

**OVERSIGHT OF THE
FEDERAL COMMUNICATIONS COMMISSION**

HEARING

BEFORE THE

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

ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

—————
SEPTEMBER 15, 2016
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SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION

ONE HUNDRED FOURTEENTH CONGRESS

SECOND SESSION

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OVERSIGHT OF THE FEDERAL COMMUNICATIONS COMMISSION

THURSDAY, SEPTEMBER 15, 2016

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

The Committee met, pursuant to notice, at 10:04 a.m. in room SR-253, Russell Senate Office Building, Hon. John Thune, Chairman of the Committee, presiding.

Present: Senators Thune [presiding], Nelson, Wicker, Cantwell, McCaskill, Fischer, Blunt, Klobuchar, Moran, Schatz, Daines, Markey, Gardner, Booker, Sullivan, Udall, Blumenthal, Peters, Johnson, Heller, and Manchin.

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

The CHAIRMAN. Good morning. This hearing will come to order. We're delighted to have the FCC Commission Chairman and the other four Commissioners with us today for an oversight hearing.

And let me just preface what I'm going to say. My opening statement is fairly hard-hitting. It is designed in the interest not of my personal feelings but the importance of the relationship between the Congress and this institution. I want people to understand as I make my remarks that that's the vein in which it is intended.

In the past, people used to say that the telecom policy was not particularly partisan and that both parties could often find common ground to work together. The voting record at the Commission certainly bears that out with the previous five permanent FCC chairmen combining for just 14 party-line votes in open meetings during their tenure.

In this Commission, under Chairman Wheeler, this agency has too often pursued a highly partisan agenda that appears driven by ideological beliefs more than by a sober reading of the law. Chairman Wheeler has forced 3-2 votes on party-line items a total of 25 times. And just to put that in perspective, in 3 years under Chairman Wheeler, the FCC has seen nearly twice as many partisan votes than in the previous 20 years combined.

What were once very rare events are now standard operating procedure at the Commission. A free and open Internet, universal broadband access for all Americans, innovative offerings for pay-TV customers, and necessary privacy protections all have broad bipartisan support.

So why has the current FCC continually advanced divisive policies at the expense of certainty for consumers and innovators that only bipartisan solutions can offer?

Of course, consensus is not always achievable on every issue, and I would be the first to acknowledge that, but when there have been opportunities for common ground, the Commission has frequently chosen a partisan path over collaboration. By relying on unnecessarily partisan tactics, Mr. Wheeler has, I believe, missed opportunities for bipartisan accomplishments.

Chairman Wheeler at times has seemed to use even the distribution of information about Commission proceedings as a political weapon. Too often, we have seen conveniently timed leaks and disclosures used as tools to benefit a partisan agenda.

But he and I spoke earlier this week, and I reiterated my call for the FCC to be as transparent as possible. Treating all Commissioners fairly, not using the disclosure of non-public information as a sword, would lead to a better process at the agency, which, in turn, could only improve the Commission's work product.

While process issues at the FCC may seem to be just a minor transgression that can be chalked up to business as usual in Washington, D.C., in this case, it illustrates a divisive leadership approach which threatens to undermine the credibility of the agency now and into the future.

This partisanship has been used to do the following things: a complete upending of how the Internet is regulated, creating years of uncertainty for everyone; stripping important consumer protection responsibilities from the Federal Trade Commission; a failed attempt to override States' rights on municipal broadband in a power grab that was overturned by the courts; increasing the size of the Universal Service Fund by billions of dollars while simultaneously undermining bipartisan efforts to improve the program's accountability; the unnecessary and unlawful disclosure of trade secrets; and a plan that could possibly be adopted later this month to have the FCC and its Media Bureau design and dictate the future of television apps.

The common thread among these partisan actions by the agency is a clear intent to install the Federal Communications Commission as the most important player in the communications landscape, the arbiter through which all new marketplace developments and innovations must pass.

If you're an innovator working to develop a new consumer-friendly Internet-based app, sorry, you need to first make sure it conforms to the license required and regulated by the FCC.

If you're a mobile subscriber enjoying competitive service plans that make data more affordable for you, enjoy it while it lasts, because while the Commission might be OK with that today, they could easily deem it unlawful next year or even tomorrow.

And if you're a small business seeking a new way to promote your company online, sorry, the FCC is going to saddle would-be disruptors with rules preventing them from challenging the dominant players in the online advertising market.

Rather than exercising regulatory humility and putting faith in the marketplace, over and over again, the FCC has required companies to beg for government permission to innovate.

And Republicans are not alone in noticing the FCC's overreach. On several occasions, other Federal agencies have refused to support the FCC's actions. The Copyright Office strongly criticized the earlier proposal for set-top boxes, which was far less complex than the new one.

The staff at the Federal Trade Commission called the FCC's privacy rules "not optimal," which is bureaucrat-speak for "really bad."

And the Department of Justice refused to defend the FCC's unlawful action on municipal broadband.

This all stands in contrast, I might add, to good-faith efforts by Republicans and Democrats in Congress to work together on telecom policy. The bipartisan MOBILE NOW Act is the most prominent example of this in the Senate, but other examples abound: FCC reauthorization, Kari's Law, the Amateur Radio Parity Act, the SANDY Law, the Improving Rural Call Quality and Reliability Act, and more.

In Congress, communications policy is often a rare oasis of cross-aisle cooperation. But even here, the partisan toxicity of the Commission has reached across D.C. and infected our bipartisan work. For proof of this, one need look no further than Senator Reid blocking the Senate's telecom agenda while admitting that this committee has done its work, including reporting nominees in bipartisan fashion.

What is perhaps most unfortunate is that we have clear examples of the good the Commission can do when it truly works toward bipartisanship. Earlier this year, Chairman Wheeler and Commissioner O'Rielly worked together to address the standalone broadband problem that threatened rural communities. More recently, the FCC issued its Spectrum Frontiers Order, which is an important downpayment toward making much-needed spectrum available to fuel the next generation of gigabit wireless services.

I just want to urge all members of the Commission to treat each other fairly, to respect the law, and to be willing to ask Congress for guidance, and to seek consensus wherever and whenever possible. Doing so will result in agency actions that are more likely to ensure. Further, less controversy at the Commission will improve its credibility, providing it with more wherewithal to carry out its statutory responsibilities.

And on a side note, while this agency is far from the largest in our Committee's expansive jurisdiction, its importance to the future of our economy and our society is hard to overstate. Communications and media networks are at the center of Americans' lives, and that role is only going to increase over time.

Regardless of how the agency operates or who is in charge of leading the Commission, it's important and worthwhile for the Commerce Committee to hold regular oversight hearings of the FCC, and today's hearing should be viewed as establishing a regular biannual schedule for FCC oversight.

Thank you. And I will recognize the Ranking Member, Senator Nelson, for his opening statement.

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

Senator NELSON. Mr. Chairman, I, too, have a rather hard-hitting opening statement. And I certainly acknowledge with you the highly charged partisan times. And I acknowledge also that this committee, indeed with the relationship that you and I have personally, cuts through a lot of that partisanship and comes up with bipartisan solutions on issue after issue.

And as you look back across that chart that your staff just held up, indeed, administrative agencies often reflect the times in which they are holding their administrative hearings and their votes, and this has been one of the most contentious.

As a matter of fact, it is still beyond my understanding when one of the two Republican members were confirmed with the direct agreement between the two leaders of the Senate that Jessica Rosenworcel would, in fact, be confirmed as a follow-up, and that was the agreement.

Can you imagine Everett Dirksen, and can you imagine Mike Mansfield—as a matter of fact, I've heard stories about Mike Mansfield, when a Democratic Senator did not keep his word to a Republican Senator, Mike Mansfield, in the home state of that Democratic Senator, rebuked him. Where have those days gone? And why do we still sit around and wait for the confirmation of Mrs. Rosenworcel?

So, indeed, and I say this with a heavy heart, but at the same time with an encouraged heart, because of the relationship that you and I have and how we have been able to get some things done here, not the least of which just recently was the FAA bill.

And so here we have the session of the Federal Communications Commission. It's a very full agenda. It's an ambitious agenda. And while proceedings like this one on broadband and privacy, are incredibly important, I want now to touch on Chairman Wheeler's latest proposal to free consumers from having to pay annoying and excessive monthly rental fees for set-top boxes.

Everybody agrees, I don't see much dissent, that we need to move beyond set-top boxes as technology rapidly advances. The marketplace should constantly strive for ways to give consumers what they want. Congress said as much in 1996, thank you, Senator, from Massachusetts.

Congress said as much in 1996 when we required the FCC give consumers some alternatives to the boxes, and yet 20 years have passed and consumers are still renting these boxes month after month. We're beyond that.

That's why this Senator is fully supportive of the FCC's efforts to use its authority to give consumers relief. As Chairman Wheeler and I have discussed, I'm encouraged that your leadership and your relentless drive have gotten us so close to that shared goal.

Now, we've spent a great deal of our time here in the Senate trying to put politics aside, as we have stated on a number of issues, in order to reach agreement, and I learned long ago that no matter how good intentioned a proposal, if consensus can't be reached, then it's not going to be a success.

So we sit here 2 weeks from a planned vote on the proposal in the Commission, and I continue to hear from many stakeholders

that there are elements, Mr. Chairman Wheeler, of your proposal that continue to need work. Much of that concern comes from the approach that you've taken on copyright and content, and, in fact, I share those concerns and have stated those concerns to you, and I've stated those concerns publicly months ago.

If we stay on the present course, I fear the FCC's actions to promote set-top box competition would be tied up in court and hamstrung for years. We just experienced that reality with net neutrality, which created a decade-long fight and left consumers without effective consumer protections as they use their broadband service.

And so it's my hope that the Commission will take the time necessary to reach out to stakeholders in good faith to try to resolve some of these concerns so that we can once and for all free consumers from the monthly set-top box fees. It's very, very important to consumers, and it needs to be done.

Let me just mention a couple of other issues. At our last oversight hearing, Mr. Chairman, you and I talked about the need for Congress to act to help advance the ongoing evolution of our Nation's 911 infrastructure to the Next Generation of 911.

It's a public safety priority for the Federal Government, and states to further this transition to make sure that 911 service remains robust and able to respond adequately and effectively in an emergency.

We all rely on it. It's a call that we hope we never have to make, and it's time for all of us to do everything that we can to make it a reality throughout the entire country.

So I will be offering for cosponsorship in the near future legislation to promote the development and deployment of the Next Generation of 911 services, and to make this transition a success. And I invite all of our colleagues to join.

And so with that, Mr. Chairman, thank you for the opportunity, and thank you for the opportunity of working with you.

The CHAIRMAN. Thank you, Senator Nelson. I appreciate that. Thanks for your opening remarks.

We'll turn to the panel, and we'll start on my right, and your left, with the Chairman, and then Commissioner Rosenworcel, Commissioner Pai, Commissioner O'Rielly, Commissioner Clyburn. Welcome to all of you. As always, we're delighted to have you in front of the Committee and look forward to hearing from each of you today.

So, Mr. Chairman, if you would please proceed.

**STATEMENT OF HON. TOM WHEELER, CHAIRMAN,
FEDERAL COMMUNICATIONS COMMISSION**

Chairman WHEELER. Thank you, Mr. Chairman, Senator Nelson, Members of the Committee.

You know, as a certain November event approaches and a new administration is on the horizon, this may be my last appearance before this committee. I will cooperate fully with the new administration to assure a smooth transition at the FCC, but I do want to take this opportunity to observe that it has been a privilege to work with this committee over the last 3 years. I'm grateful to the Committee for recommending my confirmation and for the dialogue

that we have had throughout my tenure, and I look forward to that dialogue continuing today.

One of the dialogues that we have had ongoing Senator Nelson just raised, and that's the issue of the Next Generation 911. The benefits of IP networks are simply not being realized because for far too many Americans, Next Generation 911 networks don't exist. This not only defers the advantages of next-generation technologies, but it increases the risk of 911 failure to those communities remaining on legacy 911.

As we meet today, our old 911 networks are under attack. Last Saturday's *Washington Post* had a big article describing how telephone denial-of-service attacks can and have shut down 911 networks. And the FBI and DHS are reporting record levels of ransomware attacks on 911 systems. There is a crisis cooking in our 911 networks. The decisionmaking of Congress will be necessary on this important public safety issue.

Now, as has been referenced, later this month the Commission will vote on whether to fulfill a mandate that the Congress gave us 20 years ago to assure that consumers have competitive choice in how they access cable and satellite programming.

Last February, we put forth a proposal to follow the statutory command of the Communications Act that, quote, The Commission shall adopt regulations to assure the commercial viability of competitive navigation capability to the satellite and cable services consumers pay for.

Now, I've heard the question asked, "Why are you doing this if the market is working?" It isn't. Ninety-nine percent of consumers have no choice despite the statutory mandate that they shall have choice.

The cable industry has been playing rope-a-dope with that statutory mandate for 20 years. First, they created a licensing body to license, but failed to license that technology, in a meaningful manner. Then in 2008, Comcast announced, "The age of the closed proprietary set-top box is behind us; the era of open cable is here." Eight years ago. Consumers have seen nothing happen.

Then in 2010, in a CTA filed in an FCC proceeding, "Consumers should have the option to purchase video devices at retail that can access their multi-channel provider's video services without a set-top box supplied by that provider." Six years ago, and consumers have seen nothing happen.

A recent Harris poll showed that 74 percent of consumers believe set-top box rental fees are too high, and with good reason. One study submitted for our record found that while set-top box fees increased 180 percent, during that same period, the cost of other consumer electronics fell by 95 percent. Yet every month, by one estimate, consumers are charged \$1.6 billion that Congress mandated they should have an alternative to paying.

For the last 7 months, we have been working with the affected parties to improve and simplify the original proposal. When the cable industry proposed a much simpler apps-based approach, we adopted it. We also adopted the programmers' suggestions to assure that copyrights and contracts are protected end-to-end.

We are now at that point in the rulemaking process when each Commissioner reviews the work and makes his or her suggestions

for improvement. We have demonstrated our willingness to make significant changes in the original proposal while remaining faithful to the mandate in the statute.

I look forward to my colleagues' input and to working with them. The beauty of this Commission is the deliberative process in which we are now engaged.

When the *Los Angeles Times*, the Hollywood hometown newspaper, editorialized that our proposal, "Shows how the FCC can live up to that Congressional mandate while still protecting copyrights and saving U.S. consumers billions of dollars and the Commission should move forward with it," they correctly assessed how both consumers and creators are protected by the improvements that have been made to the original proposal.

As Commissioner Rosenworcel said when we adopted the NPRM, "It is time, past time, to live up to our statutory obligations and foster the competition that consumers deserve."

Finally, Mr. Chairman, let me close by expressing how much I hope that Commissioner Rosenworcel will be able to continue to serve on the FCC. This committee knows, from her service on its staff, her tremendous abilities, and her depth of understanding of the issues before the Commission.

As Chairman of this agency, I hope we can continue to count on Commissioner Rosenworcel's insights and leadership.

Thank you very much.

[The prepared statement of Chairman Wheeler follows:]

PREPARED STATEMENT OF HON. TOM WHEELER, CHAIRMAN,
FEDERAL COMMUNICATIONS COMMISSION

Introduction

Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you for this opportunity to discuss our work at the Federal Communications Commission.

Since we last met six months ago, the Commission has continued to make strong progress on our policy agenda. While I am pleased with this progress, our work is far from done. With each passing day, communications technology grows more important to our economy and quality of life. That means there's no letting up at the Commission. We must continue to promote core values like universal access, public safety, consumer protection, and competition at the same bold pace we have consistently maintained.

This testimony recaps major developments since our March hearing, and highlights some key priorities as we move forward.

Key Developments

Incentive Auction

After years of planning, and at the direction of Congress, we are in the midst of the historic incentive auction to make available greenfield low-band spectrum by repurposing a portion of the broadcast-TV band for wireless use.

When I last visited this Committee I noted that the auction's design allows for multiple stages of bidding in order to match the supply of spectrum from broadcasters with the demand expressed by wireless bidders. That process is playing out as designed. In the first stage of the auction we made available an initial clearing target of 126 MHz, but the cost to clear that amount of broadcast spectrum exceeded the bid prices of the wireless bidders. We therefore began the second stage on September 13 with a reverse auction to determine the cost to clear a reduced amount—114 MHz—of spectrum. A second stage forward auction will follow the conclusion of the reverse.

We also continue to plan for the post-auction transition and repacking of TV stations. The Incentive Auction Task Force will soon release for discussion and comment transition models to calculate the order and schedule of station relocation ef-

forts. These models reflect the input we've received from broadcasters, wireless companies, tower crews, equipment manufacturers, and other stakeholders.

Getting the transition right is as important as getting the auction itself right. We continue to prioritize planning for an efficient and effective transition with minimal disruption to the viewing public. With the continued engagement of industry stakeholders, that's exactly what we'll get.

5G—Spectrum Frontiers

This July, the Commission unanimously adopted the Spectrum Frontiers Report and Order, our most significant step yet to accelerate the development and deployment of 5G wireless technology. This next generation of wireless connectivity promises quantum leaps forward in three key areas: speeds resembling fiber that are at least 10 times and maybe 100 times faster than today's 4G LTE networks; responsiveness less than one-thousandth of a second, which enables real-time communication; and network capacity multiples of what is available today.

Coupling this ultra-fast, low-latency, high-capacity connectivity with the almost unlimited processing power of the cloud will enable life-saving healthcare advances, smart-city energy grid and water systems, immersive education and entertainment, and, most importantly, new applications yet to be imagined.

By approving the Spectrum Frontiers item, the United States became the first country in the world to open up high-band spectrum for 5G networks and applications.

We are repeating the proven formula that made the United States the world leader in 4G: one, make spectrum available quickly and in sufficient amounts; two, give great flexibility to companies that can use the spectrum in expansive ways; and three, stay out of the way of technological development. We will also balance the needs of various different types of uses in these bands through effective sharing mechanisms; take steps to promote competitive access to this spectrum; encourage the development of secure networks and technologies from the beginning; and remove unnecessary hurdles to siting and infrastructure deployment.

Business Data Services

The Commission's Business Data Services proposal seeks to promote competition that will encourage innovation and investment. Long known as Special Access, Business Data Services offer the kind of dedicated access that wireless providers need to connect cell towers and antennas to their networks. Such dedicated network connections are also used by small businesses, retailers, banks, manufacturers, schools, hospitals, and universities to move large amounts of data.

In many areas, however, competition in the supply of Business Data Services remains limited, and that can translate into higher prices for wireless networks and businesses, which then translates into higher prices for consumers. In April, the Commission launched its Business Data Services proceeding to help address this challenge.

To seize the opportunities to increase the deployment of mobile networks and to move towards 5G connectivity, we're going to need a lot more backhaul to handle the massive increase in data traffic. Lack of competition doesn't just hurt the deployment of wireless networks today, it also threatens to delay the buildout of 5G networks with its demand for many, many more backhaul connections to many, many more antennas. And it hurts the many businesses and institutions that rely on these services in an ever-increasing data-driven world.

The Commission has a long and complicated history with Business Data Services and the time has come for action. Reform is supported by the Nation's leading wireless carriers, save one, and my goal is to conclude this proceeding no later than the end of this year.

Set-Top Boxes

Today, 99 percent of pay-TV consumers pay hundreds of dollars in set-top box rental fees on top of their monthly bill every year because they don't have meaningful alternatives. This February, the Commission launched a proceeding to assure consumer choice in the set-top box marketplace, as Congress mandated.

Over the past seven months, the Commission has conducted an open proceeding where we heard from pay-TV providers, programmers, device and software manufacturers, consumers groups, and, most important, the American people. I was heartened to see the industry and other stakeholders step up to tackle the issue with constructive feedback.

Last week, I circulated proposed rules to fulfill our Congressional mandate and provide consumers with choice in how they access pay-TV content. If adopted, consumers will no longer have to rent a set-top box, month after month, just to watch the programming they already pay for. Instead, pay-TV providers will be required

to provide apps—free of charge—that consumers can download to a variety of devices to access all the programming they pay for.

Among other consumer benefits, these rules would enable integrated search across different sources of content and open the door for innovation, spurring new apps and devices, giving consumer more choice and control. Expanded access to programming created by independent and diverse voices on the same platform as your pay-TV provider's would mean consumers will more easily find content that is buried behind guides or not available from a pay-TV provider.

To ensure that all copyright and licensing agreements will remain intact and in response to feedback we received, the delivery of programming will continue to be overseen by pay-TV providers from end-to-end. The proposed rules also maintain important consumer protections regarding emergency alerting, accessibility and privacy.

Privacy

After months of talks with stakeholders, the Commission launched a proceeding in March to give consumers the tools they need to make informed decisions about how Internet Service Providers use and share their data, and confidence that ISPs are taking steps to keep that data secure—all while encouraging continued innovation by ISPs and other actors.

For the past six months, we've been listening, learning, and speaking with the public to figure out the best way to achieve these goals. Parties engaged in this process have included—among others—consumer and other public interest groups, fixed and mobile ISPs, advertisers, app and software developers, academics, other government actors, and individual consumers. The FTC's input has been particularly helpful as a key partner in consumer privacy protection.

I am confident we'll be able to arrive at final rules that are good for consumers and good for innovation later this year.

Robocalls

Robocalls are the top consumer complaint we receive at the Commission. Aside from simply being annoying, they are an invasion of privacy, and are rife with attempted, and unfortunately often successful, fraud and identity theft.

The Commission has taken strong action to crack down on robocalls. Last summer, we closed loopholes in the Telephone Consumer Protection Act, ensuring that robocallers face stiff consequences when they make unwanted calls and send unwanted texts. More recently, we imposed strong consumer protections on specific debt collection robocalls. But TCPA enforcement only works against those robocallers we can find and want to play by the rules.

This July, I wrote letters to major wireless and wireline telephone carriers, as well as the major gateway providers that sometimes transmit calls between other carriers, to say that consumers can no longer wait for additional tools to stop robocalls. I called on them to offer robust call blocking to their customers, free of charge. Industry responded aggressively by establishing the Robocall Strike Force, which is led by AT&T and includes representatives from telecommunications carriers, device manufacturers, operating system vendors, app developers, and other segments of the industry.

On August 19, the Commission hosted the first meeting of the Robocall Strike Force, where they set forth an aggressive timeline of 60 days to submit recommendations. On behalf of consumers, I am pleased that the Strike Force members have volunteered their time to come together to attack the robocall epidemic, and I look forward to the results in October.

