggressive timeline?

Answer. Yes. I asked my colleagues to convert the Notice of Proposed Rulemaking to a Notice of Inquiry so that the FCC could collect data to fully understand the impact of changing these rules on kids and their families. However, they did not accept my request. For this reason, I dissented.

Question 10. Multicast streams have 10 percent of the viewership as a main feed, do you think a move to these streams will be hugely disruptive to the current system?

Answer. I am concerned about the proposed movement of children's television content from primary programming to multicast streams. Many multicast streams reach only limited audiences. As a result, such a change could undercut the availability of quality educational and informational programming for children.

Question 11. One exciting technology that will be enabled as we move to the Internet of things and 5G is wearable technology and the possibilities for better health outcomes, including for rural Americans.

Can you point to an example you have seen about how this technology is being deployed in a way that improves people's lives?

Answer. The United States is the only industrialized economy with an increasing rate of maternal mortality. This is a trend that merits serious study. One possible cause is the decline in obstetric care in rural communities. During the past decade and a half, 179 counties have ceased to provide obstetric care in their hospitals. As a result, 54 percent of rural counties no longer have a hospital with a maternity ward.

In practice, this means that many women who are pregnant in rural communities drive long distances for routine care in advance of giving birth. Regular meetings with health care professionals to monitor everything from blood pressure to blood sugar may involve a full day off from work, forgone wages, and special arrangements for childcare. Yet failure to monitor the small things during pregnancy can have big consequences, resulting in serious problems in childbirth.

Technology may be able to assist with these challenges. For example, the Mayo Clinic has tested a program that made available handheld fetal heart rate monitors and a text-based smartphone application to communicate at regular intervals with health care professionals. Initial results have been promising, with researchers concluding that this approach could result in a more desirable and participatory experience for expectant mothers while also providing high-quality care at low cost.

Question 12. How can Congress help assist the FCC in ensuring the deployment of this technology in the future?

Answer. Your August 27, 2018 letter to the FCC encouraging the agency to explore the intersection between new telemedicine technology and challenges specific to maternal health care was extremely helpful. It is my hope that Congress will continue to press the agency to address this subject and seek the assistance of others across government, including the Department of Health and Human Services, to work collaboratively on this issue.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JON TESTER TO
HON. JESSICA ROSENWORCEL

Question. I understand the FCC is working on a rule to assess whether to establish a program under which spectrum licensee may partition and sublease the license to an unaffiliated carrier to serve a rural area. What is the status of that rule? What other steps are you taking to make sure rural carriers that want to buildout in rural America have access to spectrum?

Answer. I am concerned that too many rural communities may be left behind as more urban areas race to newer and newer wireless technologies. To prevent this from happening the Federal Communications Commission needs to get creative. To this end, it must consider options beyond using its universal service programs to support wireless deployment—and explore how licensing policy can facilitate greater build out in rural America.

To this end, in the RAY BAUM'S Act, Congress directed the FCC to initiate a rulemaking to determine how and whether to develop a system permitting exclusive-use licensees to partition or disaggregate licenses through either secondary market sales or leases. Such an effort may make it possible to increase the availability of unused spectrum to unaffiliated, small carriers serving rural areas. This idea merits serious consideration and I support kicking off this proceeding expeditiously. The decision regarding when to do so, however, rests with the Chairman of the agency.

In addition, the FCC should explore other options for delivering wireless service to rural communities. These include identifying how unlicensed spectrum, including white spaces, may be used to bridge the wireless divide between urban and rural areas. The agency should also consider how smaller license sizes in spectrum auctions may make it possible for more rural entities to bid and offer service. Furthermore, the FCC should consider how geographic-based buildout obligations (instead of population-based standards) may be used to extend the reach of wireless service to more remote communities.