Lifeline Modernization

Three weeks after I last appeared before this Committee, the Commission adopted an Order to modernize the Lifeline program. Lifeline was established during the Reagan administration and updated during the second Bush administration based on one simple concept: that we must provide assistance so that low-income Americans can access the dominant communication network of the day. In the Reagan era, that was the telephone network. In the Bush era, that was the cell phone network. Today that's broadband.

Accordingly, the first thing the Order does is to allow the support that the Bush administration extended to cell phone service to now be applied to broadband, whether wired or wireless, under the same kinds of conditions.

The Order also institutes good management practices that will dramatically reduce waste, fraud, and abuse. We started from a strong foundation laid by Chairman Genachowski and Chairwoman Clyburn who established a database to see if Lifeline consumers were double dipping. Correcting this flaw in the program's ear-

lier expansion has already paid off by reducing payments by over a billion dollars to ineligible recipients who gamed the system.

I am proud of the work that has been done over the years to shore up the Lifeline program and prevent future fraud. We will continue to work diligently to make sure that important safeguards are in place for this vital program.

Open Internet Decision

On June 14, the D.C. Circuit upheld the FCC's Open Internet Rules. The court's ruling is a victory for consumers and innovators who deserve unfettered access to the entire web, and it ensures the Internet remains a platform for unparalleled innovation, free expression, and economic growth. After a decade of debate and legal battles, this ruling affirms the Commission's ability to enforce the strongest possible Internet protections—both on fixed and mobile networks—that will ensure the Internet remains open, now and in the future.

Looking Ahead

Next-Generation 911

During my tenure as FCC Chairman, and in my prior testimony before this Subcommittee, I have been very vocal about the urgent need to improve our 911 system. The recent tragedies in Orlando, Louisiana, and too many other cities highlight the importance of 911 in times of crisis.

The Commission has taken action to improve the quality and accuracy of 911, and there is good news to report. We see industry is stepping up to many of the challenges, improving 911 location accuracy, supporting text-to-911, and generally investing to improve network reliability and resiliency.

But effective 911 service depends on our Nation's 911 call centers. These Public Safety Answering Points, or PSAPs, must have technology to receive and process calls quickly, accurately locate callers, and dispatch an appropriate response. The unfortunate fact is that 911, designed originally for analog voice, doesn't scale effortlessly to the advanced digital, wireless, and multi-media technology landscape. In too many communities, the PSAPs are relying on dangerously out of date technology, and the transition to Next Generation 911 (NG911)—envisioned by Congress in 1999 when it established 911 as the national emergency number—has not started or is stalled. Resource-strapped local jurisdictions struggle to maintain existing 911 service, let alone to achieve Congress's NG911 vision.

Industry and many states, counties, and cities are working hard to address transition risk and achieve NG911 capabilities. Nearly 20 percent of counties now support text-to-911. Many jurisdictions are building out their Emergency Services IP Networks—the basic backbone for NG911 in their communities.

But these islands of progress are the exception, not the rule. Unless we find a way to help the Nation's PSAPs overcome the funding, planning, and operational challenges they face as commercial communications networks evolve, NG911 will remain beyond the reach for much of the Nation. Let me be clear on this point: 911 service quality will not stay where it is today, it will degrade if we don't invest in NG911.

Congress has the unique ability to accelerate the transition to NG911. A clear national call to action, with timely application of resources, would actually lower NG911 transition costs by shortening the transition period and enabling 911 authorities to retire costly legacy facilities more quickly. Here are three ways that Congress could help:

National 911 Map: PSAPs are increasingly dependent on electronic maps for 911 routing and location, but the maps that they rely on should not end at the county or state line. Congress could authorize and fund the FCC (in collaboration with DOT) to create a national 911 map that would be available to every PSAP and would eliminate the seams between commercial communications network infrastructure and emergency response dispatch systems.

Cybersecurity Defenses for PSAPs: PSAPs face the same cyber vulnerabilities that have proven so challenging to both government and commercial organizations, but most lack trained workforce and the necessary tools for cyber defense. Congress could bring PSAP IP Networks under the protective umbrella of DHS's "Einstein" program by funding the deployment of intrusion detection sensors for NG911 networks.

National NG911 Implementation Date with Matching Funds: Currently, there is no national timetable or target date for completing the transition to NG911. Congress could establish a nationwide NG911 implementation date (e.g., to complete the transition by the end of 2020) and authorize matching funds to help state and local communities achieve this goal. Congress can further jump start

this effort by ensuring that federally run PSAPs and Emergency Operations Centers make achievement of NG911 capability a funding priority.

This Committee has commendably made public safety a priority, and I urge you to do everything in your power to make sure our Nation's 911 system evolves safely as it adjusts to achieve your NG911 vision and that PSAPs have the tools and support they need to avoid undue risk in the transition.

Cybersecurity

One of the most important missions of the FCC is to ensure our Nation's commercial communications infrastructure supports public safety and national security. The vulnerability of advanced telecommunications networks to physical and cyber-attack is not lost upon us. We have and will continue to work closely with industry and our agency partners to identify, mitigate and where possible reduce cybersecurity risk.

Cybersecurity principles—availability, integrity, and confidentiality—are now routinely incorporated in our engagement with industry. Our advisory committees are doing important work tackling tough cybersecurity issues for current and future networks. Our approach is to have communication providers and their industry partners lead while the FCC brings useful assistance and transparency to ensure that this effort benefits from early peer review and serves to accelerate development of 5G devices and services. We believe that this approach will accelerate U.S. deployment of secure, reliable, and highly functional 5G networks.

Conclusion

The Commission remains focused on harnessing the power of communications technology to grow our economy and enhance U.S. leadership while preserving timeless values like universal service. While there are disagreements about many of the issues I've outlined, we can all agree on the importance of the Commission's core functions that are critical to U.S. economy, businesses, and consumers. I look forward to continuing to work with members of this Committee on these and other matters.

The CHAIRMAN. Thank you, Chairman Wheeler.
With that, Commissioner Rosenworcel.

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

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

I'm going to start by noting what is important and what is obvious. We began this week on the anniversary of one of our darkest days. What happened 15 years ago on September 11 changed us all. It left an indelible mark. And in my family, that mark is personal because one of my relatives died in the Twin Towers.

But it's just as important to recognize what has not changed. We are resilient, we are optimistic, and we are strong, and I think communications networks also make us strong. They strengthen our economy, they give rise to digital age opportunity, and they support public safety. And in light of this week's anniversary, it's public safety that I want to focus on today, and specifically what can be done right now to improve our Nation's emergency number system.

911 is the first telephone number I taught my children. It's a number that every one of us knows by heart, but none of us hopes to ever have to use. But use it we do. In fact, across the country, we call 911 over 240 million times a year, and 70 percent of those calls are made over wireless phones. In other words, the vast bulk of our calls are coming into our Nation's 911 centers over technology that the system was not designed for.

This is a problem because while technology has changed so much in our lives, our communications systems that are used by our Nation's 911 call centers, they just haven't kept pace. I know because I visited nearly two dozen 911 call centers all across the country from Alaska to Arkansas, Nevada to New Jersey, California to Colorado, and a whole bunch of places in between.

And it's not that work isn't being done. In the last 2 years alone, the FCC has put in place policies to facilitate texting to 911. We've devised a framework to improve the ability of 911 call centers to be able to locate callers using wireless phones, and this is progress.

But what comes next is so much bigger because Next Generation 911 services can support a whole range of data and video communications. So for those who call in an emergency, it will mean the opportunity to offer real-time video from an accident, it will mean the ability to provide first responders with an instantaneous picture of a fleeing suspect or emergency incident, which can especially help rural public safety officials prioritize and deploy limited resources.

But to remake the Nation's 911 system to fully reflect the digital age takes funding. And historically, supporting our Nation's 6,000 911 call centers has been strictly a local affair. There is no national program or annual Federal revenue source. But, still, there are two things we can do right now to kick-start local 911 modernization.

First, we need to end fee diversion. Approximately \$2.5 billion is collected each year by local and state authorities to support 911 service, and those funds, they're typically a small line item on your phone bill. But not all states follow through and actually use the dollars collected from that line item for 911 purposes. In fact, in the last year for which the FCC has data, eight states transferred funds collected for 911 for other purposes, including things that have nothing to do with public safety. In fact, in the past, some of those have used these funds for overtime pay for state workers and dry cleaning services for state agencies. This has to stop.

Second, tucked in the Middle Class Tax Relief and Job Creation Act of 2012 is another way to jolt-start 911 modernization. As you know, this legislation authorized a series of wireless spectrum auctions that are being run by the FCC. And these auctions, which are still ongoing, have already raised enormous sums. A portion of those funds, \$115 million, was set aside by Congress for a grant program to help support Next Generation 911, but somehow this program has stalled and is yet to begin more than 4 years after Congress passed this legislation.

It's time to get this program up and running. It's the best near-term and national resource we have to put Next Generation 911 in place. And while those funds are limited, they can have broad impact if we use them wisely and fund projects that can be a blueprint for updating 911 in communities nationwide, and when we do, those states that are shortchanging their own 911 programs with fee diversion, they should be at the end of the line.

Thank you. I look forward to answering any questions you might have.

[The prepared statement of Commissioner Rosenworcel follows:]

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

Good morning, Chairman Thune, Ranking Member Nelson, and members of the Committee. Thank you for the opportunity to appear before you along with my colleagues at the Federal Communications Commission.

Let me begin by noting what is important and obvious. We began this week on the anniversary of one of our darkest days. What happened fifteen years ago on September 11 changed us all. It left an indelible mark. In my family, that mark is personal—because one of my relatives died in the Twin Towers.

But it is also important to identify what has not changed. We are resilient. We are optimistic. We are steadfast in our shared determination to move forward as individuals and as a Nation—because that is what makes us strong.

Communications networks make us strong. They strengthen our economy, give rise to digital age opportunity, and support public safety. In light of this week's anniversary, it is public safety I want to focus on today—and specifically what can be done *right now* to improve our Nation's emergency number system.

911 is the first telephone number I taught my children. It is a number that every one of us knows by heart but every one of us hopes that we will never have to use. But use it we do. In fact, across the country we call 911 240 million times a year. More than 70 percent of those calls come from wireless phones rather than traditional landline phones. That means that the bulk of our emergency calls come over a different technology than the 911 system was designed to use.

This is a problem. Because while technology has changed so much in our lives, the communications systems used by our Nation's 911 call centers have not fully kept pace. I know—because I have seen this firsthand in the nearly two dozen 911 call centers I have visited all across the country—from Alaska to Arkansas, California to Colorado, Nevada to New Jersey, Vermont to Virginia and many more places in between.

It's not that work is not being done. In the last two years alone, the Commission has put in place policies to facilitate texting to 911. We have devised a framework to improve the ability of 911 call centers to identify the location of emergency calls made from wireless phones.

This is progress. But what comes next is even bigger. Next Generation 911 services can support a whole range of data and video communications. For those who call in an emergency, it will mean the opportunity to offer real-time video from an accident. It will mean the ability to provide first responders with instantaneous pictures of a fleeing suspect or emergency incident, helping rural public safety officials prioritize and deploy limited resources. These capabilities can make public safety both more effective and more responsive.

But to remake the Nation's 911 systems to fully reflect the digital age takes funding. Historically supporting our nations roughly 6,000 911 call centers has been a local affair. There is no national program or annual Federal revenue source. But, still, there are two things this Committee can do to kick-start local 911 modernization.

First, we need to end fee diversion. Approximately \$2.5 billion is collected each year by local or state authorities to support 911 service. These funds are typically from a small line item on our phone bills identified as support for 911 service. But not all states follow through and actually use these funds for 911 purposes. In fact, in the last year for which the Federal Communications Commission has data, eight states transferred funds collected for 911 to other purposes—including uses that have nothing to do with public safety. In the past, some of those uses have included overtime pay for state workers and dry cleaning services for state agencies. This has to stop.

Second, tucked into the Middle Class Tax Relief and Job Creation Act of 2012 is a way to kick-start 911 modernization. As you know, this legislation authorized a series of wireless spectrum auctions. These auctions, which are still ongoing, have raised billions—and the proceeds are dedicated to some initiatives that get a lot of attention, like establishing the First Responders Network Authority, assisting the relocation of broadcasters in the 600 MHz band, and reducing the deficit. But there is one program these spectrum auctions fund that has not yet gotten the glory it deserves—a program for Next Generation 911.

Section 6503 reinstates the joint 911 Implementation Office and authorizes a \$115 million grant program to update 911. You might be familiar with it—because this Committee helped develop this legislation. But this program has stalled and has yet to begin more than four years after Congress authorized its creation.

It is time to get this program up and running. It is the best near-term and national resource we have to help put Next Generation 911 in place. While these funds

are limited, they can have broad impact if we use them wisely and fund Next Generation 911 projects that can be a blueprint for updating services in communities nationwide. And when we do—states that are short-changing their own 911 programs with fee diversion should be at the end of the line.

Thank you. I will be happy to answer any questions you might have.

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

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

Commissioner PAI. Chairman Thune, Ranking Member Nelson, Members of this Committee, thank you for holding this hearing and giving me the opportunity to testify this morning.

Since 2012, it has been a privilege to work alongside you on issues as varied as broadband deployment and freeing up more spectrum for consumer use.

In my opening statement, I would like to build upon the sentiments expressed by the Chairman and the Ranking Member in their opening statements, sentiments that I share. In particular, I would like to focus on four issues where I think we can reach a bipartisan consensus and benefit the American people. This committee and its Members have shown tremendous leadership on many of these issues.

The first is ensuring direct access to 911. Earlier this year, Senators Fischer and Klobuchar, along with Senators Cornyn, Cruz, and Schatz, introduced the Kari's Law Act of 2016. This bill would require that all multi-line telephone systems sold, leased, or installed in the United States will allow direct 911 calling as the default setting. It would ensure that calling 911 always works. I hope that this worthy legislation becomes law soon.

Second, I want to commend, among others, my home state Senators, Senators Roberts and Moran, for introducing the Kelsey Smith Act. This bill would help law enforcement to locate wireless 911 callers in emergencies by ensuring that they have critical access to location information. It is inspired by the sad story of 18-year-old Kelsey Smith, whose parents I had the opportunity to meet earlier this year.

Days after she graduated from high school, Kelsey was kidnapped in Overland Park, Kansas. Almost four excruciatingly long days later, law enforcement found Kelsey's body. She had been raped, killed, and left about 20 miles from where she had been abducted.

It never should have taken that long to find Kelsey. She had her cell phone with her, but her family, local law enforcement, and even the FBI were not able to get the cell phone's geographic coordinates from her carrier for days. Once they did get that information, it took law enforcement approximately 45 minutes to locate her body.

We already know that the law that bears her name works. Over 20 states have enacted similar bills, and they've helped locate victims and saved lives. I heard for myself firsthand from law enforcement that a 5-month-old baby in my home state of Kansas was saved as a result of this solution.

I hope that a bipartisan compromise can be reached that would allow this Federal Kelsey Smith Act to be enacted.

I'll turn next to spectrum, an area where this committee has been leading. In particular, I want to commend the Chairman and the Ranking Member on the introduction of the MOBILE NOW Act and this committee for passing it.

I'm especially grateful to you for asking the FCC to move forward on opening up spectrum above 24 gigahertz in what are known as the millimeter-wave bands. As your legislation recognizes, opening up these bands is going to be a key part of our 5G future and a critical input into American leadership in this space.

Thanks in no small part to your efforts, the FCC recently expanded its millimeter-wave proceeding to include over 17 gigahertz of additional spectrum. Many of these bands were identified in the MOBILE NOW Act. I'm glad that we reached a bipartisan agreement on this issue at the FCC, and I hope we move quickly to reach a final resolution to this part of the proceeding.

Finally, I would like to touch on another area where I hope that the Commission can move quickly and in a bipartisan manner. It involves something called ATSC 3.0, which is the next-generation broadcast standard.

In April, broadcasters and the consumer electronics industry filed a petition asking the FCC to give broadcasters the option of using this next-generation standard. In turn, we, the FCC, asked for input on ATSC 3.0, and the result was clear: widespread support.

There is no dispute that this next-generation broadcast standard will allow broadcasters to provide better service to the American people. It will be easier for consumers, for instance, to watch over-the-air programming on their mobile devices. Picture quality will improve. And broadcasters will be able to provide advanced emergency alerts with localized information and much greater amounts of data.

I believe it's important for the FCC to act with dispatch on this petition. Just as America is leading the way on mobile technologies, such as 5G, so, too, we should be at the forefront of innovation in the broadcast space. I therefore hope that the FCC will issue a Notice of Proposed Rulemaking on ATSC 3.0 no later than the end of this year.

Chairman Thune, Ranking Member Nelson, Members of the Committee, thank you once again for giving me this opportunity to testify. I look forward to answering your questions and continuing to work with you and your staffs in the time ahead.

[The prepared statement of Commissioner Pai follows:]

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

Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you for giving me the opportunity to testify this morning. Since 2012, it has been an honor to work with you on a wide variety of issues, from encouraging broadband deployment in rural America to freeing up more spectrum for consumer use.

These days, we hear a lot about communications issues that engender vigorous disagreement, often along partisan lines. In my testimony, however, I want to focus on five important issues where we can reach consensus in the short term and benefit the American people. This Committee and its Members have shown tremendous leadership in many of these areas.

The issues I will focus on are: (1) ensuring direct dial 911; (2) helping law enforcement locate 911 callers in emergencies, (3) freeing up 5 GHz spectrum for the next generation of unlicensed use; (4) opening up spectrum bands above 24 GHz for 5G and other innovative wireless technologies, and (5) moving forward with ATSC 3.0, the next-generation broadcast standard.

I'll start with the two public safety issues.

Direct Dial 911.—Ensuring direct access to 911 is important both to me and the Members of this Committee. Earlier this year, Senators Deb Fischer and Amy Klobuchar, along with Senators John Cornyn, Ted Cruz, and Brian Schatz, introduced The Kari's Law Act of 2016. I commend those Senators for their leadership.

Many people now know the tragedy that inspired this legislation. In December 2014, Kari Rene Hunt Dunn was attacked and killed by her estranged husband in a Marshall, Texas, hotel room. Her nine-year-old daughter, who was with her, tried calling 911 four times as she had been taught to do. But her calls for help never went through. That's because the hotel's phone system required guests to dial a "9" before calling 911.

When I learned about this nearly three years ago now, I started an inquiry into the status of 911 dialing at properties across the country that use multi-line telephone systems. I wanted to understand the scope of the problem and what we could do to fix it. At the time, I gave Kari's father, Hank Hunt, my personal commitment that I would do my best to ensure that no one would ever again confront that situation.

Hank has been a tireless advocate for this cause. And significant progress has been made.

But the job isn't done. The Kari's Law Act of 2016 would take us one step closer to accomplishing Hank's mission. It would require that all multi-line telephone systems sold, leased, or installed in the United States allow direct 911 calling as the default setting. So I applaud the efforts of Hank, Members of this Committee, and the many others who are making a difference on this issue. Indeed, since I last testified before this Committee, the Committee approved Kari's Law as a part of the FCC Reauthorization Act of 2016 and the U.S. House of Representatives passed its own version of Kari's Law. So I hope that this bill soon becomes law.

Locating 911 Callers.—The sad story of Kelsey Smith highlights another important step that can be taken to improve public safety.

Days after she graduated from high school, minutes after she got off the phone with her mother, and seconds after she bought an anniversary present for her boyfriend, 18-year-old Kelsey Smith was kidnapped. She was abducted in broad daylight as she got into her car outside a department store in Overland Park, Kansas. Almost four excruciatingly long days later, law enforcement found Kelsey's body. She had been raped and then strangled to death. Her body was left in a wooded area about 20 miles from where she was abducted.

It never should have taken that long to find Kelsey. She had her cellphone with her, so her wireless carrier knew her location. Kelsey's family, local law enforcement, and even the FBI asked that company to help them find Kelsey by supplying the cellphone's geographic coordinates. There was no question that this was an emergency—surveillance video showed a man running up behind Kelsey and forcing her into a car—but days passed before the company agreed to provide the phone's location.

Once they got that information, law enforcement took approximately 45 minutes to locate her body.

As a parent, I cannot imagine the pain that Melissa and Greg Smith, Kelsey's parents, have endured. As Melissa has put it, "What does a parent go through when a child is missing? You do not eat because you do not know if your child is eating. You do not sleep because you wonder if they are sleeping. It is pure hell." And of course, no parent should ever have to bury a child.

It would be completely understandable if the Smiths decided to grieve privately over such a terrible crime. But they chose a different path—a public one. They became national advocates for change.

This is where the Kelsey Smith Act, sponsored by Kansas Senators Pat Roberts and Jerry Moran, among others, comes into play.

Right now, Federal law doesn't prohibit telecommunications companies from providing location information to the police in actual emergencies. But, as Kelsey's parents discovered, it doesn't require them to do so, either. So companies take different approaches. Sometimes they provide the information, sometimes they don't. Sometimes they respond quickly, sometimes they don't. This inconsistent approach puts lives at risk.

We know that this bill can make a difference. The Kelsey Smith Act is currently the law in over 20 states. And it is already helping law enforcement save lives. For

example, one month after it passed in Tennessee, police obtained location information in time to rescue a child who had been kidnapped by a suspected child rapist. Back in Kansas, not far from where Kelsey grew up, police officials told me how they invoked the law to quickly track down and save a 5-month-old baby who was strapped into the back seat of a vehicle that had been carjacked. Luckily, the mother's cellphone was in the stolen car; police used that phone's location information to find the vehicle and the baby, who miraculously was sleeping peacefully in the back seat.

To ensure that these successes become the norm across the country, I hope that a bipartisan compromise can be reached in order to help the Kelsey Smith Act become law.

I'll turn next to two spectrum issues that this Committee has been considering.

5 GHz Band.—I want to thank the Committee for its leadership in identifying and drawing attention to the 5 GHz band, a band ideally suited for unlicensed use. The Spectrum Act, which was signed into law four years ago, called on the FCC to begin the administrative process for opening up the 5 GHz band. The FCC did that in 2013.

Since then, Senators Marco Rubio and Cory Booker have introduced the Wi-Fi Innovation Act. This bill has helped kept the 5 GHz band front and center in our spectrum discussions. And the efforts of Chairman Thune and others have also played key roles in helping to move the ball forward on this part of the 5 GHz band. I applaud those efforts.

Taken together, in the U-NII-4 band as well as the lower, U-NII-2B band, there are up to 195 MHz of spectrum that the FCC could open up for consumer use. It is not hyperbole to say that this could transform the wireless world. For this spectrum is tailor-made for the next-generation of unlicensed use. Its propagation characteristics minimize interference in the band, and the wide, contiguous blocks of spectrum allow for extremely fast connections, with throughput reaching one gigabit per second. The technical standard to accomplish this, 802.11ac, already exists, and devices implementing it are already being built. All of this means we can rapidly realize the benefits of more robust and ubiquitous wireless coverage for consumers, more manageable networks for providers, a new test bed for innovative application developers, and other benefits we can't even conceive today.

So the FCC needs to open up these bands for consumer use. While the FCC recently issued a public notice that seeks to refresh our rulemaking record, I would have liked to see the Commission move more quickly in this proceeding. Indeed, I have been calling on the FCC to open these bands up since 2012. Both Qualcomm, through its re-channelization approach, and Cisco, through its detect-and-avoid proposal, have identified paths forward. I hope the agency gets this proceeding across the finish line, and soon.

Spectrum Above 24 GHz.—I want to commend Chairman Thune and Ranking Member Nelson on the introduction of the MOBILE NOW Act and this Committee for passing it. In particular, I commend you for calling on the FCC to move forward on opening up millimeter-wave bands for mobile use. Your efforts are already paying dividends.

Not long ago, most would have thought of the millimeter wave bands as dead zones when it came to mobile services. After all, nearly all commercial mobile networks operate in frequencies below 3 GHz. But, as has been the hallmark of the communications sector, engineers are finding a way and technology is advancing.

Companies are now investing heavily in mobile technologies that rely on spectrum above 24 GHz as part of their work on 5G mobile technologies. Over a year ago, I visited Samsung's 5G research lab near Dallas, Texas. There, engineers are hard at work developing base stations and mobile technologies that are crossing into these spectrum frontiers. Their experiments with multiple-input, multiple-output antennas no bigger than a Post-it note have already demonstrated that 5G technologies can use millimeter wave bands to deliver mobile speeds in excess of 1 gigabit per second.

More recently, I attended Intel's demonstration of its millimeter wave technology at the FCC's headquarters. It showed how spectrum above 24 GHz can be used to beam signals off tables, buildings, or other objects to find the most efficient, highest-capacity connection between a base station and mobile user. These and many other efforts will enable consumers to enjoy the next generation of wireless connectivity.

What is the FCC's role here? In my view, we should put a framework in place that will allow 5G to develop in the United States as quickly as the technology and consumer demand allow. The U.S. has led the world in 4G, and there is certainly a lot of running room left with LTE and LTE-Advanced. But we must continue to lead as mobile technologies transition to 5G. The key is to make sure that the FCC

does not become a regulatory bottleneck or send signals that would lead companies to focus their research and investments abroad.

Thanks, I believe, in no small part to your efforts, the FCC recently expanded our millimeter wave proceeding to include over 17 GHz of additional spectrum bands—many of which are bands that were identified for further study in the MOBILE NOW Act.

I'm glad to see that the Commission is looking to move these massive swaths of spectrum into the marketplace. I hope those efforts bear fruit and that the Commission will move quickly to bring this part of our proceeding to an order.

Next-Generation Broadcast Standard.—Another area where I hope that the Commission can move forward quickly in a bipartisan manner involves ATSC 3.0, the next-generation broadcast standard. In April, broadcasters and the consumer electronics industry filed a petition for rulemaking with the Commission asking the FCC to provide broadcasters with the option of using the next-generation broadcast standard.

The Commission sought comment on this petition, and following the close of comments in late June, there was widespread support for it. There is no dispute that the next-generation broadcast standard will allow broadcasters to provide better service to the American people. Consumers will easily be able to watch over-the-air programming on mobile devices. Picture quality will improve with 4K transmissions. Accurate sound localization and customizable sound mixes will produce an immersive audio experience. And broadcasters will be able to provide advanced emergency alerts with localized information and greater amounts of data.

I believe that it is important for the Commission to act with dispatch. Just as the United States is leading the way on 5G in the mobile space, so too should we be at the forefront of innovation in the broadcast space. Other countries aren't standing still. Earlier this year, for example, South Korea adopted the ATSC 3.0 standard, and ATSC 3.0 broadcasters are scheduled to begin there in February 2017. We should get moving, too.

I therefore hope that the Commission will issue a Notice of Proposed Rulemaking on ATSC 3.0 no later than the end of this year. Put simply, the FCC should not stand in the way of innovation. This is especially true because all we are talking about is giving broadcasters the option of using ATSC 3.0. No one would be required to do so. Let's allow broadcasters who wish to move forward with ATSC 3.0 pursue this pro-consumer path as quickly as possible.

Chairman Thune, Ranking Member Nelson, and Members of the Committee, thank you once again for holding this hearing and allowing me the opportunity to testify. I look forward to answering your questions, listening to your views, and continuing to work with you and your staff in the days ahead.

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

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

Commissioner O'RIELLY. Thank you, Chairman Thune, Ranking Member Nelson, and the Members of the Committee for the opportunity to participate in the Committee's oversight of the FCC.

As I have stated before, while fundamental differences remain on many matters, individual Commissioners still seek to find areas of agreement. Today I will focus on just three issues, but look forward to answering all of your questions.

First, 5G and wireless infrastructure. The enormous functionality of worldwide wireless services has helped cultivate an insatiable demand for even more. This development has helped produce a global race among certain countries to be the world leader in the market for the next iteration of wireless services, commonly referred to as 5G. If successful, it could effectively produce a type of wireless fiber with amazing speeds, enormous capacity, and infinitesimal latency.

Thankfully, the United States is on an accelerated pace to bring 5G to American consumers and help shape the global marketplace for these services for the next decade or two. My colleagues deserve credit for an expedited bipartisan effort to make the requisite bandwidth available. My effort was to push to successfully conclude the adoption of four spectrum bands and to expand the spectrum review to new additional bands.

Standing in the way of progress, however, are some localities, tribal governments, and states seeking to extract enormous fees for providers and operating siting review processes that are not conducive to a quick and successful deployment schedule. At some point, the Commission may need to exert authority provided by Congress to preempt the activities of those delaying 5G deployment without justifiable reasons.

Switching topics to the Commission's consideration of the new set-top box rules, Chairman Wheeler recently circulated an order based on a new apps-centric alternative, an approach that I have advocated for as a realization of the direction of the current marketplace.

I should state that I appreciate that the Chairman and his team jettisoned the previous NPRM model, but the new effort comes with its own baggage. Instead of embracing the video distributors' filed proposal, the latest version adds complicated and flawed provisions to that offer, effectively threatening and undermining the viability of the entire apps approach.

The proposed rule would ultimately set the Commission up as an arbiter of a compulsory license, which the Copyright Office confirmed we have no authority to do. And although the proposal is touted to leave programming contracts between MVPDs and programmers intact, MVPDs would be prohibited from signing contracts with programmers that would create unreasonable limits on consumer access, complete with a convenient starter list of terms that would be allowed, some that would be unquestionably unreasonable, and, of course, a wide gray space in between. This draft is unacceptable in my opinion.

My last issue is the Commission's overall functionality. During my time at the Commission, I have highlighted certain shortcomings in the Commission's processes. I certainly believe that there are better ways to operate the Commission that would not jeopardize the prerogative or power of the Chairman, whoever that may be.

To facilitate this, I have given speeches, testified, written blogs, and discussed at length the many steps the Commission can take to correct bad practices and improve general operations. Unfortunately, little has been accomplished to make these or other changes, notwithstanding Chairman Wheeler's public comments, in favor of many of my suggestions.

Process reforms are necessary at the Commission, and if the Commission won't fix itself, I hope Congress will continue to review the subject.

Thank you, and I look forward to engaging with you on these subjects and others as well.

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

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

Thank you, Chairman Thune, Ranking Member Nelson, and Members of the Committee for the opportunity to participate in the Committee's FCC oversight process. Since our last visit in March, a lot has occurred at the Commission and more difficult issues are expected in the coming months. As I have stated somewhat before, while fundamental differences remain on many matters, individual Commissioners still seek to find some areas of agreement. Today, I will focus on just three issues, but look forward to answering all of your questions.

5G and Wireless Infrastructure

The enormous functionality of worldwide wireless services has helped cultivate an insatiable demand for even more. Consumers want increased mobility and now expect to be able to use their wireless devices for additional purposes, meaning the applicable industries and governments cannot rest on their respective laurels. This development has helped produce a global race among certain countries to be the world leader in the market for the next iteration of wireless services, commonly referred to as 5G. If successful, it could effectively produce a type of "wireless fiber" with amazing speeds, enormous capacity and infinitesimal latency.

Thankfully, the United States is on an accelerated pace to bring 5G to American consumers and help shape the global marketplace for these services for the next decade or two. My colleagues deserve credit for an expedited, bipartisan effort to make the requisite bandwidth available. My effort was to push to successfully conclude adoption of four spectrum bands and to expand the spectrum review to new, additional bands. In short order, the Commission was able to move from draft proposal to relatively reasonable final rules, including the framework for the upcoming spectrum auctions to be held in the near future, but more issues are being considered as part of the further notice.

Despite this, the Commission can only create a climate for future success and deployment of 5G. The real work, and ultimate overall success of this effort, will depend on the private sector participants—our nation's wireless providers. And they seem ready to do their part to champion this opportunity. They have done the research, conducted the testing, established pilot markets and are on the verge of commercially deploying 5G services in the years ahead. Hopefully, these efforts will not be waylaid by other Commission actions.

One area that the Commission, and perhaps Congress, can provide greater assistance is removing barriers to the wireless infrastructure necessary to deploy 5G. As I have previously outlined, experts estimate that the propagation capabilities (short distances) will require a ten-fold or greater siting of wireless towers and antennas. Some have argued that we may see a million new small cells and DAS antennas deployed in the next five years. All of this infrastructure can't be sited without approval of decision makers, including private land owners and municipal managers.

Standing in the way of progress, however, are some localities, Tribal governments and states seeking to extract enormous fees from providers and operating siting review processes that are not conducive to a quick and successful deployment schedule. At some point, the Commission may need to exert authority provided by Congress to preempt the activities of those delaying 5G deployment without justifiable reasons.

Set-Top Boxes

Seven months ago, on a 3–2 vote, the Commission stretched our statutory authority beyond recognition to produce a troubled NPRM in the name of "unlocking the box." Since then, significant concerns and fundamental objections to the Commission's approach were raised almost daily. Not surprisingly, the proposal previously circulated was exposed as unworkable and inadvisable. Accordingly, Chairman Wheeler has circulated an order based on a new apps-centric alternative, an approach that I have advocated for as a realization of the direction of the current marketplace. I should state that I appreciate that the Chairman and his team jettisoned the failed NPRM model, but the new effort comes with its own baggage. Instead of embracing the video distributors' filed proposal, the latest version adds complicated and flawed provisions to that offer, effectively threatening and undermining the viability of the entire apps-based approach.

Fundamentally, the video marketplace has expanded radically since Congress enacted section 629. Innovation spurred by fierce competition is bringing many new options to the table, and prompting pay-TV providers to develop their own mobile apps, all without a set-top box anywhere to be seen. But as the market innovates past the Commission's limited section 629 jurisdiction, my colleagues have reinterpreted that provision to shut down all this experimentation and force the modern

video marketplace into a mandatory new framework that is likely both illegal and infeasible.

The proposed rule would ultimately set the Commission up as arbiter of a compulsory license, which the Copyright Office confirmed we have no authority to do under current law. Though the Commission has stated that the one-size-fits-all Model License would be developed by an outside licensing body established by MVPDs and content providers, the proposed language is clear that the job of this licensing body is merely to develop recommendations for a consensus license, recommendations that the Commission may accept, micromanage, or retool at will. Actually, since the authority is delegated to the Media Bureau, it is not even the Commissioners that will make the decisions. And although the proposal is touted to leave programming contracts between MVPDs and programmers intact, MVPDs would be prohibited from signing contracts with programmers that would create “unreasonable” limits on consumer access, complete with a convenient starter list of terms that would be allowed, some that would be “unquestionably unreasonable,” and of course a wide gray space in between.

Meanwhile, when you look at the magnitude and the constraints of the actual project being demanded, it is highly unlikely that it can even be accomplished, given unlimited time and resources, let alone in two years and with the resource demands of a highly competitive industry. The proposal requires that every MVPD create a separate working app for every widely deployed operating system that receives or displays video programming. How many would that be just to start? Roku, Amazon, Google, Android, AppleTV and Apple iOS, Windows, TiVo . . . Blackberry? Linux? And here is the key: each of these apps must provide the exact same functionality as a set-top box provided by the MVPD. Given the differences in standards and capabilities among different devices, not to mention among different set-top box options provided by each MVPD, this seems like a heavy lift to say the least.

I look forward to continuing the dialogue with my colleagues on this issue, but I remain skeptical, given my experiences with the NPRM, that my views will be welcome or fully considered.

Process Reform

During my time at the Commission, I have highlighted certain shortcomings in the Commission’s processes. I simply believe that there are better ways to operate the Commission that would not jeopardize the prerogative or power of the Chairman, whoever that may be. To facilitate this, I have given speeches, testified, written blogs and discussed at length many steps the Commission can take to correct bad practices and improve general operations. Unfortunately, little has been accomplished to make these or other changes, notwithstanding Chairman Wheeler’s public comments in favor of many of my suggestions. In sum, the Process Review Task Force, created by the Chairman, has failed to deliver and practically no procedural changes have been permitted.

The lack of action on these improvements runs counter to a process reform just issued last week by the Chairman pertaining to the disposal of personnel matters. Without getting into the substance, the Chairman contemplated, decided and declared a new procedure for addressing personnel changes that he believes are taking too long. Specifically, the Commission will now vote on these items at its monthly Open Meetings, without discussion or comment.

One telling thing from this new procedural decree is how fast it was issued and without any input from my colleagues or me. The Chairman issued the new memorandum that established the new procedures. There was no internal review task force where Commissioners were asked their opinion and debate was allowed. It begs the question, why can’t the Chairman adopt the many process review ideas I have proposed—at least the ones that he is in agreement with—as quickly? In other words, if the Chairman has such unilateral power to change the Commission’s rules at will, why can’t this be used to implement the process review changes I have suggested?

Thank you, and I look forward to engaging with you on these issues and others.

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

STATEMENT OF HON. MIGNON L. CLYBURN, COMMISSIONER, FEDERAL COMMUNICATIONS COMMISSION

Commissioner CLYBURN. Chairman Thune, Ranking Member Nelson, and Members of the Committee, good morning. Please ex-

cuse the red eye. Despite an overnight flight that arrived about 6:57 a.m. out at Dulles, know that I am honored to be here and thankful for the opportunity to outline my vision—the vision is blurred, though—

[Laughter.]

Commissioner CLYBURN.—for bringing robust, affordable, and ubiquitous connectivity to all Americans.

There is much to report in the 6 months since I last testified before this committee. In April, I launched my Connecting Communities Tour, a concept formed out of a desire to see and hear from rural and urban communities as well as those with and without connectivity.

Just last month, I visited New Mexico, where I joined Senator Udall for a roundtable discussion on expanding broadband access.

In the days following my visit, I heard from Randy, a software developer from Edgewood, New Mexico. Despite living just 20 miles east of Albuquerque, his fastest option for fixed broadband is 7.5 megabits per second at a price of around \$62 per month. In his letter, he described broadband as a cold, hard necessity in the digital age.

Unfortunately, my experience in traveling the country has demonstrated that Randy's story is not unique. When my Connecting Community Tour wraps up on October 19, with a solutions-focused policy at Georgetown University, I will have visited 10 states, including Arizona, California, Colorado, Massachusetts, New Mexico, New York, Pennsylvania, South Carolina, of course, Washington, and West Virginia.

I am also excited to share that the Commission will tee up a Notice of Proposed Rulemaking later this month, which stems from our inquiry on independent programming. Following more than 36,000 filings from our prior Notice of Inquiry, the Commission has built a record that shows there are real challenges facing independent programmers. For consumers, this can mean higher monthly programming costs as well as restrictions that limit their ability to watch their favorite content through online platforms.

Third, the Commission, through its Connect2Health Task Force, continues to focus on the intersection of broadband and health policy. Just last month, we launched our new broadband health mapping tool, which allows Federal, State, and local agencies, as well as the private sector, to examine the relationship between connectivity and health at the local level, identify current issues, and develop future solutions to address connectivity gaps and promote positive health outcomes.

From this initiative, we have learned that rural counties are 10 times more likely than urban areas to have low broadband access and higher rates of diabetes. Similarly, the neediest counties when it comes to the intersection of broadband and health are concentrated in the South and Midwest. Knowing this information will help both the public and private sectors target limited resources to improve infrastructure and deploy connected health technologies.

Finally, I believe the Commission is on the cusp of something big when it comes to the deployment of 5G wireless services. We have seen the need for mobile data continue to grow as more American

consumers take advantage of their smartphones and tablets in ways unheard of even a few years ago.

Opening up spectrum above 24 gigahertz is just the next of many steps in the path toward 5G technologies. As we move into this new age of increased connectivity, it is essential that those who live in rural and high-rent urban areas are part of this new frontier and that industry and government work together to make sure to narrow, rather than widen, the digital divide in this country.

Thank you once again for allowing me to share my priorities with you this morning. And I look forward to answering any questions you may have.

[The prepared statement of Commissioner Clyburn follows:]

PREPARED STATEMENT OF HON. MIGNON L. CLYBURN, COMMISSIONER,
FEDERAL COMMUNICATIONS COMMISSION

Chairman Thune, Ranking Member Nelson and Members of the Committee, good morning and thank you for the opportunity to outline my vision for bringing robust, affordable and ubiquitous connectivity to all Americans. There is much to report in the six months since I last testified before this Committee.

#ConnectingCommunities

In April, I launched my #ConnectingCommunities Tour, a concept formed out of a desire to see and hear from rural and urban communities as well as those with and without connectivity. Just last month, I visited New Mexico, where I joined Senator Udall for a roundtable discussion on expanding broadband access. We discussed how costly it is to deploy services, particularly on Native lands. Even in places where broadband is deployed, the lack of internal infrastructure amongst anchor institutions like a school or library, can make it inaccessible to populations most in need.

In the days following my visit, I heard from Randy, a software developer from Edgewood, New Mexico. Despite living just 20 miles east of Albuquerque, his fastest option for fixed broadband is 7.5 megabits per second (Mbps), at a price of around \$62 per month. In his letter, he described broadband as a “cold hard necessity in the digital age.” Unfortunately, my experience in traveling the country has demonstrated that Randy’s story is not a unique one.

By the time my #ConnectingCommunities tour wraps up with a “solutions-focused” policy forum on October 19, I will have visited 10 states including Arizona, California, Colorado, Massachusetts, New Mexico, New York, Pennsylvania, South Carolina, Washington, and West Virginia. The forum, which will be held at Georgetown University Law Center, will highlight my observations from the visits and focus on proposing answers to some of the toughest challenges facing the communications sector, including broadband affordability, viewpoint, diversity and inmate calling reform.

Advancing Opportunities for Independent Programming

I am also excited to share that the Commission will tee up a Notice of Proposed Rulemaking (NPRM) later this month, which stems from our inquiry on independent programming. Following more than 36,000 filings in the docket in response to our prior Notice of Inquiry, the Commission has built a record that makes clear that there are real challenges facing independent programmers and consumers are paying the price with higher monthly programming costs and restrictions that limit their ability to watch their favorite content through online platforms.

Since launching the inquiry in February, I have continuously asked: Is there an answer for those frustrated consumers seeking more diverse programming, as well as programmers looking to expand their reach to more households? Is there a disconnect and if so, where is it? And does this all mean that our existing system is broken and if the answer is yes, who should fix it? The NPRM that the full Commission will consider on September 29 continues the process of asking and ultimately answering these questions.

Connect2Health—Examining the Intersection between Broadband and Health Policy

Third, the Commission through its Connect2Health Task Force continues to focus on the intersection of broadband connectivity, advanced technology and health. I am

incredibly proud to tell you about our new broadband health mapping tool, which allows federal, state and local agencies as well as the private sector to examine the relationship between connectivity and health at a local level, identify current issues, and develop future solutions to address connectivity gaps and promote positive health outcomes.

We have learned from this initiative that rural counties are ten times as likely as urban areas to have low broadband access and high diabetes. Similarly, the neediest counties when it comes to the intersection of broadband and health are concentrated in the South and Midwest. Knowing this information, will help both the public and private sectors target limited resources to improve infrastructure and deploy connected health technologies.

It is for these reasons that I applaud the bipartisan introduction of the *RURAL Telehealth Act* by Senators Wicker and Schatz. The bill recognizes that non-rural hospitals and health-care providers may be best positioned to bring telehealth services to rural communities. By limiting Healthcare Connect funds to providers who predominantly serve rural areas, the legislation preserves the FCC's goal of delivering advanced telehealth services to communities most in need.

Advancing 5G Connectivity

Finally, I believe the Commission is on the cusp of something "big" when it comes to the deployment of 5G wireless services. According to the latest research, mobile data traffic has grown 4,000-fold over the past 10 years and almost 400-million-fold over the past 15 years. We have seen the need for mobile data continue to grow as more American consumers take advantage of their smartphones and tablets in ways unheard of even a few years ago.

In July, the FCC took a momentous step towards bringing next generation wireless technology to consumers by making available nearly 11 gigahertz (GHz) of high-band spectrum available for licensed and unlicensed use. The governing rules, which balance different approaches such as exclusive use licensing, shared access and unlicensed access, will enable established industry players and entrepreneurs to develop innovate offerings for consumers.

Opening up spectrum above 24 GHz is just the next of many steps in the path towards 5G technologies. As we move into this new age of increased connectivity, it is essential that those who live in rural areas and high-rent urban areas are a part of this new frontier and that industry and government work together to make sure to narrow, rather than widen the digital divide in the country.

Thank you again for allowing me to share my priorities with you this morning. I look forward to answering any questions you may have.

The CHAIRMAN. Thank you, Commissioner Clyburn.

Can we get you a cup of coffee?

[Laughter.]

The CHAIRMAN. Well, despite the charisma of the Members of this committee, our hearings have a tendency to put people to sleep anyway, so if you're already—if you've been up all night.

We'll proceed with questions. And I've got a list here of Members. But let me start.

Chairman Wheeler, as I pointed out in my opening statement, you've presided over the most partisan FCC in the agency's history, and twice the number of 3–2 party-line votes as the five previous Commissioners combined.

I say that because I am concerned about the precedent that it creates for future FCC chairs. And what is to prevent a Republican FCC to come in and just reverse what you and your colleagues have done? Or then another Democrat administration come in and reverse the previous Republican majority, and on and on and on? I think you see where I'm going with this.

And so my concern is, and I'm wondering what your view on this is, is whether that approach could lead to a destabilizing and endless cycle of regulatory uncertainty, which is what I think everybody who follows these proceedings, and everybody that's involved with telecommunications policy is concerned about, is creating cer-

tainty. And it seems to me, at least, that the current pattern, trend, if continued, could create greater uncertainty because future Commissions could come in and do things, everything, by party-line vote.

Your thoughts.

Chairman WHEELER. Thank you, Mr. Chairman. And I think you raise a legitimate issue. I mean, one of the interesting saving graces the Commission has is the need to make a decision on the record. And I agree that we don't want to have this up-and-down, in-and-out kind of situation. And any changes would, of course, as I say, have to be based on the record.

I think it's important—your chart is correct, I presume. I haven't done a box score, but I presume that you did. And, you know, but about 90 percent of the decisions that we make are unanimous.

And just for the record, I was trying—sitting here trying to think about the times when some of those 3–2 votes were me voting against one or both of my Democratic colleagues. I mean, I recall that on the question of whether there was effective competition for cable, that it was Commissioner Pai and Commissioner O'Rielly and I who were the three. I recall that on the Alaska Plan for carriers in Alaska, it was Commissioner Rosenworcel and Commissioner Pai—and Commissioner O'Rielly and I that were the three. My memory is weak in terms of pulling things out on the spur of the moment.

But this is a collegial body, this is a body where the deliberative process is important. And I, too, hope that we can find ways to resolve issues in a concomitant manner.

The CHAIRMAN. Let me shift gears for just a minute to one of the issues that you talked about earlier, and I'll pose this to Commissioner O'Rielly. But Chairman Wheeler in his opening statement said that all copyright and licensing agreements remain intact under his set-top box proposal, and his fact sheet says that deals made between pay-TV providers and content providers are not affected by this proposal.

Commissioner O'Rielly, you stated that the order prohibits MVPDs from signing contracts with programmers that the agency deems to be unreasonable. And so I'm wondering, I'll direct this to you to start with, and then perhaps widen it out, but do you think it's accurate or is it potentially misleading to say that the draft order would have no effect on the freedom of negotiation between content orders and MVPDs for programming carriage?

Commissioner O'RIELLY. I don't want to characterize it as misleading, but I will say that I think it's inaccurate. I have outlined why. Because it is putting the Commission right in the middle between the programmer and the MVPD. We're preventing the MVPD from signing contracts that contain certain things that we deem, that Tom Wheeler deems, as unreasonable. We won't—the Commissioners won't get a chance to do that because it will be done at the Bureau level with the Chairman's oversight. So that imposes that Commission in the middle of those decisions.

So I think it's inaccurate to say that we are leaving those intact. Now, whether it goes retroactive or not, it's unclear from the item, but nothing prevents the Commission from going backward.

The CHAIRMAN. Chairman Wheeler, in your opening statement, you called the FTC's input on your privacy NPRM particularly helpful. And during our discussions, you have indicated that the FTC filed good comments, so the FCC's final rule will look a lot like that—the FCC's rule I should say. And I appreciate your deference to the FTC's experience regarding consumer privacy protection.

But I would like to know, will the FTC have an opportunity to review and publicly comment on the FCC's new privacy proposal before you all vote on it? And if not, could you tell us why?

Chairman WHEELER. Thank you, Mr. Chairman. If I can go back to the previous question, I'll come to this one, too, but just to make sure. This is what the deliberative process is about. And if there is a desire to remove the specific provision that Commissioner O'Rielly just talked about, we can do that.

The matter of interfering with contracts, however, I want to make a real clear point on. What we've been saying is that we're not setting up ourselves to second-guess a contract after it's been done. What the provision that the Commissioner was referring to says that MVPDs cannot behave in the kind of anticompetitive manner in contracts with programmers.

As you know, for 7 or 8 weeks this summer, we held extensive discussions with both the cable industry and programmers. This was a provision that the programmers specifically asked needed to be in to protect their contracts. I keep saying I am for protecting programmers' contracts. If that was a mistake, as with anything else in that item, and my colleagues have a different approach or different thoughts, let's do it, let's get at it, and deal with those through this ongoing deliberative process. So the door isn't closed on anything.

Now, to your privacy question, the FTC did file with us on privacy, and they have made multiple suggestions to us in terms of how to improve our original proposal. And as I indicated to you the other day, and you just referenced, we take those seriously and are embracing them in what we do, and we have an ongoing dialogue with the FTC.

As you know, the situation with the FTC's authority on privacy has been significantly constrained, however, by a recent Ninth Circuit decision in which in a suit brought by AT&T, AT&T alleged that the FTC did not have any jurisdiction over any activity, any activity, of any company regulated by the FCC, and the Ninth Circuit agreed with them.

So, therefore, there is not an ability, if there ever were, for the FTC to exert its jurisdiction, to exert authority, over the question of the privacy activities of common carriers.

The CHAIRMAN. But the question I had was, will they have an opportunity to publicly comment on the privacy proposal—

Chairman WHEELER. As recently as yesterday, we were working with them on this.

The CHAIRMAN. That's different than publicly commenting, though.

Chairman WHEELER. They can certainly publicly comment, sir, certainly.

The CHAIRMAN. All right. Anybody else on set-top boxes or the privacy issue before I hand it over to—Commissioner Pai, do you want in on it?

Commissioner PAI. Senator, I would agree with Commissioner O’Rielly’s assessment, and I think it underscores the importance of releasing these documents publicly so that everybody can have a chance to see exactly what the terms are that the FCC is going to be voting on.

Because as I read the document, I share Commissioner O’Rielly’s concern, that the FCC declares per se unreasonable certain contractual terms that MVPDs will not be allowed to enter into even if the programmer is asking for those to be included in the contract.

The CHAIRMAN. Thank you.

Senator Nelson?

Senator NELSON. I noticed in each of your opening comments that you all picked up on the bipartisan flavor that the Chairman and I had commented upon earlier in our comments and the need for building consensus.

And, Commissioner O’Rielly, I remember in your confirmation, you actually were asked how you could ensure that there is not a partisan divide at the Commission, and you responded that you have a history of working across the aisle. I think that’s good.

Just a few months ago, you said in a press conference, quote, It reminds me of an old phrase on Capitol Hill, never count on a Democrat to hold their vote.

Now, as you have already heard the Chairman and me talking about how we try to operate in the best traditions of the Senate, so when I hear comments like that made publicly in which you in effect insult every Democratic Member of the Senate, then I wonder, how is this going to bring about consensus—

Commissioner O’RIELLY. Sure.

Senator NELSON.—and attempts at unanimity? So can you explain those comments in that press conference?

Commissioner O’RIELLY. Sure. So the phrase that I used or the comment that I used has been mentioned—I worked 20 years in Congress, it was used repeatedly, and so I, you know, was repeating—it wasn’t my comment, I was repeating something that was repeatedly said by many of my employers over the years.

What we had just come from is a situation where we had an agreement on a particular item, and I don’t, unless you want to, go into the subject, but we had an agreement, a bipartisan agreement, on an item, and it was the third time where one of my colleagues had backed out of the deal.

And so it’s hard—you know, I think I also said as part of my confirmation process, that when I give you my word, it is my word, and so I will be there. We’ve had instances where people have backed out of the deal 5 minutes before the open meeting. Actually, in one instance, we postponed the open meeting a number of times so the item could be rewritten against my interest even though we had had a previous agreement.

So it’s a frustration level, and maybe the comment is impolite, but it wasn’t my comment, it was a frustration level to the fact that we had an agreement, and we can’t count on the word of my

colleagues. And I've had difficulty with that going forward, and it's been harmful to our relationships to—but I turn back to the point that since then, we have had different agreements since then. So things like 5G, things like the Alaska Plan, where we can—I have put those things aside and made deals that sometimes not all my colleagues agreed with.

Senator NELSON. Let me ask you about another one.

Commissioner O'RIELLY. Sure.

Senator NELSON. This was a statement that you made following the Open Internet Order, "The D.C. Circuit's decision is more than disappointing, it also confirms why every parliamentary trick in Congress was used to pack this particular court."

Do you think that accusing Senate Democrats of packing the D.C. Circuit Court to determine the outcome in the net neutrality case, don't you think that enflames the partisan divide?

Commissioner O'RIELLY. Well, I think it was pointing out the fact that I believe that occurred. I was here during the time that we went to—I left just before the nuclear option was initiated. November 2013 is when I was confirmed and took my job.

So I lived through 3 years of threats of the nuclear option, and then eventually it did happen, and participated in all of the meetings at the leadership level when this was discussed. So I was at the highest conversations. And so I don't think my comments are inaccurate.

I'm not trying to enflame any Member of this body in my thoughts. I still return to the point that I am willing to sit down and negotiate any item that is before the Commission, and have done so on multiple occasions.

So I'm not trying to insult you in any way. I was just, again, to the previous comment, it was just an accurate statement that my views were reflecting what had happened. So I don't—it's not trying to insult you in any way.

Senator NELSON. Do you think the D.C. Court was packed in order to determine the net neutrality outcome?

Commissioner O'RIELLY. Net neutrality in and of itself? No, sir. Do I believe it was done to change the outcome of many proceedings, including the direction of multiple administrations? Yes. It was a comment I pulled because I—I know we had talked about this before, but, you know, there are a couple comments from Senator Reid, and he said, you know, we put onto the Court three people, and I don't think they deserve to be on any court, but they, we put them on there, and they have been terrible. They're the ones that said the President can't have recess appointments, which we've had since this country started. They've done a lot of bad things, and we're focusing very intently on the D.C. Circuit. We at least need one more. There are three vacancies. We need at least one more, and that will switch the majority.

Senator NELSON. I think what is happening is this hyper-partisan atmosphere is causing these venting comments to come out when in order for our government to function, we've got to have a modicum of stability and respect for the rule of law. And I would encourage people to be mindful of their comments in the future when observing that.

Thank you, Mr. Chairman.

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

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

Senator WICKER. Well, I think this committee has worked on a bipartisan basis, and I have the highest regard for the Chairman and the Ranking Member.

I will simply say this because I don't want it to go unchallenged. Commissioner O'Rielly has not said anything today in testimony that isn't accurate, and I agree with what he said. And it may sound partisan coming from the Commissioner, but it was absolutely what happened to the D.C. Court. And in quoting the Democratic leader, he's correct.

Now, I would like to get on with other issues, but I feel that I have to defend the Commissioner in that what he said is factual. But let's talk about something that is bipartisan.

Chairman Wheeler, 26 of us sent you a letter July 11, and it was led by Senator Manchin and by this Senator regarding the build-out of rural broadband and the Mobility Fund. On July 11, 26 of us on a bipartisan basis signed that. So thank you, Senator Manchin, for helping with that, and thank you all who signed it.

We got an answer yesterday. And I would just say, Mr. Chairman, it's disappointing to me that we have to have a hearing to get a letter back on something that over a quarter of this body asked about. And basically the response was, We're looking into it, we hope to get back to you by the first of the year. No decisions have been made on how best to target the Mobility Fund Phase II support, but Commission staff is continuing to process reviewing the record.

So, you know, I appreciate the fact that apparently this hearing being scheduled today persuaded you to write a letter to us dated yesterday. Can you give us any specific steps beyond what you said in the letter, or are you unable to do that, about how the Commission might be expanding broadband into the rural community?

Chairman WHEELER. Thank you, Senator. Yes, let me be specific in that regard, I think in two areas.

The first thing that we have to know is, where is there not coverage?

Senator WICKER. We pretty much know that.

Chairman WHEELER. The record available on that, with all due respect, sir, has not been good because of the manner in which the Commission collected the data.

The first way that we did that was the National Broadband Plan, in which we relied on the states to provide information, and it wasn't very good information.

So then we went out and we hired a third party to collect information on a census block basis. Gee, that's pretty small, getting down to a small area. But it wasn't granular enough because, OK, well, there's coverage in this census block, but it could be on the left side of the census block, but not the right side of the census block. So it was insufficient information.

It is my hope that by the end of this month, we will have the analysis of the new Form 477 that we have required the carriers

to provide with us for the first time. So we put a new third bite at the apple. Let's get the carriers to give us specific information with responsibility for that data, and then let's put that into what is called a shapefile, and that means let's see it in this area and show where there's coverage here, there's not coverage here, specifically, and not just the generalities.

We expect to have that information by hopefully the end of this month. So that's kind of step one. We will have the information on which to make a decision.

Step two then is, how are we going to fund that? I am hopeful that by the end of this year, we will have moved a broadband Mobility Fund revision, and it's going to have to make some really tough decisions because there are recipients of our funds today who are serving areas where there is already coverage.

And the question we're going to have to decide is whether we should be funding only those areas where there is not coverage, where we now have this very granular information, and if that's the case, how do you be fair to those who have been continuing—who have been receiving Universal Service funding in competitive situations to give them some kind of a glide path? That's the challenge we're working on right now.

Senator WICKER. Well, let me say your answer is certainly more comprehensive today than it was yesterday, and I hope you can move quickly on that.

Let me just say, I've got to ask a question about set-top boxes, and the answer from Chairman Wheeler was long and extensive.

Mr. Pai, Chairman Wheeler's talking points say this: The proposed final rules will allow consumers to access their pay-TV content via free apps on a variety of devices so they no longer have to pay monthly rental fees. And I think Mr. O'Rielly said that an apps-centric approach was what he wanted. Enable integrated search, content protection and privacy.

Is at least that much of his talking points accurate? And are there going to be more or fewer set-top boxes if this proposal by Chairman Wheeler goes forward?

Commissioner PAI. Thanks for the question, Senator. I wish I could say it were, but I don't think it is, and I think the last point of that, for example, is critical. The protection of content is something that I think a lot of people have focused on, and, again, it underscores the importance of making this public so people can judge for themselves. Don't rely on our word about it.

The proposal on the table would interject the FCC into two different relationships: the MVPD programmer relationship in terms of regulating the terms that they would be allowed to agree with, and the relationship between those two and the third-party device manufacturers in terms of the standard licensing.

So with respect to the standard licensing agreement, the FCC says, well, the Media Bureau could second-guess any consensus that the MVPDs and programmers might come to in terms of what should be in that agreement. And if they don't reach a consensus at all, the FCC itself will directly write the standard licensing agreement.

And so I think unfortunately the combination of those two provisions makes it highly unlikely, I think, that content would be adequately protected in the view of all stakeholders.

Senator WICKER. Thank you, sir.

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

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

Senator CANTWELL. Thank you, Mr. Chairman.

And I'm not sure I understand every nuance of the discussion that we've been having about partisanship, but one thing I can say is I'm very glad that the FCC stood up and decided to protect the Internet with the net neutrality rules. So thank you so much for that.

To me, the Internet is one of the most important economic tools and drivers of our economy, and continuing to have consumer protections to prevent being charged for fast or slow lanes is vitally important.

So I think as you go through this discussion, continue to look at the consumer interests here because it's very important.

So one thing I wanted to ask about that, and the Ranking Member brought this up a little bit, there was a little bit of discussion during that whole net neutrality discussion that we were going to see a flight of capital outside because of this rule. Have you seen that thus far, Mr. Chairman? And do you have any comments on this ICANN discussion and some of my colleagues' concepts about what they think they can be done here in controlling the Internet as a U.S. domestic product?

Chairman WHEELER. Thank you very much, Senator. We have seen increased investment in broadband networks. We have seen a 13 percent increase in fiber. This is all since the Open Internet Order. We have seen an increase in venture-backed activities using the now open Internet. We have seen an increase in usage in the Internet, and, as a result, we have seen an increase in the revenues coming from the Internet to the carriers all since the development of the adoption of the Open Internet Order.

Insofar as your question about ICANN is concerned, that's a matter that's in the Department of Commerce, and I'm glad of it.

[Laughter.]

Senator CANTWELL. You have no thoughts on—

Chairman WHEELER. It is not in my arena, ma'am.

Senator CANTWELL. Well, I just—we had a discussion long ago on this committee in which one of our colleagues called it a bunch of tubes, which obviously wasn't really what this is. And to have a global network is critically important for that functionality. We want to access international markets, and having it work is very important. So thank you so much.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Cantwell.
Senator McCaskill.

**STATEMENT OF HON. CLAIRE McCASKILL,
U.S. SENATOR FROM MISSOURI**

Senator McCASKILL. Thank you. So many subjects, so little time. [Laughter.]

Senator McCASKILL. It's really hard. Very briefly, I do just want to make a comment on BDS. You know, the Business Data Services has been in front of the Commission for 10 years; count them, 10 years. You were waiting on data. You've got data. Let's go. Let's go. Let's make a decision. This is important. BDS is important. So I just wanted to be a cheerleader for a decision on BDS within the coming weeks.

Set-top boxes. Interesting about this is I am big on competition. I think competition is really important. And as I'll speak to in a moment, I think the set-top boxes have been a source of some of the many scams involved with billing in the cable and satellite industry. But I've never seen a unanimous opposition from providers, programmers, and the creative community. I mean, usually in this chair they're on different sides. They're all arguing with each other. They're all unified in their opposition to this.

So, you know, the licensing part of this, can you, Chairman Wheeler, or any of the other members explain to me where Congress has granted you the authority to involve itself in copyright licensing like this as it relates to the creative community? The copyright licensing part, this is new, and I would like to know where the authority comes from.

Chairman WHEELER. Thank you very much, Senator. Your first comment, the report that you put out on cable pricing and consumer activities, as you know, one of the major issues in there was the surprise that comes at the end of the month, "Oh, my golly, I've got to pay this for this box, and nobody ever told me? I don't have any choice." That's what we're trying to deal with.

On your specific question insofar as copyright authority, what the Commission is trying to do is not to write copyright policy, but to write a policy inside its authority which does not interfere with existing copyright authority and with the contractual terms that copyright holders do inside that authority.

As I said, we worked for months with the copyright holders to try and find the way to do that. We're probably 90 percent there. I'm looking forward to working with my colleagues on, "What does it take to lock things down?" Because it is not our goal to become a judge of the contracts between MVPDs and programmers.

Senator McCASKILL. Well, I'm glad you acknowledge you're not there yet. So let's keep working.

Chairman WHEELER. This is the—we're down to the deliberative process at the Commission, and we've got five smart Commissioners, and I'm sure we're going to have a very fulsome discussion back and forth on this, and this is an important part of it.

Senator McCASKILL. You mentioned our investigation through the Permanent Subcommittee on Investigations. Senator Portman and I have been doing a bipartisan investigation on the cable and satellite industry. We've done the first hearing. We have another one coming up.

This report talks about a lot of what we found, and if any of you haven't read it, I hope you will because it's startling. It's startling the practices that have been embraced.

And I know you have the authority to issue customer service and truth-in-billing guidelines for cable, but it's my understanding, disagree with me if I'm wrong, that you do not have that authority with satellite. Correct?

Chairman WHEELER. Correct.

Senator MCCASKILL. So I would certainly urge you to listen to the phone call I taped when I called my satellite provider about an item on my bill, and I taped the conversation. I said clearly who I was. And they were charging me a maintenance fee for the equipment they own.

So I was trying to get them to explain to me, "Why are you charging me to maintain equipment that you own, that if it doesn't work, I can't see the programming, and so I don't have to pay you. Why would you be charging me for that? I want it taken off."

And I want you to know they tried to tell me they were going to charge me to quit charging me, and it's all on tape, it's on the website. And it was a startling—and this was 2 days before the hearing.

So this is the kind of stuff that has been going on, and I just hope that we deal with the fact that you do not have the authority with satellite to clean up some of these practices. And people are outraged at the bait-and-switch in the business model that this uncovers that is not consumer-friendly.

So thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator McCaskill.
Senator Fischer.

**STATEMENT OF HON. DEB FISCHER,
U.S. SENATOR FROM NEBRASKA**

Senator FISCHER. Thank you, Mr. Chairman.

Chairman Wheeler, welcome. As you know, in June, I sent you a letter along with several other Members of Congress, and we were raising concerns about the FCC's recent Lifeline Order. This letter echoed the concerns of nearly 100 State Commissioners, that by creating a new Federal lifeline broadband provider designation, the FCC is effectively eliminating the States' role in deciding which carriers can offer Lifeline within their borders.

This new designation directly contradicts the language of the Communications Act, which gives states primary responsibility for designating carriers to participate in the Federal Universal Service programs. Twelve States, including mine in Nebraska, are suing the FCC, so it appears to agree.

So, Mr. Chairman, do you assert that the FCC's recent preemption of the states is lawful?

Chairman WHEELER. Thank you, Senator. Nothing that we did changed the existing authority of any State PUC. The question that had to be dealt with was, How do you determine an ETC when for broadband service that broadband provider is a nationwide provider, and unlike a telephone company, not just located in Nebraska or wherever, and with a relationship with the PUC? And we were being told that by broadband, by national broadband, pro-

viders, that they would not be able to offer broadband if they had to do individual State ETC certification.

The goal was, How do we get broadband to all Americans? So the decision that got made was not to reduce any existing State authority but to say that for broadband, which the statute does provide for, the FCC can say you are an ETC, and that's what we did.

Senator FISCHER. First of all, I would ask, did you share the broadband providers' concerns with State commissions?

Chairman WHEELER. Throughout the proceeding, there was a healthy back-and-forth on this.

Senator FISCHER. And haven't the states always designated carriers where they took jurisdiction by State law, and then the FCC, by law, only fills in the gaps?

Chairman WHEELER. I think you just specifically put your finger on the issue when you said the state-identified carriers. We were talking about companies that are broadband providers that are not carriers under State jurisdiction.

Senator FISCHER. Commissioner Pai, how would you answer my question?

Commissioner PAI. Senator, thanks for the question. I do think that the FCC essentially divested states of the authority to decide which eligible telecommunications carriers could be certified, which I think is an obvious legal problem given the statute, as I read it.

But it also creates an important policy problem, and that's because the states have been on the front lines in rooting out a lot of the waste, fraud, and abuse we see in the system. In Oklahoma, for example, it was the State commission which was critical in determining that a carrier had fleeced taxpayers, you and me, of over \$27 million.

So I think we definitely want to keep states as a cooperative partner as opposed to essentially shutting them out on the front end, which is one of the reasons why a wide variety of states have unfortunately seen fit to sue us to make us follow the law.

Senator FISCHER. And, Mr. Chairman, in your response to my letter, you mentioned a partnership between the states and the FCC. And I've heard that the states and the program administrator, USAC, are unclear about what role the states are supposed to play after the FCC's order. How do you plan to remedy that?

Chairman WHEELER. Well, I did not realize that USAC was unclear. We will move immediately to get USAC the appropriate authorities together with NRIC or whoever the appropriate State body is to work through what our belief is to what the process is.

Senator FISCHER. And you will work with the State commissions as well in trying to clarify the issues that are before them that are—

Chairman WHEELER. I'm sorry, I said USAC, I meant NRIC to work with the State commissions. I'm sorry.

Senator FISCHER. OK. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Fischer.

Senator Blunt has returned, and he's up next.

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

Senator BLUNT. Thank you, Mr. Chairman.

Chairman Wheeler, I intended to talk about copyright law, but I think my colleague from Missouri and Senator Thune have both done that, so I will look at what you all had to say about that. I chair the Rules Committee, which is the Committee that has jurisdiction over the Library of Congress, which has the copyright rules, and I may very well have to—want to submit some questions on that topic.

I want to talk about two other things that we've talked about before. In August, the Commission adopted, like in many other cases, apparently on a party-line vote, its quadrennial review of broadcast ownership rules. Nothing substantially changes in those except there are two areas I want to mention, just to be sure that we're understanding what you've done in the way I believe it's been done, one on joint sales agreements where one broadcaster is selling advertising time on behalf of another in local markets.

Now, as you know, this committee has been particularly active in challenging a sense earlier of how these agreements would go forward, but after multiple bipartisan letters, two acts of Congress, and a court ruling by the Third Circuit Court, the FCC, I believe in its new rule, acknowledges grandfathering in joint sales agreements when there's a transfer of ownership.

And then the second thing that I think is new is in another joint agreement, joint service agreements. Those are contracts to share resources, like a helicopter that two news teams might use. There are new disclosure levels in these rules that stations have never had to disclose before in terms of the specific, as I understand it, the specific economic terms involved. That would be outside anything a station independently would have to disclose.

So is this a step toward regulation? is the second question.

The first question is, Am I right in believing that now the new rules allow these joint sales agreements to go forward and then—

Chairman WHEELER. Yes, sir, you are correct. And what we tried to do was to take the specific language or the specific intent of the language, as it was explained to us and the appropriations writer, about grandfathering and to adopt that.

Insofar as—

Senator BLUNT. Joint service?

Chairman WHEELER.—SSAs, the issue here is, How do we make a judgment as to whether or not the rules are being circumvented through contractual arrangements? And one of the ways you do that is to have information. What you cited was a collection of information, not a decision. But what is the information? We just had a discussion a minute ago about how we have had imperfect information on which to make decisions. This is an attempt to get good information.

Senator BLUNT. Two of you did not vote for this package. This may or may not have been one of the topics, but if either Mr. O'Rielly or Mr. Pai would like to comment on this, I would like to hear what you have to say.

Commissioner PAI. Thank you, Senator. I did dissent from the decision in part because of the FCC's restrictions on joint sales agreements and shared services agreements.

With respect to JSAs, the record is clear and, in my view, unchallenged, stemming from evidence that we have collected every-

where from Joplin to Springfield, that some of these agreements have been useful in helping broadcasters provide the public vital information.

And with respect to shared services agreements, I think the writing is on the wall, that the FCC is collecting information as a step toward, as you put it, more regulation, essentially prohibiting shared service agreements, and that's something I think would be unfortunate for the marketplace and for consumers in particular.

Senator BLUNT. Mr. O'Rielly?

Commissioner O'RIELLY. I agree with my colleague on his two points. I think this is the first step. The SSA declaratory structure is intended to for a future Commission to impose new rules and limitations on stations and their ability to share such activities.

Senator BLUNT. Then can anyone tell me a way that these new broadcast ownership rules could now be appealed or ask for a change?

Mr. Pai?

Commissioner PAI. I think they will be appealed. I would imagine the Third Circuit would retain jurisdiction, and given the previous decision, the Prometheus III decision, where the court said the FCC needs to take a serious look at whether these regulations remain necessary. The FCC, having not just doubled down on them but made them stricter, I think the court is going to take to have serious concerns with what the FCC did.

Senator BLUNT. Thank you. Thank you, Chairman.

Senator FISCHER [presiding]. Thank you, Senator Blunt.

Senator Klobuchar.

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

Senator KLOBUCHAR. Thank you. I also had some questions on the cross-ownership rules, and I will put those on the record.

I thought I would start with you, Commissioner Rosenworcel, with your work that you've long done on the 911 issue. I appreciate that. You've come out to my state, and as you know, Senator Burr and I chair, have long chaired, that caucus along with Representatives Eshoo and Shimkus, and we've done some good work including getting the \$115 million in grants for the Next Generation 911 Implementation Grant Program and have worked to further the technology. Could you talk particularly about the Grant Program and how it's best leveraged to pave the way for broader investments?

Commissioner ROSENWORCEL. Thank you, Senator Klobuchar, and thank you for your leadership as the head of the 911 Caucus and also for visiting a 911 center in Minnesota with me.

Here's the thing. This program was set up 4 years ago. We don't have many Federal programs to help accelerate 911 and bring it to next generation. Congress asked that rules would be developed within 120 days of passage. We are probably some 1,500 days since this law was passed.

So I think we should get it up and running, and when we do, we need to make sure that we have a national definition of Next Generation 911 based on nationally accredited standards. And then we also have to make sure that we take these funds and use them to

develop blueprints in rural communities, urban communities, and everything in between so that when we're done with it, communities all across the country can copy and benefit.

Senator KLOBUCHAR. Thank you very much. As you all know, I worked hard on the broadband issue with the Chairman, and we appreciate the bipartisan work you did to get this done. That wasn't one of those votes up there.

And as you know, there is still more work to be done. I think I'll just put some record questions here about the Universal Service reforms, Chairman Wheeler, and just the concerns we have in getting those done.

I thought I would turn to one question about Business Data Services, and if you could just answer it briefly.

Earlier this year, I joined several of my colleagues in writing to ensure that the Business Data Services proceeding is based on complete and accurate data. Do you have any other concerns that would prevent the proceeding from moving forward? I know that you indicated that you are confident that the Commission has the right data, but is there anything else that would hold it up?

Chairman WHEELER. Is there anything else that would hold it up? I hope not. I hope that we are going to be moving on this very soon. And I believe we do have the data. And there are ongoing discussions virtually every day that generate more data.

Senator KLOBUCHAR. Very good. On the set-top box issue, I obviously support reducing the costs, increasing choice for consumers. I'm the Ranking Member of the Judiciary Antitrust Subcommittee, which also focuses on the FTC, and I know the issue was raised already, which I appreciate, on the FTC-FCC issue of enforcing the privacy standards. And there has also been major copyright discussions here.

But I wanted to specifically focus on the copyright issues with regard to smaller programmers with the current proposal, which already face narrow margins, and a difficult competitive landscape.

Chairman WHEELER. Right.

Senator KLOBUCHAR. Any changes that would inadvertently harm the value of their copyrighted material or increase the likelihood of piracy could force some of those innovative and competitive companies out of business. What assurances would you give them? I'm trying to figure out how this would work for them as well as some of the other concerns that have been raised by my colleagues.

Chairman WHEELER. Thank you, Senator. Yesterday, we received a letter from the Writers Guild West endorsing our new proposal and specifically talking about how it created opportunity for independent programmers.

Senator KLOBUCHAR. So you believe that there aren't any problems at all for independent programmers?

Chairman WHEELER. Well, the challenge that independent programmers face today is that, A, will the cable operator let them on; and, B, or are they subjected to some kind of a purgatory where they have to be out here and hard to find?

If you have the kind of integrated search that we're talking about, it creates opportunity for independent programmers, and that's why we have a very robust record of independent programmers saying they support what we're doing here.

Senator KLOBUCHAR. I think I'll go back to my Universal Service reform question. When can carriers expect to have all the information they need to make a decision on the reforms to the USF?

Chairman WHEELER. I'm glad you asked that question. As you know, they're going to make a decision November 1. Right now, we're out. We've got workbooks out. We're working with the various rate-of-return carriers to help them understand. And this is the question about whether they want to choose the new model or want to stay with the legacy approach, and we're working with them right now, including having a new workbook that's out. You've got to go through and say, "OK, how are you going to be able to look at capital costs?" There are all kinds of detailed questions in there. We're trying to walk through and give them tools to do that.

Senator KLOBUCHAR. OK. So do we know the timing on it, though?

Chairman WHEELER. It's out.

Senator KLOBUCHAR. OK. So—

Chairman WHEELER. The workbook. I mean the workbook is out.

Senator KLOBUCHAR. And so they have what they need now?

Chairman WHEELER. I hope that the workbook is the beginning of the determination of what they need, and that we are available and working with them through various means to answer any questions they've got.

Senator KLOBUCHAR. So is all the information on their build-out obligations and budget caps, is that out?

Chairman WHEELER. Yes, ma'am.

Senator KLOBUCHAR. OK. All right. Thank you.

Senator FISCHER. Thank you, Senator Klobuchar.

Senator Moran.

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

Senator MORAN. Chairman, thank you very much. Commissioners, thank you and Mr. Chairman for being here. First of all, I recognize the member of the Commission from Kansas and thank him for his call to action in regard to broadband deployment in rural communities.

There are a number of pending orders that are highly partisan and controversial before the FCC, and I want to make sure we don't forget every dollar spent on compliance with those orders, and potential regulations mean less dollars being spent in deployment of broadband particularly in rural areas.

And rather than using the inadequate broadband deployment as a pretext for additional regulation, Commissioner, you seem to have tried to remove the barriers toward that broadband deployment, and I appreciate that.

With the short time and the vote that has been called, I'm going to save Chairman Wheeler till the last so that he gets to keep talking and not cut into my time.

[Laughter.]

Senator MORAN. But first of all, Commissioner Rosenworcel, on the set-box top proposal, tell me, what are you thinking? How do you see the proposal? What's on your mind?

Commissioner ROSENWORCEL. Sure. Thank you, Senator, for the question. You know, set-top boxes are clunky and they're costly. Consumers don't like them and they don't like paying for them, and that is not just my professional opinion, it's my personal opinion, too. So we're taking a hard look at what the Chairman has put before us, and there's a lot in there that seems to work.

I'm going to be very candid with you, that I have some problems with licensing and the FCC getting a little bit too involved in the licensing scheme here because when I look at the Communications Act in Section 629, I just don't think we have the authority, which I will commit to keep on working with my colleagues because I think bringing some change to the set-top box market would be a good thing for consumers, my household included.

Senator MORAN. Chairman Wheeler, on this topic, under your final proposal, will device manufacturers be required to comply with Section 631, 338(i) of the Communications Act with respect to privacy or simply be subjected to the FTC and State attorney generals' unfair deceptive practices act?

Chairman WHEELER. Thank you, Senator. Let me say one thing. I look forward to working with Commissioner Rosenworcel and all my other colleagues on the issue, the first issue, you raised.

Second, insofar as—we do not have jurisdiction over device manufacturers. We have worked with the FTC on this issue and are advised that if our rule requires that devices warrant to consumers that they are complying with 338 and 631, that the FTC will have the ability to do the necessary enforcement to protect that privacy.

Senator MORAN. Thank you. We'll have the FTC in front of my subcommittee and this committee in the near future, and we have some preference in the way that they do business, and we're going to have that conversation with them.

On the topic of broadband relocation, the auctions, following the incentive auction remains increasingly concerned about the potential funding shortfalls and timeline, and I'm committed to working with Senator Schatz and others on the Committee to see that we have a plan in case the things that we're fearful of happening actually do happen. So we look forward to your reports in regard to that as this process goes forward.

And again on auctions, and I'll ask this to you, Mr. Chairman, I'm also particularly focused on 5G. And the last time you and I spoke here at Commerce Committee, I asked about Spectrum Frontiers and the upcoming high-band auctions. I appreciated that you moved to complete the Frontier proceedings quickly, and I would like to ask again about the timing for high-band spectrum auctions.

As retention of auction funds in your budget request, I get to visit with you and the others as well. This year they totaled \$124 million. I'm concerned about the ongoing incentive auction. When will we hear about the high-band auctions?

Chairman WHEELER. So when I told you when you were wearing your appropriations hat, I'm seriously concerned about the cuts that have been proposed to the auction budget and our ability to do all the heavy lifting in auctions that we have.

Insofar as specifically auctioning off the new millimeter-wave spectrum, that is not scheduled because it has to work its way—the pig has to work its way through the python in the auction oper-

ation. But at the same point in time, there are some pieces of that spectrum, or of what we have identified, that already have licensees, and we are working to facilitate sharing transfers and whatever activities may be necessary there to get that spectrum to work even pre-auction.

Senator MORAN. Thank you, Mr. Chairman. You have added to my vocabulary. I have never heard of a pig working its way through a python, but it's an expression that I like and may borrow. Thank you.

[Laughter.]

Senator FISCHER. Thank you, Senator Moran.
Senator Schatz.

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

Senator SCHATZ. Thank you very much. There are no snakes in Hawaii, so that was—

[Laughter.]

Senator SCHATZ. You know, this hearing started with a very important principle, which is to say that the Commerce Committee, and you all know this, having many of you worked on the Committee or certainly with the Committee, and the FCC has been a bastion of bipartisanship, but not recently. And so I'm struck by the collective desire, certainly described from sort of different ends of the elephant, to get to 5-0 where we can, and it seems to me that there are two principles to adhere to when we're trying to get to 5-0. Right? One is compromise, and I'll get to that, especially on set-top boxes, in a minute. And the other is conduct.

And the exchange that Senator Nelson had with Commissioner O'Rielly I thought was important, not because we want to single you out, but because all of us say things that maybe don't lend themselves to getting to 5-0.

So I just offer to you, Commissioner, and to all of us, that we ought to think through whether or not what we're saying is constructive and leads us to strengthen the institution of the FCC, which has done so much over so many years, and to strengthen the institution of the Senate and this committee to get back to that history, that disposition, of trying to get to 5-0.

So now on set-top boxes, I absolutely support the principle that people shouldn't be ripped off by being forced to rent a device. I think that is now a commonly held bipartisan principle, and it wasn't without some objections over the months and years. But now we are very, very close to getting across the finish line.

My concern, both on process and on policy, is that the thing that I thought I was agreeing to and advocating for may be accomplished in the next 15 days, but lots of other things which I think deserve more scrutiny and oversight and discussion may also be accomplished, and it's not at all clear to me that it is necessary to do all of these other things in order to get across the finish line when it comes to providing consumers with some relief on set-top boxes.

I am absolutely encouraged by all of the Commissioners' willingness to kind of get at what the offending provisions may be, and I heard Commissioner O'Rielly and Pai talk about these two offend-

ing provisions having to do with how licensing agreements would be overseen in the future by the Commission, and Commissioner Rosenworcel and Wheeler talking about their willingness to discuss and probably pursue a compromise.

And so I want to just get as clear as I can without sort of refereeing the Commission's deliberations.

First for Commissioner Wheeler, it sounds as though you are open to modifying this to accommodate some of these quite legitimate concerns. Is that accurate?

Chairman WHEELER. Yes, sir, if we can do that and protect the mandate from Congress, which I believe we can.

Senator SCHATZ. Commissioner Pai, part of the difficulty when conducting a negotiation is to find out whether or not these are two of the many objections that you may have to the current proposal or if these are the two main objections, because to the extent that Commissioner Wheeler makes accommodations, and then you pop up with three new objections, that would—and I'm not suggesting you would, I just want to get it clear that if we're trying to get to 5-0, and he does backflips to accommodate these concerns, that we don't find three new concerns 72 hours out. Commissioner Pai, do you want to comment on that?

Commissioner PAI. Absolutely, Senator. And that's why my office makes it a practice to put our suggested changes to these orders that we vote on at our monthly meetings on our internal chain at least 1 week and sometimes several weeks in advance so that everyone knows what the universe of our concerns might be and what our proposals are. Those are two of the key ones.

Another one is that I don't want anything to inadvertently delay or deter innovation. So, for example, any change to the standard licensing agreement has to be approved by the Media Bureau, and so that might end up slowing things down.

And the other thing is that I don't want the MVPDs to be either deterred or just delayed in introducing new innovations in their own equipment, and one of the concerns I have is that they might be delayed or deterred because they would have to ensure that the consumer experience is replicated on every other app or every other wave accessing the programming. So essentially what any MVPD does, they have to make it available on every other platform.

Senator SCHATZ. But those are—you're just fleshing out the original objections, are you not? These are not different objections.

Commissioner PAI. No, well, this is a separate—it's related to it, it's related to that core concern. And so that's one of the things we're going to be hopefully talking about in the days to come.

Senator SCHATZ. OK. Thank you very much.

Senator FISCHER. Thank you, Senator Schatz.

Senator Daines.

**STATEMENT OF HON. STEVE DAINES,
U.S. SENATOR FROM MONTANA**

Senator DAINES. Thank you, Madam Chair. In the spirit of Senator Schatz trying to perhaps help broker the peace process within the FCC, let me take a shot at that as well.

In March of this year, the U.S. House passed the Small Business Broadband Deployment Act. If was a vote of 411 to zero. There are

very few votes in the United States House where you have a zero on the end of anything. It then came over here. We had it in the Senate. This is my bill. It passed this committee 21 to 3, that's a pretty good shot. Three touchdowns versus a field goal.

[Laughter.]

Senator DAINES. And so that's about as strong a bipartisanship as we'll see around here. The Commission is set to consider extending the exemption again in December.

It's pretty clear that Congress has spoken on this issue. I would argue it hasn't stuttered, it hasn't spoken, it shouted pretty loud. And maybe I'll start with the Chairman. Do you agree that Congress's intent on this issue is clear? And will you vote to extend the exemption for small businesses?

Chairman WHEELER. Thank you very much, Senator. You know, one of the issues about—on the whole small business question is, just what is the definition of a small business when you're in the broadband business? You know? The SBA defines a small business as \$38 million or less in the broadcasting space.

Senator DAINES. Right. Yes. And I've spent a lot of time in the technology business looking and trying to stratify and looking at how you segment businesses certainly within a particular vertical. Congress has spent a lot of time, and we debated that. I worked very hard with some of my colleagues across the aisle, and we took a subscriber view of that versus a revenue view, of 250,000 subscribers. So I—

Chairman WHEELER. And we're sensitive to what you—

Senator DAINES. Right.

Chairman WHEELER. I'm fully—the interesting thing is that 250,000 subscribers is about \$250 million in revenue when take a revenue approach. And so you've got to say to yourself, are you going to keep transparency because it's, quote, too expensive away from consumers who are on companies that do a quarter billion dollars a year in revenue?

And I'm not trying to be judgmental with that, I'm just saying that's kind of the facts. And what we're doing is, as you know, we have until the end of the year to decide, are we going to extend this or not? And that's the kind of thing we're wrestling with.

Senator DAINES. And I won't—OK, so it's not so much whether in principle you agree with there should be a line drawn, it's perhaps where the line is drawn.

Chairman WHEELER. Where's the line, correct, sir.

Senator DAINES. And I guess I just would respectfully say in the spirit of trying to hopefully generate more bipartisan agreement at the FCC level, Congress has spoken very loudly on that and very clearly on that, and I hope you would respect at least our guidance there as you deliberate on where that line should be drawn.

Chairman WHEELER. Yes, sir.

Senator DAINES. Thank you. In fact, I think the only difference between the two chambers was a 5 year versus 3 year is the difference, where agreement on the level where the line should be drawn.

Chairman WHEELER. Yes.

Senator DAINES. I want to shift gears and talk about the wireless coverage Mobility Fund. In Montana, the wireless coverage is not

just a convenience, it's really a public safety issue. Many Montanans, as many people who live in rural areas, live many miles from the next home, from a hospital, and having that kind of connectivity is very essential.

Mr. Chairman, you talk about competition. I know we've had you in Montana, and thank you for coming to Montana. In Montana, competition can be limited. And I'm curious on your thoughts around what can be done. What are you doing to promote additional competition, particularly in rural America?

Chairman WHEELER. Thank you very much, Senator. I think there are multiple things. One, I know your question was about competition, but first we've got to make sure everybody has got coverage, and that's what I was talking to Senator Wicker about. And we are going to adapt the Mobility Fund to work on that, to move toward that.

Second, I think that there are new technologies that hold great promise. You know, there are—you know, Rwanda, which is worse than Montana in terms of dispersion, has some really interesting infrastructure-sharing things that they are doing, and I suggested at the cellular convention 2 weeks ago they might want to look at things like that.

I think that 5G and the promise of 5G—you know, the folks at Verizon have been telling us that they think that 5G is a rural solution in many ways and that they refer to it as wireless fiber.

So I think that there are multiple solutions, including our policies, innovative approaches, and 5G.

Senator DAINES. Thank you, Mr. Chairman. I'm out of time. Boy, it goes by fast when you're having fun.

Just a closing comment. We are getting a fair amount of input from the people I represent back home about AM radio. I'll just leave it as a comment. I just want to share my concern.

As it's written today, the proposal could actually leave some Montanans without AM radio service. I look forward to working with you to discuss it a little further because sometimes you have a—if you can't get connectivity, AM radio sometimes is sometimes your link back to—it is, and really it becomes a link for weather forecasts and so forth for folks who are out there spending time on tractors that we want to make sure we take care of.

Chairman WHEELER. I look forward to helping you on that.

Senator DAINES. Thank you much.

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

Senator Markey.

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

Senator MARKEY. Thank you. Two years ago I voted for Commissioner O'Rielly. I've known him for 20 years. He's a conservative. He's a Republican. I voted for him.

Commissioner Rosenworcel two years ago was promised a vote. By unanimous consent, we can bring that vote up on the floor this afternoon so that Commissioner Rosenworcel doesn't have that cloud, you know, that is unnecessarily over her head, and I would ask, on a bipartisan basis, that we confirm her by unanimous con-

sent out on the Senate floor. We can do it immediately. And I just think it's an important statement for the Committee to make.

This is a relic of the past. It's a typical satellite Artelco set-top box. But it's today. This could be in your house 20 years ago; this could be in your house today.

An investigation led by Senator Blumenthal and I found that, one, approximately 99 percent of all American pay-TV subscribers rent this set-top box from their pay-TV provider.

Two, these subscribers spend on average \$89 a year renting a single set-top box, but the average household spends \$232 a year on set-top box rental fees, renting about two and a half boxes. In other words, over 10 years, the average family is paying \$2,300 to rent this box, \$2,300. That's a good business to be in. The set-top box rental market may be worth more than \$19.5 billion per year.

Now, this little device I have here in my hand, it's an Amazon Fire Stick. It costs \$40 for a consumer to purchase. And there are many other devices like this out there, such as Roku, Chromecast, Apple TV. Consumers today can use these devices to watch content from multiple sources, Hulu, Netflix, but which they also pay. But this device cannot play the programming package that consumers pay for each month from their cable, satellite, or telco provider.

Put another way, the only way for a consumer—the approximately 100 million households who subscribe to pay-TV—is to watch the programming that they have paid for is to rent a box from their cable, satellite, or telco company. Consumers cannot watch their pay-TV programming on these third-party boxes. \$2,300 every 10 years for this. Good business. So that's what the FCC is considering right now.

How do we transition to the modern technology and not an archaic technology? We did it with the black rotary dial phone. You don't have to rent that anymore from the telephone company, you go down to the store and buy one. We had to change the laws.

On programming, the program is—it was a big controversy in 1992 because actually rural Americans wanted 18-inch satellite dishes, but the cable industry wasn't willing to sell HBO and Showtime and CNN to them. So we had to change the laws so that those 18-inch dishes could get access to the programming.

It has to be reasonable. That's the standard. But we changed the law. Who would imagine the world today without DIRECTV? Huh? Who would imagine that world? We had to create it because they needed access to the programming.

So this device is something that only the FCC now can do something about. The FCC's proposal will ensure that through an app created by the cable company, the cable programming package can be played on this third-party device so consumers aren't forced to continue paying exorbitant rental fees.

It's that simple. That's what this debate is all about. We don't want consumers to be forced to rent a box from their pay-TV provider in perpetuity when they can buy a device that gets the same job done. That lack of choice has to end now.

So, Chairman Wheeler, you've heard these concerns on programming, on copyright. We had the same issues back with the 18-inch satellite dish, but we worked it out, we created a standard that worked. So talk about how open you are to finding a common sense

solution that can work so that over the next 14 days the consumers can be freed from these chains that have been binding them since the day they first had a cable system installed in their house.

Chairman WHEELER. Thank you very much, Senator. I hope that the significant departure from structure but not from principle that our new proposal represents is a real-life indication of how we are willing and seeking to resolve remaining concerns while allowing that chain to be dropped. Thank you.

Senator MARKEY. And, again, if anyone wants to continue to rent this for the rest of their life, they're going to be allowed to under the law. No one is going to stop them from paying another \$2,300 over the next 10 years. They'll still have options.

Chairman WHEELER. And the interesting thing I read in *Business Week* a couple of weeks ago is that Comcast is shipping 40,000 set-top boxes a day, a day, right now.

Senator MARKEY. So that's our job and your job to find this common sense solution, but we have to find a solution. We did it for the 18-inch satellite dish. We did it for the black rotary dial phone. Past Commissions found the answer. That's your job, and I urge you to do it in the next 2 weeks. I think the American people will say that's one of the greatest days in the history of the Commission, to be freed from this kind of a chain.

Thank you, Mr. Chairman.

The CHAIRMAN. Will the Senator from Massachusetts hold up that Amazon Fire Stick again? OK. All right. There it is.

The letter from Amazon to the FCC is opposed to this proposal, by the way, just a point of fact.

Senator MARKEY. I will add one more fact. All of the programmers back in 1992 opposed having to sell their programming to the 18-inch satellite dish. Discovery came in to me and said, "We don't want to have to sell to the satellite dish." I said, "You can write a note to me in 5 years when you have like four Discovery channels up on a satellite." And I understand you've gotten a call that you can't refuse, but we all know that the only way this works is if we, that is, the government, steps in to free up these programmers so that they can sell it to as many devices as possible. It—

The CHAIRMAN. It's not often that a company opposes their self-interest, but their statement here to the FCC is that the process to create such a license and oversight body will delay competition and delay customers from receiving the MVPD services they already pay for on the device of their choice. That's their statement.

Senator MARKEY. That is a concern about the licensing board. It is not a concern about whether or not this device should be able to process the CNN and HBO. We can work out this licensing board issue. These Commissioners are brilliant and they have the capacity to be able to resolve it.

The CHAIRMAN. Well, it would be good if they would work that out, and it would be good if they would also publish that so people could see it before they adopt it.

Senator MARKEY. Yes.

The CHAIRMAN. Next up is Senator Gardner.

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

Senator GARDNER. Thank you, Mr. Chairman.

And, Senator Markey, I was just wondering if we finally found Al Gore's lock box. Is that it right there? Is that the——

[Laughter.]

Senator GARDNER. Chairman Wheeler, as we've discussed before, satellite TV subscribers in La Plata and Montezuma Counties in southwestern Colorado, the Four Corners area, currently receive New Mexico-based broadcasts.

Chairman WHEELER. Right.

Senator GARDNER. In addition, the geographic challenges unfortunately leave the vast majority of those viewers without access to over-the-air broadcast signals, obviously some significant mountains in between Denver, the Front Range, and Durango. And I commend the work that the broadcasters and satellite providers continue to engage in as they work to deliver Colorado TV to all four corners of Colorado.

Congress also worked to address this issue in the 2014 STELAR legislation——

Chairman WHEELER. Right.

Senator GARDNER.—by extending the market modification process to satellite TV. As they crafted the final rules to carry out this provision, I, along with Senator Bennet and others, urged the FCC to permit county Commissioners to petition for market modification, and I thank you for adopting that option.

In light of those rules, the Commissioners from La Plata County and Montezuma County have expressed interest in moving forward with the market modification process. DISH has also indicated that providing Colorado television is not technically infeasible. The Colorado broadcasters recently sent both Senator Bennet and I a letter stating that they are willing to provide their content to DISH in the two counties.

With this progress, I'm calling on the county Commissioners in Colorado at this hearing, calling on the county Commissioners involved in Colorado, the broadcasters and DISH together, so that we can convene in a meeting next month in Colorado to discuss ways that we can reach a final resolution. I hope that Senator Bennet and Congressman Tipton will be able to join me in that meeting as well. We've got to get this finally solved.

So, Chairman Wheeler——

Chairman WHEELER. Senator, and if we can help in that, we'll be happy to be at that meeting, too.

Senator GARDNER. Thank you.

Chairman WHEELER. You tell me how we can be helpful.

Senator GARDNER. Thank you. And I just again would reiterate that commitment. You have given it to me here and before. The FCC will expeditiously review any market modification petitions submitted by La Plata or Montezuma.

Chairman WHEELER. Yes, sir.

Senator GARDNER. Thank you very much for that.

And in light of the discussions—and I'm sorry, Senator Udall, I don't mean to offend New Mexico TV, if that's——

[Laughter.]

Senator GARDNER. It's certainly not intended to be that way, just the Broncos.

[Laughter.]

Senator GARDNER. Got to keep them there, got to keep them there.

We talked about the complexity of these rules and regulations that Senator Markey brought up that Chairman Thune is talking about.

Commissioner Rosenworcel, just a couple of months ago you expressed concern with the complexity of the initial set-top box proposal, calling it too complicated. And Washington, D.C., is the only place where we make things simpler by adding to its complexity.

The FCC's fact sheet describes the new proposal as being, quote/unquote, simplified. Do you agree with that, that the new rule is simpler than the original plan? And have your concerns about this complexity been addressed?

Commissioner ROSENWORCEL. Well, as I said before, it's time to inject competition into our set-top box market. Nobody has ever written me telling me that they love their set-top boxes. Maybe that's happened to you, but I pretty much doubt it's happened to anybody who serves in this room.

And so I appreciate that the Chairman has made an effort to get a conversation started on this point, but if I have one concern, and I mentioned this earlier to Senator Moran, it's that the licensing scheme we have here gets the FCC in the business of trying to figure out model licenses, and I don't see how that easily fits under the statute we have.

So that would be the complexity I see that needs work, but I'm committed to continuing to talk with stakeholders and my colleagues to see if we can iron some of that out and make it simpler.

Senator GARDNER. Commissioner Pai, Commissioner O'Rielly, would you like to address this issue of complexity?

Commissioner PAI. I would agree with some of the concerns that Commissioner Rosenworcel has expressed. And I think originally the apps proposal, as it was presented to us, was a much simpler one than the one we have now. The proposal on the table takes it but also imports a lot of the problems that we had with the original set-top box proposal.

And so I would hope that we embrace more of the original apps proposal as it was presented to us instead of adding in all these layers of FCC review of programming agreements and the standard license agreement and so forth.

Commissioner O'RIELLY. Yes, I would agree. I think that what's been presented and circulated is simpler than before. It still has difficulties and problems that I've outlined. The two major areas need to be addressed, and hopefully we'll be able to do that in the coming weeks.

Senator GARDNER. Thank you.

Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Gardner.

Senator Booker has returned.

Senator Booker.

**STATEMENT OF HON. CORY BOOKER,
U.S. SENATOR FROM NEW JERSEY**

Senator BOOKER. I'm really grateful and always excited when there's a Cory-to-Cory connection here. The Cory caucus is thriving.
[Laughter.]

Senator GARDNER. Both four-letter words.

Senator BOOKER. Yes.

[Laughter.]

Senator BOOKER. So, as you all know, I was Mayor of Newark, and mayoralty cities are where innovations are happening, where they're finding creative ways to get things done, where there are innovative public-private partnerships. I'm just excited about these mayors across the country. Fiorello La Guardia said there is no Republican or Democratic way to fix a pothole, you just fix it. So you don't see the kind of partisan rancor you see up here, you just see people saying, "We've got problems, let's get it done."

And this is why I was so supportive of the ideas of municipal broadband, especially in areas where there are poor folks or rural folks who just aren't getting service, and this idea that somehow the private sector is going to get this done, well, they're not. And other countries have greater broadband penetration than we have.

And so we see that when it comes to overall this crisis in our country, which I think is the broadband deployment, we have to really start focusing on allowing municipalities to get things done.

And so there is slow broadband, no broadband, and as a result of all this, one of the early things I did as a Senator was introduce the Community Broadband Act with the support of a lot of my colleagues here in a bipartisan way to preserve the rights of local governments to invest in broadband networks.

Now, with consent, I would like to put in the record a *New York Times* story from August 28 that was just really disturbing. It's about some folks who are rural consumers in Wilson, North Carolina, my father's home state, and if I can have consent to enter this article in the record.

The CHAIRMAN. Without objection.

[The information referred to follows:]

The New York Times—Aug. 28, 2016

**BROADBAND LAW COULD FORCE RURAL RESIDENTS OFF INFORMATION
SUPERHIGHWAY**

By Cecilia Kang

WILSON, N.C.—On the first day of the harvest last week, a line of trucks brimming with sweet potatoes rolled into Vick Family Farms, headed for a new packing plant that runs on ultrafast internet.

The potatoes were tagged with online bar codes to detail the plots where they grew, their types of seed, and dates and times picked. On a conveyor belt, 50 flashing cameras captured and sent images of the spuds to an online program that sorted the Carolina Golds by size and quality and kicked them into boxes.

The Vick family built the plant only after the nearby City of Wilson agreed early last year to bring its municipal broadband service to the 7,000-acre farm. Since the plant opened in October, the farm's production and sales to Europe have jumped.

But now, after a legal battle between state and Federal officials over broadband, the farm and hundreds of other customers in the eastern region of the state may get unplugged.

“We’re very worried because there is no way we could run this equipment on the Internet service we used to have, and we can’t imagine the loss we’ll have to the business,” said Charlotte Vick, head of sales for the farm.

Vick Family Farms got caught between the Federal Communications Commission and North Carolina state legislators over the spread of municipal broadband networks, which are cityrun Internet providers that have increased competition in the broadband market by serving residents where commercial networks have been unwilling to go.

This month, the United States Court of Appeals for the Sixth Circuit upheld restrictive laws in North Carolina and Tennessee that will halt the growth of such networks. While the decision directly affects only those two states, it has cast a shadow over dozens of cityrun broadband projects started nationwide in recent years to help solve the digital divide.

In siding with the states, the court hobbled the boldest effort by Federal officials to support municipal broadband networks. While the court agreed that municipal networks were valuable, it disagreed with the F.C.C.’s legal arguments to preempt state laws.

Now, cities like Wilson fear they have little protection from laws like those in about 20 states that curb municipal broadband efforts and favor traditional cable and telecom firms. City officials say cable and telecom companies that have lobbied for state restrictions will be encouraged to fight for even more draconian laws, potentially squashing competition that could lead to lower prices and better speeds to access the web.

“This is about more than North Carolina and Tennessee,” said Deb Socia, executive director of Next Century Cities, a nonprofit coalition of cities exploring broadband projects. “We had all looked to the F.C.C. and its attempt to preempt those state laws as a way to get affordable and higherquality broadband to places across the Nation that are fighting to serve residents and solve the digital divide.”

In Wilson, officials said cable and telecom companies rejected requests to team up with them and upgrade aging networks, which led the city to start its own broadband network called Greenlight in 2008. The service provides speeds of one gigabit per second, which lets people download big video files in seconds or minutes instead of several hours with DSL or basic cable broadband.

In 2011, companies like Time Warner Cable, represented by the cable lobbying association, asked the North Carolina legislature to adopt a law to limit Wilson’s ability to serve customers outside Wilson County, even though the city serves electricity customers in four additional counties.

Grant Goings, Wilson’s city manager, said the court decision made it unclear “how we can bridge the digital divide and create economies of the future when there are corporate interests standing in the way.”

But some lawmakers and free-market-oriented think tanks say public broadband projects should be carefully scrutinized by local regulators because they are costly and, if unsuccessful, can be a financial burden on taxpayers. In addition, the F.C.C. cannot intervene in state laws, they said.

The court decision “affirms the fact that unelected bureaucrats at the F.C.C. completely overstepped their authority by attempting to deny states like North Carolina from setting their own laws to protect hardworking taxpayers and maintain the fairness of the free market,” Thom Tillis, a Republican United States senator who pushed through the 2011 bill when he was North Carolina’s House speaker, said in a statement.

CenturyLink, one of the broadband providers serving Wilson and surrounding areas, says it offers competitive Internet speeds and has upgraded its networks. The company says it wants to partner with municipalities but is concerned that city-run networks may have an unfair advantage.

“If local governments choose to compete with private Internet service providers, there needs to be a level playing field,” said Rondi Furgason, CenturyLink’s vice president for operations in North Carolina.

The F.C.C. does not plan to appeal the Federal court’s decision “after determining that doing so would not be the best use of commission resources,” Mark Wigfield, a spokesman for the agency, said in a statement. That means municipalities that want to keep expanding their municipal broadband networks will have to fight to overturn state laws on their own.

The legal fight is being closely watched by other cities in states that have similar broadband restrictions, such as Colorado and Washington. Even big cities like Los Angeles and San Francisco are in the early stages of exploring municipal broadband networks, which they view as crucial to serving lowincome families who cannot afford service from cable and telecom companies.

"It's bad news for projects looking to expand beyond their borders in hostile, antimuni broadband states," said Robert Wack, president of the City Council in Westminster, Md., which began its own gigabit municipal network last year.

For thousands of residents in communities near Wilson, about an hour from Raleigh, the court decision has created whiplash.

In Pinetops, a short drive east of Wilson, many residents cheered the arrival of the Greenlight service last year. The former railroad stop, known for its picturesque pine trees, has long struggled to maintain its population of 1,300. Though many cars pass through the town, there is little reason to stop, since many storefronts are shuttered.

Last year, Pinetops officials pleaded with Wilson, its much larger neighbor that provides water and power to the area, to also bring its broadband service. They saw how having Greenlight had helped Wilson attract companies like Exodus FX, a visual effects company that has worked on movies like "Captain America" and "Black Swan." In February, Wilson expanded Greenlight to Pinetops by extending fiber lines to 200 homes, and it has plans to serve 400 homes by later this year.

Tina Gomez, a Pinetops resident, quickly saw Greenlight's benefits. She recently got a telework job with General Electric, which requires reliable high-speed Internet service to run a customer service software program. Ms. Gomez, 37, also started online courses in medical billing and coding. Before subscribing to Greenlight, finding telework was a challenge because the existing home Internet service was too slow, she said.

Now the political squabble over broadband may hurt her livelihood. Mark Gomez, Ms. Gomez's husband, said they would move from Pinetops to Wilson when their broadband service was disconnected.

"We can't stay if the basic services we need aren't here," Ms. Gomez said.

At Vick Family Farms, Ms. Vick recalled what life was like before Wilson's municipal broadband service. Her previous service, supplied by CenturyLink, often stalled or stopped entirely. One week before Thanksgiving a few years ago, the farm was shut down for hours because of an Internet failure, so workers had to pack boxes by hand.

"We can't step back in time when everyone else is moving forward," she said.

Senator BOOKER. But it's based upon a rural broadband program that was done by a municipality. They were able to make massive investments in upgrading their farms. It's a really fascinating article about innovation at the local municipal level and innovation in agriculture, but that's all now being put at risk and rural residents could be forced off of the information superhighway. And this isn't just a bunch of people doing online sports betting; these are folks that need this for education, that need this for work, that need this for their businesses.

And so I was disappointed, if not angered, by a recent court decision that overturned the FCC's action to approve petitions for communities seeking to supply their communities with local broadband. I was even more troubled to learn that the FCC will not pursue the case further.

I sympathize with the Commission's tight resources and they need to make tough choices, but I think we owe the American people, families like this and this family business, a chance to fight to make sure that they can get broadband access.

So in light of the court's decision, how important is Congress then, given the FCC's inability to put the resources into pursuing this case? Could you just give a few thoughts on how important it is for Congress to act on this?

Chairman WHEELER. A number one importance. There are a few words.

Senator BOOKER. That's a few words. Man, if everyone was as cooperative in my life as you are, I might be married right now, sir. Moving on.

[Laughter.]

Chairman WHEELER. I can't help with that.

[Laughter.]

Senator BOOKER. Moving on, I know there has been a dialogue, and forgive me for having to step out to vote, but I just want to get back to the set-top box controversy. I have my own unofficial polling mechanism, which is when my Twitter blows up, I know that this is an issue on the minds of lots of different diverse interest groups around America.

One of the most robustly debated topics is something that's of great interest to me is a guy who has both a TiVo in one room and a regular cable box in the other one. The product in the cable box is so inferior, so much more costly aggregated over time, so much worse technology.

And I live in a poor neighborhood, and its census tract I think is below the poverty line, and see my neighbors getting what I think is bilked for this device. However, there are a lot of my friends who I trust who are some of the greatest companies in this country who create tremendous wealth, are responsible for our greatest American exports, who have expressed to me legitimate concerns.

And I would like to just conclude, if you would you said that you have been talking with them, that you are 90 percent of the way there. I just want for my own benefit, can you be a little more specific about the progress you've made, what that 10 percent gap is, and how do we get to a point where some of our valued companies in America are satisfied? What's going to get us to 100 percent?

Chairman WHEELER. Thank you very much, Senator. Let me try and be succinct in a complex area. The Congress mandated competitive boxes. The industry responded with a licensing body that they created. So all this stuff about licensing bodies. A licensing body they created that then put out—then did not put out licenses. OK?

Now, as we look at the situation that we've got here, how do we set it up so that the industry, not us, is determining how this licensing structure works? But how do we learn from the past?

So one thing that we did was we said, OK, let's put a little tension on the board. Let's put programmers on there so that the cable operators and the programmers are kind of keeping each other honest. But, you know, there's an occasional backscratching that goes on between those two.

So we said, well, why don't we put on the equipment manufacturers and have a three-way discussion there? So they're kind of everybody keeping everybody else honest so the licensing can move forward. Absolutely not. Programmers wouldn't agree. Cable wouldn't agree. That will blow everything up. OK?

So then who is going to be the trust-but-verify backstop in this? Well, why not the Commission? That's the thought process that brought us to where we are. As I have said repeatedly, we are now in the deliberative process at the Commission, and that we are open to whatever can solve the problem that has been identified in terms of licensing, which I'm not sure is a real problem, but I will say I am open-minded to how you solve it, and at the same time, respect the mandate of the Congress that said thou shall have competition.

And I'm heartened by my Commissioners up and down the table—not my, the Commissioners up and down the table saying they want to work together on this proposal, and I want to join with them and try and resolve this.

Senator BOOKER. I'm way over time. I want to thank my Chairman for his indulgence. I appreciate it.

The CHAIRMAN. Thank you, Senator Booker.

Next up is Senator Sullivan.

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

Senator SULLIVAN. Thank you, Mr. Chairman.

And I want to begin by thanking all of you on the work that you and your staffs did on the Alaska Plan. I know that several months ago we had a hearing where you all committed to make the decision whether you were supportive or not by the end of the second quarter. And we're close, so I appreciate that, and I appreciate the work you're currently doing to finalize the CAF-II funding issue, and I know that the staffs are working on that as well with Alaska's price cap carrier.

And, Mr. Chairman, you mentioned that it's all about coverage, of course, particularly in the rural communities, particularly in the extreme rural communities that I like to say. You know, I was out, like all of us, back home over the summer, and was in a lot of communities that are still struggling. You know, sometimes you think about the most remote communities that don't have a lot of activity.

I was actually out on Alaska Dutch Harbor, this is out in the Aleutian chain. This is the number one seafood port in America, so it has enormous economic activity out there, but still really, really concerned about the lack of broadband access. And I know that the work the Commission did is going to help on that. So again I want to thank everybody for working hard on that issue for my State, which I think has some unique problems or challenges.

I want to broaden the discussion here, though, building on a little bit of what Senator Daines was talking about, about small businesses, and broaden it to kind of the broader issue of the lack of economic growth that's going on in the country.

This is an incredible dynamic industry that all of you oversee, and yet when you look at our growth from our Nation's perspective in the last 10 years, it has been very substandard. President Obama will be the first President that, I think, on record has never ever hit 3 percent GDP growth in one quarter. We've had a lost decade of economic growth, and one of the reasons I think that's clearly happened is that we overregulate ourselves in so many different sectors.

So we've had the Secretary of Transportation here saying it takes 5 to 6 years on average to permit a bridge. We had the head of the Seattle Airport who talked about it took 14 years to get a permit to expand a new runway at Sea-Tac. In the oil and gas sector, it took 7 years and \$7 billion for a company to get permission from the Federal Government to drill one exploration well off the coast of Alaska; 7 years, \$7 billion. We're our own worst enemy, as the Federal Government, on inhibiting economic growth.

In the last hearing, all of you committed to working with us on looking at legislative recommendations on the way we, in Congress, can assist the FCC in helping streamline our processes and get projects moving, get dirt moving, starting to build things.

So I offered an amendment on MOBILE NOW that would have an application deemed granted if there's a certain amount of time that passes on construction on Federal lands.

But what I really want to hear just from all the Commissioners is on this issue, I know you've been thinking about it a lot, but what are the big issues that we need to help deploy the resources of this very dynamic industry so we can start growing the economy? And I know you've been thinking about it.

Commissioner Rosenworcel, I know you've been thinking about it. Can you—and I really want to open this up to all of you. What can we do, what should we do, to help us start building things in this country again, particularly in this very dynamic sector of our economy?

Commissioner ROSENWORCEL. Thank you, Senator. You know, we now are in the early days of a wireless revolution. It's becoming such an important part of civic and commercial life, and the challenge is to get it built everywhere, especially as we move to a new future with the Internet of things. And we spend so much time talking about spectrum and what's happening in the skies, and the least glamorous part is what's happening on the ground, but it deserves twice as much attention.

We need dig-once policies all around the country, especially in Federal lands, to make sure every time we have a construction project, we also lay fiber. That fiber serves wireless facilities and towers.

We need to start holding contests for communities and tell them, "There's a reward in it for you if you figure out a way to expedite wireless deployment, particularly of small cells and new architecture and infrastructures."

And then, finally, I think when it comes to Federal authorities, which control about one-third of our Nation's real estate, we should make sure that there are master contracts and that they are required to use them. And if we do that, we will standardize and harmonize it and actually achieve some more build-out.

Senator SULLIVAN. Well, we want to work with you because those are all—you don't, Mr. Chairman, you don't have the authority on those kind of issues. You need legislative approval to do that kind of streamlining to deploy these assets. Isn't that correct?

Chairman WHEELER. There is a debate over that, Senator. I have been very encouraged to hear my two colleagues today talk about how we have to step up to the question of preemption on siting issues. We need to respect the rights of localities.

Senator SULLIVAN. Of course.

Chairman WHEELER. But the rights of localities do not extend to thwarting the construction of the information pathway of the 21st century. And how do we work that out in a balancing act? And that's what they are to—

Senator SULLIVAN. Well, we want to work with you, Mr. Chairman. I know my time has expired, but we also want to work on your ideas on Federal lands because to me that's where we clearly

have a jurisdictional role. It doesn't get into the issue with the smaller communities and localities. And I think it's an area where we can get a lot of bipartisan support to start building things. And I want to work with all the Commissioners on these ideas because I think we can really achieve some bipartisan consensus here on some of these important issues. So thank you.

Thank you, Mr. Chairman.

Chairman WHEELER. Senator, can I do 30 seconds? T.W. Patch is the guy who deserves the credit for getting the ball rolling on the Alaska Plan that you were talking about. And I just want to make sure that he gets the public recognition.

Senator SULLIVAN. Well, he's a good friend of mine, so I'm glad that you're mentioning this in this hearing, and I'll pass it on.

Chairman WHEELER. Great.

Senator SULLIVAN. Thank you.

The CHAIRMAN. Thank you, Senator Sullivan.

Senator Udall.

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

Senator UDALL. Thank you, Chairman Thune. And I know Senator Gardner is not here, but I have the same issue in terms of New Mexicans watching television in another state, and so I hope we can work with him on that.

Chairman WHEELER. They don't want to watch the Broncos is what you're saying.

Senator UDALL. Yes, well, this week marks the 15th anniversary of the tragic terrorist attacks of September 11, a day that is seared, I think, into our Nation's history. We'll never forget the heroic first responders who ran to the rescue. Sadly, radio interoperability problems led to further loss of life.

And this should remind us that our Nation's communications networks do more than just let us call someone, watch TV, or shop online. In emergency situations, our communication networks save lives, and you all, as Commissioners, know that very well. We should keep that broader perspective in mind as we debate communications policy in this committee and at the FCC.

Commissioner Clyburn, I really appreciate your visit to New Mexico on the Navajo Nation last month. And thank you earlier for reading a New Mexican's letter about broadband.

We had a tragic incident happen on the Navajo reservation following the abduction and death of 11-year-old Ashlynnne Mike near Shiprock, New Mexico, on the Navajo Nation. The Navajo Nation moved to put an Amber Alert system in place, but this won't work in areas without wireless service. And this is just one example of how the digital divide impacts those living on tribal lands.

And so, Chairman Wheeler, I have other questions for the record, but I now want to ask each of you a "yes" or "no" question. In my home state of New Mexico, 80 percent of those living on tribal lands do not have access to broadband, four out of five people without broadband access. I find that appalling.

So I would like to ask a simple "yes" or "no." Will you support Chairman Wheeler's effort to take action this year to address the digital divide on tribal lands?

Why don't we start with you, Commissioner Clyburn.

Commissioner CLYBURN. Absolutely, Senator.

Senator UDALL. Thank you.

Commissioner?

Commissioner O'RIELLY. I don't know what his plan is, but I'm in favor of solving the issue, yes.

Senator UDALL. Good. Well, we want to work with you on that.

Commissioner?

Commissioner PAI. Yes.

Commissioner ROSENWORCEL. Yes, Senator.

Senator UDALL. And obviously—please say a few words here about—

Chairman WHEELER. And let me hang my head here for a minute because at a previous hearing I told you this would be taken care of by football season.

Senator UDALL. Yes.

Chairman WHEELER. We're in football season. We are going to deal with this, sir. We will deal with it before the end of football season. But as you've heard my colleagues' support for doing this, dealing with rate-of-return carriers, and how do we make sure there are sufficient rate-of-return opportunities on tribal lands? Yes, sir.

Senator UDALL. Thank you, Chairman Wheeler, for your commitment to this.

Commissioner Rosenworcel, we met with students when you were in New Mexico at Hatch, New Mexico, who do homework in the parking lot or at a Pick-Quick store where there is free WiFi. We need to close this homework gap facing students who come from rural and low income families.

Jonah Madrid, a varsity football player at Hatch Valley High School, had a bright idea. Jonah told us there should be WiFi available on the school bus. That would help him do homework when his team travels long distance for games. Schools currently receive E-rate support for Internet access at school, but not on their buses. Do you agree that WiFi on school buses could help close the homework gap? And should this be eligible for E-rate support?

Commissioner ROSENWORCEL. Yes. Well, first of all, thank you for having me in Hatch, New Mexico. It was a treat. And I still remember that football player, this high school student, who told me in rural New Mexico he would take the bus an hour and a half out to play games and an hour and a half back at night, and then sit there in the pitch black darkness of the school parking lot with his device because it was the only way he could get his homework done. It seems to me that that's trying too hard and we should be able to help him, and I think we should use the E-rate program to help make sure that their school buses are wireless buses and have WiFi on Wheels.

Senator UDALL. Great. Thank you. I don't know if any other Commissioners have a thought on that.

Chairman WHEELER. Far be it from me to question Commissioner Rosenworcel on the homework gap.

[Laughter.]

Senator UDALL. OK.

Commissioner ROSENWORCEL. I like that.

Commissioner O'RIELLY. I could only suggest that it may require a change in statute, and it may not be something that we're allowed to do in the current provision, but that doesn't mean—I'm not sure—and I'm also—quite frankly, this is the first time—now, this may be the best solution, there may be other opportunities to help this particular individual or other—those that are in situations. So I'm not sure that's the best solution, but I'm open to solving the problem.

Senator UDALL. OK. And we'll share our authorities with you that I think indicate that there is an ability to do this.

Thank you very much.

Thank you, Chairman Thune.

The CHAIRMAN. Thank you, Senator Udall.

Senator Blumenthal.

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

Senator BLUMENTHAL. Thanks, Mr. Chairman.

Thank you all for being here and for your good work.

Let me make a couple of really simple points. I know your world is a complicated one, the dockets, the agenda, but here are some really simple points.

The U.S. Congress must confirm Commissioner Rosenworcel. She has been a leader in identifying the homework gap, she has been a tireless advocate for public safety officials, and she has been a leading thinker at the FCC on creative ways to update our spectrum policy for both licensed and unlicensed use. She is a distinguished member of the FCC. And her confirmation was part of an agreement that led to confirmation of Commissioner O'Rielly.

I'm looking at you, sir. And I know you were not part of this agreement.

[Laughter.]

Senator BLUMENTHAL. So I'm looking at you because you are a member of this Commission and you would not be there but for this agreement. And I'm calling on the majority leader very simply to keep his promise.

Number two, on the set-top box issue, Chairman Wheeler, I want to really express my gratitude to you on behalf of the consumers of Connecticut, who will stand to save millions of dollars as a result of the rule that you are proposing. And, again, to be very simple, I hope not overly simple, there's a law that requires it.

I'm a law enforcement guy. The first and foremost duty of anybody in public office is to enforce the law. If it's unenforced, it undermines the credibility and trust of everybody in that law. And the set-top box order that you have issued very simply enforces a law that has been unenforced since the 1990s, as we all know. It will save not only Connecticut consumers but consumers around the country millions of dollars.

There must be FCC oversight. Voluntary standards got us into this mess. Only reliable and consistent enforcement law will help preserve consumers' pocketbooks.

And I want to enter into the record editorials from some of the newspapers that have expressed themselves on this issue, most re-

cently the *New York Times*, of “Today,” which very emphatically came down on the side of consumers.

This issue is a classic “inside-the-Beltway versus the people of America” issue. Inside the Beltway, there is this hand-wringing and, “My goodness, what are we doing?” Outside the Beltway, there is no question that consumers deserve to save money through more choice and more competition. That’s the way markets work.

So I am leading to a question here, but I want to express the strong view that this rule is needed and deserved by the consumers of America. And I would like to just open it to you, sir, to explain perhaps what the numbers are here in terms of savings. These set-top boxes are dollar devourers; they simply suck money out of consumers’ pockets without any real need. And what are the numbers in terms of potential savings?

Chairman WHEELER. Well, thank you very much, Senator. You know, I was talking to Senator McCaskill earlier about the study that she did on cable pricing and the consumer experience of cable consumers, and how one of the major findings of that was the surprise, “Oh, my goodness, I’ve got this additional charge. This isn’t what they were telling me on the ads and everything else. But there’s this additional charge.”

You and Senator Markey did some great research that came up that show there’s about \$230 a month per household. You do the math on that, and it’s about \$1,600,000,000 every 30 days.

Senator BLUMENTHAL. Without any benefit to consumers.

Chairman WHEELER. Without any choice. And, by the way, I don’t mean to quibble, but the benefit is you are going to pay this or the money that you spend on your cable subscription is down the tubes. So it is beyond that. Yes, you get a result from your payment because you’re being held hostage. And as Commissioner Rosenworcel has said repeatedly, it’s time to do something about this.

We respect greatly the various corporations and trade associations that have come to see us, and we try to work with them, but the Congress gave us a mandate of a responsibility to consumers, and our job must be to fulfill that mandate.

Senator BLUMENTHAL. Thank you very much. My time has expired.

Thank you, Mr. Chairman. And I offered—I guess I didn’t wait for the potential objection by entering those editorials into the record, but if there’s no objection, I’ll have them part of the record.

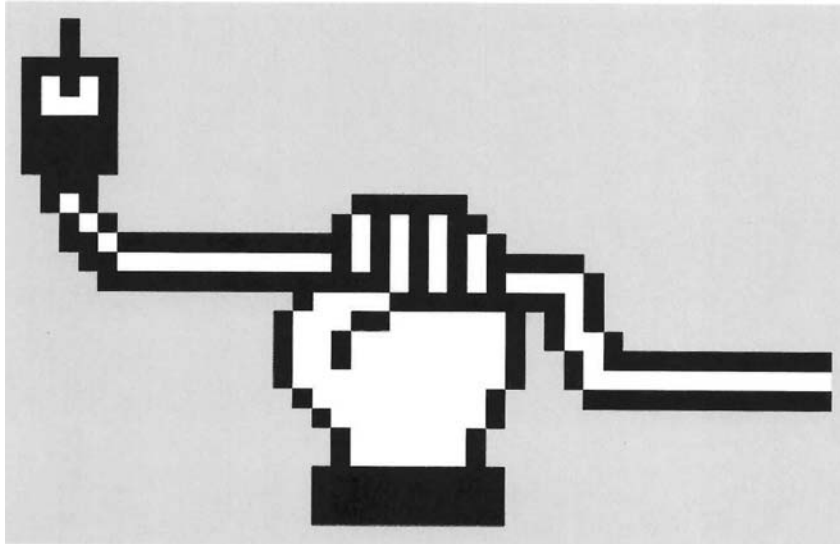
The CHAIRMAN. Without objection.

[The information referred to follows:]

Seattle Times—Originally published March 2, 2016 at 4:36 pm Updated March 2, 2016 at 5:24pm

FCC RIGHT TO THINK OUTSIDE THE CABLE SET-TOP BOX

By Seattle Times editorial board



Seattle Times illustration

The FCC is finally breaking the stronghold that cable companies have on the set-top box market. That's good, as long as it's not just a giveaway to Google.

ENDING the cable-box racket that burdens millions of Americans is a good proposal by the Federal Communications Commission.

There are several reasons to proceed cautiously, however. It's troubling that the agency apparently cozied up with Google as it developed the new rules.

The idea, floated by FCC Chairman Tom Wheeler, is that all sorts of companies should be able to build and sell set-top boxes. People should be able to buy their own boxes, instead of having to lease them from cable providers.

This is appealing. Americans pay an average of \$231 annually to rent cable boxes, with costs increasing 185 percent since 1994, according to the FCC.

FCC action is overdue. For the last 20 years, the agency has struggled to comply with a congressional directive to open up the market for set-top boxes. In recent years, it seemed to go the opposite direction, *authorizing cable companies to mandate that each customer's TV use some form of set-top box to access channels.*

In proposing to finally "unlock the box," Wheeler cited the FCC's 2007 decision to let people buy their own cellphones instead of having to use hardware provided by phone companies. A remarkable period of innovation and choice ensued.

Expectations for a set-top-box revolution should be tempered. This hardware should eventually be displaced by apps running directly on Internet-connected "smart" TV sets. If that happens, consumers wouldn't want or need additional devices or services just to watch their shows.

As the technology and rules evolve, cable companies will find ways to make up for lost hardware revenue, just as phone companies have done since 2007.

Companies like Comcast may find ways to charge fees for devices that receive their signal, whether it's a smart TV or set-top box purchased elsewhere. "Device billing" is an area where the FCC is now seeking public comment on how to proceed before it finalizes the rules later this year. Device fees could make the medicine worse than the disease.

Cable companies might also respond by stepping up efforts to meter data—including digital video—which is delivered over their networks. This could mean stricter caps on how much can be streamed monthly and charging overage fees, like wireless companies.

Another lesson from the wireless industry is to be wary of Google.

Nine years ago, when the search giant entered the phone business with its Android platform, the talking points were similarly about giving consumers and device makers freedom and options.

Now Android has a dominant *83 percent share of the world smartphone market* and has generated *\$31 billion in sales for Google*, according to a recent lawsuit. The software is free, but Google profits immensely by using the platform to sell ads and media, and pull users to other Google properties.

This prompted a European Commission investigation into complaints that Google gets an unfair advantage from services it bundles with Android.

Google fares better with U.S. regulators. It lobbied the FCC to open the set-top market to competing devices. Then it apparently received early word of Wheeler's proposal—after his announcement, it reportedly had a *prototype box ready to demonstrate* in Washington, D.C.

“It would be nice to pay less and have more choice when it comes to cable boxes.”

This schmoozing raises questions about whom the new rules really benefit. It also gives credence to cable companies' argument that the proposal basically gives their content to Google.

It would be nice to pay less and have more choice when it comes to cable boxes.

But the FCC needs to be sure that it's not trading one monopoly for another, with an additional layer of ads on top.

Editorial board members are editorial page editor Kate Riley, Frank A. Blethen, Ryan Blethen, Brier Dudley, Mark Higgins, Jonathan Martin, Thanh Tan, William K. Blethen (emeritus) and Robert C. Blethen (emeritus).

The Boston Globe—February 10, 2016

FCC SHOULD UNLOCK SAVINGS FOR CABLE CONSUMERS



Andrew Harnik/AP/File 2015

Set-top cable and satellite television boxes look, and sometimes act, like relics from an earlier technological age. Most of them are clunky, finicky, and ugly. There's also something else anachronistic about the equipment—the monthly rental fee that companies charge customers for their use. Set-top box fees total about \$231 a year per household, according to the Federal Communications Commission. A report released last July by Democratic senators Edward J. Markey of Massachusetts and Richard Blumenthal of Connecticut said the rentals generate more than \$19.5

billion annually for the industry. rentals generate than \$19.5 billion annually for the industry.

Because nearly all customers sign up for service that bundles the boxes into complicated pricing packages, few people realize what they're being billed for—about 99 percent opt for box rentals. That's given cable companies little incentive to make set-tops less expensive and more useful. FCC Chairman Tom Wheeler, writing for the tech website Re/code, said a recent analysis showed that the price of set-top boxes has risen by 185 percent over the last two decades, while the cost of TVs and computers has fallen by 90 percent.

Under a common-sense proposal put forth by Wheeler, the regressive era of never-ending payments could give way to greater innovation, and savings for consumers. The commission is scheduled to vote February 18 on a plan that would unlock some of the technology inside those heat-generating TV boxes. It would allow outside vendors access to cable companies' programming, but not their proprietary information, Wheeler said, while "maintaining strong security, copyright and consumer protections." That would motivate more forward thinking tech companies to make their own versions of the equipment, which customers could buy—instead of lease—and then choose whichever cable or satellite provider suits their needs. It is possible to do so now, but the choices are limited.

Wheeler's model also would promote better integration of the two primary ways people use their televisions—to watch traditional stations and cable networks, and to stream Internet-based services such as Netflix, Hulu, and YouTube. Now millions of viewers who want to do both have to clutter their consoles with set-top boxes from cable providers and separate equipment from Amazon, Apple, and Roku, or other streaming companies.

The cable industry, along with some content creators and programmers, last month formed an organization called the Future of TV Coalition to oppose the FCC's proposed changes. The group says cable companies already are introducing pay-TV apps that eliminate the need for set-tops, "a trend that will only accelerate," and doesn't require government interference. Comcast, the country's biggest cable company, has rolled out a souped-up cable box for its Xfinity customers and also offers a service called Stream TV that doesn't require a box for live viewing.

Alfred C. Liggins III, the Future of TV Coalition's cochair, called Wheeler's plan "a brazen money grab by Big Tech companies that would do severe damage to the programming ecosystem, and in particular, niche and minority-focused networks." By Big Tech, he probably means Google, which is pushing its own fiber-optic system, and sells the popular Chromecast Internet-streaming device. But the trade group's argument smacks of desperation. Cable-box rentals are a throwback to the days when people leased rotary phones from Ma Bell.

"Consumer choice should fuel the video-box market, not cable company control" said Markey, who coauthored the 1996 Telecommunications Act and is a longtime critic of the industry's consumer-unfriendly practices. "In the 21st century, consumers should be able to choose their set-top box the same way they choose their mobile phone."

The FCC can't pull the plug on this practice fast enough.

Bloomberg View—Editorial Board—April 20, 2016 1:49 PM EDT

CHEAPER CABLE TV STARTS WITH A BETTER BOX

Like a lot of Americans, President Barack Obama *thinks* cable TV costs too much. Unlike a lot of Americans, he is in a position to do something about it—and even if he fails, it's still worth the effort.

Last Friday, Obama took the unusual step of announcing his support for a *proposal* from the Federal Communications Commission intended to make it easier for customers to purchase their own set-top cable boxes. Whether the idea would actually save consumers money remains to be seen, but it could help bring more competition, improved technology and greater choice to viewers.

Currently, about 99 percent of cable-TV subscribers rent their set-top boxes from their local providers. The average household pays more than \$200 a year, generating as much as \$20 billion in revenue for the companies (the cable industry *disputes these numbers*). The FCC's past attempts to open up the cable-box market *have failed*—in large part because cable providers did their best to make buying third-party boxes a hassle. This time, though, the government has powerful new allies: Google and other *tech players* with just as much muscle and money as the cable giants.

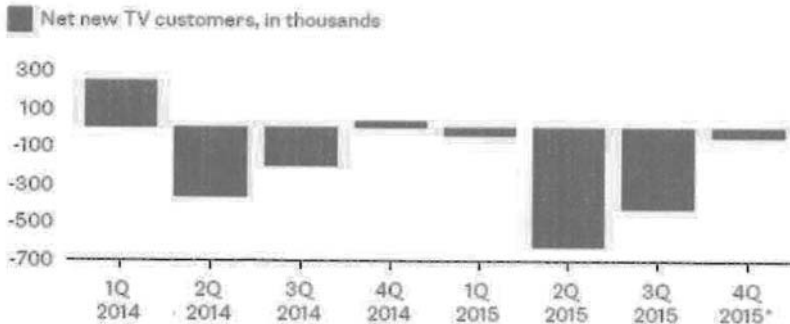
What they're after isn't so much sales revenue as information. They want all that data on subscriber habits and interests, which they could then use to sell personalized ad space on video channel guides and the like. The cable industry is trying to persuade viewers that this plan is a threat to their privacy, but for all anyone knows, the cable companies may already be doing the same thing is working on *separate guidelines* to let cable subscribers block providers from collecting personal data.)

The FCC *wants* not just more competition, but a world in which consumers need only one box and a single remote control to explore all the information coming through their cable wires. This seems unlikely. More plausible is a future in which all these competing services, along with new app-based technologies, combine to give viewers an (even more) dizzying array of choices, from all-you-can-surf packages to more narrow, interest-based collections of channels. Either way, the FCC proposal is likely help bring more disruption more quickly, which is a good thing.

Some technical but important details will need ironing out. The proposal would create a commission devoted to standardizing data flows for all devices, as well as protecting content creators' copyrights and viewers' personal data. There will be time to work these things out. The public comment period is about to end for the proposal, which will almost certainly face a legal challenge from the cable industry. By the time the plan is ready, in a year or two, both traditional set-top makers and newer tech rivals will surely have refined the technology to take better advantage of the unshackled market.

Cutting Cords and Bottom Lines

U.S. cable, satellite and telephone companies have been losing TV customers -- albeit slowly.



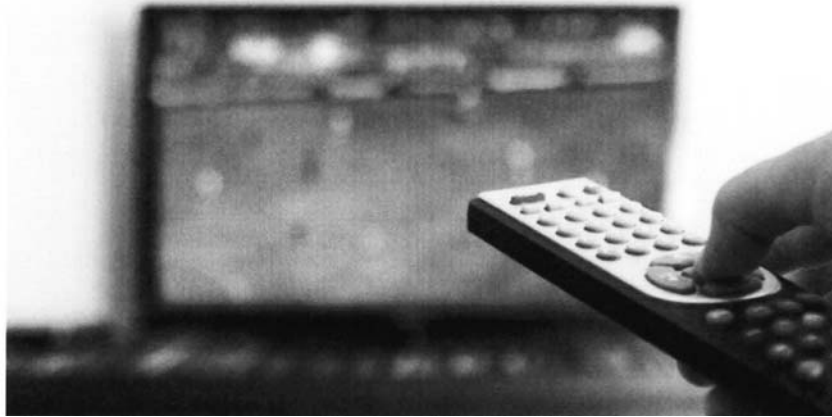
Source: MoffettNathanson

*4Q 2015 figures include preliminary estimates for some companies. **BloombergView**

For the monopolistic cable industry—already squeezed by consumer cord-cutting; Internet video-streaming services; and popular programming from Netflix, Amazon and other upstarts—this will be another blow to the bottom line. But these stodgy companies largely have themselves to blame for their unpopularity and obsolescence. The FCC's proposal is a small but smart step in an inevitable march toward greater competition. Americans should be able to appreciate that on whichever screens they choose.

EDITORIAL: IMAGINE YOUR VIEWING OPTIONS IF THE FCC UNLOCKS THE CABLE BOX

By Editorial Board



The Federal Communications Commission will vote Thursday on a proposal to give competing tech firms access to the set-top box business. (Handout, TNS)

In an earlier tech era, consumers rented telephones from Ma Bell. As for innovation, well, if you didn't want a black phone, you could get one in white or avocado green. An echo of that outdated experience exists today for cable TV watchers, nearly all of whom must rent the cable box.

On Thursday, the *Federal Communications Commission* is expected to vote on a proposal that would give competing tech firms access to the set-top box business, a development that should bring down prices and spur new, creative ways to watch television.

Even if this simply means getting rid of a few remotes or paying less for an ugly, required contraption, we're all in. Households fork over an estimated \$231 in annual rental fees, the FCC says, putting billions into the pockets of cable companies year after year. The Consumer Federation of America believes cable subscribers overpay by \$6 billion to \$14 billion a year. Give us the option of buying a box, the way we buy a cheap router for home Wi-Fi, and give us fewer remotes, and we'll be happy enough.

But that should be just the beginning. It's reasonable to expect that competition will mean much bigger changes to the TV experience, because what the FCC would do is require cable companies to open the design specifics of their platforms to outsiders.

Loosening the cable company's hold on the set-top box weakens the barrier that separates cable from the rest of the digital entertainment world. Imagine buying a device or service that simplifies and integrates the experience of watching cable TV and Internet-based streaming video programming. Imagine, too, the ability to channel surf easily between ESPN, Hulu, Netflix and other offerings.

There are no guarantees how this ends up, but you can picture this hastening the day when cable operators give in to unbundling-permitting subscribers to cherry-pick their channels instead of being required to buy packages that include programming they never watch.

You can presume cable operators don't want to upend the status quo. Alfred Liggins, co-chair of a coalition opposed to the FCC move, said in a statement that the proposal is "a brazen money grab by the Big Tech companies that would do severe damage to the programming ecosystem."

Those changes to the ecosystem were already under way. Consider, as we wrote recently, the growing number of TV viewers who have cut the cord on cable and watch a collection of subscription services like Netflix on their smartphones and tablets. Change is happening—except when it comes to renting the set-top box.

FCC Chairman Tom Wheeler, who's pushing hard for this deal, put it well in an interview with Variety's "PopPolitics" on SiriusXM:

“The big kick I get is that AT&T and the cable companies have been putting out statements that say, ‘This is going to thwart innovation.’ And I scratch my head and say, ‘My goodness, let’s see. When was the last time that competition thwarted innovation rather than spurring innovation?’ And you are telling me that a locked-down, closed system will have more impetus to be innovative than a competitive, open system? I think that history shows that it is exactly the opposite of what happens in reality.”

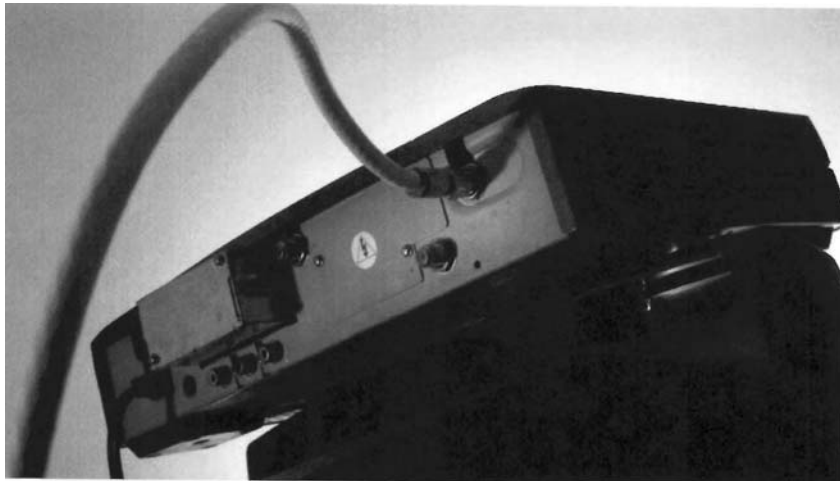
Indeed, this brings us back to that avocado telephone. Until 1968, AT&T controlled the entire phone system, requiring customers to lease equipment and banning any third parties from connecting to its network. Then, through what’s known as the Carterfone case, the FCC lifted the ban on outsiders.

The result was nicer phones you could buy instead of rent, yes, but it also hastened a technological revolution: answering machines, fax machines, modems and eventually the Internet. A completely new world, spurred by increased competition.

Los Angeles Times—September 9, 2016

IT’S TIME TO KILL THE CABLE BOX

By *The Times* Editorial Board



The rear of a cable box is seen sitting atop a television in Philadelphia in May 2007. Federal Communications Commission Chairman Tom Wheeler has proposed a rule that could eliminate the need for cable and satellite converter boxes. (Matt Rourke/AP)

Since taking office in 2013, *Federal Communications Commission* Chairman Tom Wheeler has battled seemingly every company his agency regulates as he has pushed for rules to protect the open Internet and online privacy. Now, Wheeler is jousting with a set of players not within the FCC’s purview—the major Hollywood studios—as he tries to fulfill a long-neglected congressional mandate.

The issue is the near monopoly that cable and satellite TV operators have over the converter boxes that enable consumers to unscramble and watch the channels for which they’ve paid. As part of a 1996 overhaul of communications law, Congress required the FCC to assure that alternatives to these boxes would be *available from retailers*. But resistance from cable operators, technical challenges and the studios’ legitimate concerns about piracy combined to thwart would-be competitors from coming up with compelling, reliable and easy-to-use converter-box alternatives. Major consumer-electronics companies simply stopped trying after experimenting briefly with supposedly “cable ready” TVs and set-tops that couldn’t support the full lineup of pay-TV services. As a result, cable and satellite companies collect an estimated \$20 billion per year—more than \$230 per household on average—in fees for converter boxes that typically are bastions of yesterday’s technology.

Wheeler took a different tack in February, unveiling an ambitious proposal to require pay-TV operators to make their programming available in streams with standardized formats and security so that the manufacturers of smart TVs, Blu-ray play-

ers, game consoles, tablet computers and other devices could adapt their products to act as cable or satellite TV converters too. He backed down, however, when the studios, TV broadcasters and other programmers complained that this approach could wipe out some of the restrictions they'd negotiated with cable and satellite operators over how their content could be used. These include limits on recording and commercial-skipping, as well as requirements for where networks appear in channel lineups (for example, requiring a news channel to appear in the same portion of the program guide as other news channels).

That's the sort of control that Federal law gives copyright owners, and the FCC can't argue with it. To their credit, pay-TV operators came up with the concept for a more workable approach, which is now the centerpiece of a new proposal that Wheeler outlined in *The Times* this week: delivering their programming through an app that could run securely on smart TVs and connected devices. This would be a huge win for consumers because it would eliminate the need to have a costly converter box connected to every TV in the home.

To preserve the restrictions that programmers negotiate with pay-TV operators, consumers could watch pay-TV shows only through the app, which would be controlled end-to-end by the cable or satellite operator offering it. Wheeler's proposal also would require pay-TV operators to make apps available for free on all the major software platforms used by device manufacturers (think Apple's iOS, Google's Android and the like), and require the apps to offer the same TV experience that consumers have through a cable or satellite converter box. In other words, anything you could do with a converter box—including recording a show or skipping commercials—you'd have to be able to do through the app.

The sticking point for the studios and some other programmers is that Wheeler isn't willing simply to trust pay-TV operators to play fair with their apps. His proposal would create a licensing body made up of programmers and pay-TV representatives to certify that each pay-TV company's app met the technical standards the licensing body had developed. But this body would be overseen by the FCC to make sure it didn't impose requirements that were anti-competitive or inappropriate. For example, an app couldn't require device makers to exclude other legitimate sources of programming, such as Netflix or Amazon Prime. The apps also would have to make pay-TV content searchable alongside other types of programming, although the licensing body could require device makers to filter out pirated material.

The studios are understandably nervous about this idea of "integrated search," fearing that someone searching for "Game of Thrones" will be directed not just to HBO and the iTunes store, but also to some Russian website offering free, bootlegged copies of entire seasons. So requiring search results to be filtered makes sense, as long as the filtering isn't so ham-handed that it screens out legitimate online programming sources.

Yet the studios' concerns don't stop at piracy. On Thursday, the Motion Picture Assn. of America complained that Wheeler's new proposal amounted to a "compulsory license" to the studios' works because it "encroach[ed] on copyright holders' discretion in how they exercise or license" their rights. In the studios' view, that discretion is unlimited; if, for example, a studio doesn't want Charter to let customers display its shows on Apple devices, or if it wants to block its programming from homes in certain ZIP codes, it can try to make such prohibitions a condition for carrying its programming on Charter's cable systems. Any limits the FCC might place on the app licenses could interfere with this discretion.

The MPAA is absolutely right that the FCC can't change copyright law. But Congress did give the agency authority over pay-TV operators and a mandate to make alternatives widely available to the operators' converter boxes. So the agency seems well within its authority to set rules on cable and satellite services that respect the licenses they negotiate while still barring them from using apps to skew the competition among device-makers and programming services—or preventing consumers from doing things with an app that they could do with a converter box.

Pay-TV operators wouldn't be required to make apps available under Wheeler's proposal for at least two years, giving programmers time to negotiate terms with cable and satellite operators for the post-converter-box era. If they don't want to be part of it, they don't have to license their shows for pay TV. But they can't use their copyrights as a tool to force pay-TV operators to discriminate or otherwise undermine Congress' demand that pay-TV operators give up their converter-box stranglehold.

Wheeler's plan shows how the FCC can live up to that congressional mandate while still protecting copyrights and saving U.S. consumers billions of dollars, and the commission should move forward with it.

FREE TV VIEWERS FROM CABLE BOX FEES

By The Editorial Board

That little black cable box beside your television is your gateway to dozens of great shows. It's also a drain, sucking money out of your home. Every month, millions of Americans are forced to pay high fees to rent cable boxes. The only way this can change is if the Federal Communications Commission votes to require cable companies to make programming accessible through other devices, ones you could own outright. A vote is set for Sept. 29.

On top of the fees they pay for the programming itself, people spend an average of \$231 a year to rent cable boxes, or about \$20 billion annually, according to an analysis by two senators. Those rental fees have gone up 185 percent since 1994, according to the Consumer Federation of America, in large part because cable companies know that people have limited choices. By contrast, when it comes to cellphones, consumers can choose their wireless carrier and hardware separately.

Ending cable's monopolistic control over set-top devices would result in more choice at less cost. The F.C.C. chairman, Tom Wheeler, has proposed requiring most cable and satellite companies to deliver TV programming through applications that run on devices made by the likes of Apple, Amazon, Google and Roku. People could download the apps free; they would still pay for programming.

Large cable and satellite companies would have two years to develop the apps and smaller cable companies would get four years. Some large cable companies, like Comcast and Time Warner Cable, already have apps for some of the competing devices. Cable companies that serve fewer than 400,000 users would be exempt. People who prefer renting cable boxes could continue doing so.

Mr. Wheeler has tried to make his proposal more palatable to the cable companies by giving them control over how the apps work. But they oppose having the commission approve any licensing agreements they negotiate with device makers, because that would allow regulators to tinker with those contracts. But without F.C.C. approval of the agreements, cable companies are likely to set onerous conditions on device makers or cut exclusive deals with certain makers that would limit consumers' choices.

Instead of freeing consumers from the set-top box squeeze, some Republican and Democratic members of Congress are supporting the cable industry, a generous campaign contributor. The lawmakers are trying to pressure one commissioner in particular, Jessica Rosenworcel, who was nominated by President Obama for a second term last year but has not been confirmed by the Republican-controlled Senate.

Phones, computers and virtually all other electronic devices become more useful and cost less over time. Why should the box that brings TV shows and movies into homes be any different?

The CHAIRMAN. Thank you, Senator Blumenthal.
Senator Peters.

**STATEMENT OF HON. GARY PETERS,
U.S. SENATOR FROM MICHIGAN**

Senator PETERS. Thank you, Mr. Chairman.

I want to also thank all the Commissioners for appearing before us here today, and appreciate certainly your tireless work on some very, very complicated issues. And working to deploy and develop all the cutting edge 21st century technology is certainly a full-time job, and I think you put in more than a full-time job based on the hours that you do.

I have some questions actually for Chairman Wheeler, but basically it relates to a letter that Chairman Thune, Ranking Member Nelson, Senators Booker, Rubio, and McCaskill, and I sent to the FCC, Department of Transportation, NTIA, endorsing a plan for the joint testing of two proposals for spectrum-sharing in the 5.9 gigahertz band.

In June, the FCC announced it was refreshing the record for 5.9 gigahertz. In July, the public comment period closed, and now it's

my understanding that the Commission has received prototype devices and is prepared to begin both field and bench testing.

So, Chairman Wheeler, just some brief questions here as we wrap up here. I understand that the FCC will release its test plan prior to beginning Phase I of interference testing. When will the test plan be released to the public? What is your estimation?

Chairman WHEELER. So thank you very much, Senator. As you know, there's a three-step process here that you all outlined, and we said, yes, that's a great approach.

We have just received the equipment from five manufacturers. So we are beginning immediately to assess that equipment, its characteristics, its power levels, its interference, all of these kinds of things that we're responsible for, on a bench test. But we want to get through that quickly and get off onto the DOT and their facilities to be able to test it in that environment, and then to move on and test it in a real-life environment.

So this is something that we're moving with dispatch on. Actually, the equipment came a little later than hoped for, but it's here now.

Senator PETERS. So when do you plan to complete all phases of the interference testing? Do you think you'll reach your target of January 2017?

Chairman WHEELER. That's—I can't—I will get an answer for you on that from our lab folks, but I'm hopeful that we're—this is—let's push this forward.

Senator PETERS. Right. So you're hopeful for January—

Chairman WHEELER. But I will get you—that's not a commitment. I will get you a real date once the people who know what they're talking about tell me what I think.

Senator PETERS. Well, that's good. That's reasonable.

Chairman WHEELER. OK.

Senator PETERS. I appreciate that. But when I talk about commitments, will you commit, though, to making public all the data that is collected by the FCC during the bench and the field testing phases?

Chairman WHEELER. We will commit to the spirit of what you're saying. If there is private data that is company-specific, asked for confidentiality, we will have to respect that.

Senator PETERS. Next, what is your target date for making a final determination on spectrum-sharing in the 5.9 gigahertz band on licensed devices?

Chairman WHEELER. I think we have to wait and see what happens here.

Senator PETERS. So you don't have any kind of—

Chairman WHEELER. I haven't got a target for you, sir.

Senator PETERS. It's a work in progress.

Chairman WHEELER. Yes, sir.

Senator PETERS. OK. And most importantly, Mr. Chairman, I can't overstate how critical it is that when you're evaluating these proposals that it is based on facts, based on science, and not opinions. Subjective judgments about what will or will not work is just simply not going to substitute for hard engineering data, which, because of the importance of the spectrum from a safety perspective and some of the incredible things that are going to be happening

in the years ahead, you know, we have to have both rigorous and open review.

So that's why I would hope that the Commission's final determination on spectrum-sharing will be based on that data and will undergo that review and there will be plenty of transparency throughout the process, as much as possible, given some of the constraints that you mentioned, but certainly have your commitment and the other Commissioners that this will be an open process. It is a very important one and one that has tremendous benefits, and we want to make sure that it's being done properly.

Chairman WHEELER. Yes, sir.

Senator PETERS. Thank you.

Chairman WHEELER. Senator, can I just add one more thing here on this, just things you and I have talked about previously? I just want you to know that I learned that in the next couple of weeks at the Ohio State University, they will start driving automated cars, autonomous cars, around campus as a part of exactly what you and I are just talking about right now. But I just wanted to make sure that your information is complete in that regard, sir. And it will be operational the last Saturday in November as well.

[Laughter.]

Senator PETERS. Well, I appreciate that. And at another time I will talk about all the wonderful work done at the University of Michigan.

[Laughter.]

The CHAIRMAN. Thank you, Senator Peters.

And next up is the Chairman of the Homeland Security Committee and a fellow Packer fan, Senator Johnson.

**STATEMENT OF HON. RON JOHNSON,
U.S. SENATOR FROM WISCONSIN**

Senator JOHNSON. Thank you, Mr. Chairman. Actually, that's what I would like to talk about. You know, last weekend opened up the regular season, and we had again the very unfortunate circumstance, many constituents in Wisconsin were forced to watch the Vikings beat the Tennessee Titans 25-16 instead of having the joy of watching the Green Bay Packers beat the Jacksonville Jaguars at 27-23.

I worked with a fellow Packer fan, one of his more endearing qualities, quite honestly, among many, among many fine attributes, a fellow Packer fan. And so we had inserted into the STELAR reauthorization the ability to allow broadcasters to petition—

Chairman WHEELER. Right.

Senator JOHNSON.—the ability of the FCC to carry those signals on a satellite, and wrote to you in December 2015 asking you to act expeditiously on those petitions. I asked you in a hearing back in March 2016 to also do so.

So I'm glad to announce that we have our first petition filed in Wisconsin by Gray Television up in Wausau asking for permission to have their signal carried up in I guess it's Iron and—well, Ashland and Iron County.

So I'm just asking you, you've got that petition, will you quickly put that out to comments? We have that 20-day comment period.

Chairman WHEELER. Yes, sir.

Senator JOHNSON. Beauty. So——

Chairman WHEELER. And there are components here, as you know. I mean, so there's one, this is great, we've got the local petition. Two, then we all have to sit down and work with the satellite provider for the technical capacity and ability to do that.

Senator JOHNSON. OK. And I believe the satellite provider has agreed to do it. They're in favor of this. So——

Chairman WHEELER. And I said to Senator Gardner when he raised a similar issue about bringing the various parties together, we will be happy to come to that table as well if we can be helpful.

Senator JOHNSON. OK. So can you give me a date? Because, trust me, Packer fans are anxiously awaiting the ability to see the Green Bay Packers on their satellite signal.

Chairman WHEELER. A date for when we'll put it out?

Senator JOHNSON. Yes, so when you put it out to comments so we can start the clock ticking to celebration.

Chairman WHEELER. I don't know of any reason why we can't put it out, I mean, instantaneously——

Senator JOHNSON. There you go, tomorrow.

Chairman WHEELER. They'll kill me at the Media Bureau. As fast as humanly possible.

Senator JOHNSON. OK. Well, we'll keep asking that question.

Chairman WHEELER. Good.

Senator JOHNSON. OK. Commissioner Pai, as long as I've got some time, are you aware of any cost-benefit analysis conducted by the FCC in either its set-top box proceeding or privacy proceeding currently before the Commission?

Commissioner PAI. Senator, I am not.

Senator JOHNSON. Should there be?

Commissioner PAI. I do think that any regulation that is considered by the Commission should include cost-benefit analysis. Otherwise, it seems to betray the public interest to suggest that a regulation that would ultimately be bad for consumers nonetheless would be passed.

Senator JOHNSON. So, Commissioner Wheeler, is there any plan to do a cost-benefit analysis?

Chairman WHEELER. Well, thank you, Senator. I think that the whole notice and comment process itself is one huge cost-benefit analysis because we are constantly having folks come in and talk to us about, "Here's what the cost is," or somebody else coming and saying, "Here's what the benefits are."

And so, you know, this is—I liken the notice and comment processes as kind of the administrative law equivalent of the scientific method, somebody proposes something, somebody rebuts it, they change it, it goes here, and this is what the whole process goes through. So I think that there is a fulsome cost-benefit that gets done——

Senator JOHNSON. That's kind of haphazard as opposed to a very formalized cost-benefit——

Chairman WHEELER. Well, the——

Senator JOHNSON. I'm an accountant, so I kind of like to actually see the figures. So would a more formalized cost-benefit analysis be helpful?

Chairman WHEELER. The—how can you collect as much information as possible? And then the challenge, of course, in a cost-benefit judgment comes back to that old Harry Truman quote, you know, where he said, “I want a one-handed economist because they’re always saying on one hand, on the other, and it becomes less math and more judgment.”

And so as we are going through this entire long-running administrative process, I think there percolates up to all the members of the Commission just what the costs and benefits are as put forward by various parties. I mean, you know, the cable folks on the set-top box that you raise, I mean, they went out and hired, you know, a former chief economist of the FCC to come in and give a quantification of their numbers. Others have quantified it other ways.

Senator JOHNSON. OK. Again, I would like to see a formal process.

Real quick, Commissioner O’Rielly, you recently said that carriers are withholding certain free data plans, quote, because they’re afraid of what the Commission might—may do. Can you talk a little bit more about that briefly?

Commissioner O’RIELLY. Yes. So we are—the Commission is in the process of examining what is known as zero-rating plans. That process has been going on, my understanding, for 10 months. I’ve been trying to get better information from the bureaus on when this process would conclude. What’s the likelihood of concluding? What is actual conclusion? Are carriers going to get a gold star? Are they going to be told there’s a violation and go immediately to enforcement action? What is the likelihood of that?

We check in every—periodically. We got our last answer yesterday, surprisingly, and the answer came back, which was, We continue to work through the issues and not yet in position to articulate how each policy review will conclude. We do not at this time have a time-frame to provide.

So it is an ongoing process. We have no idea when it will conclude. And in the meantime, carriers are left wondering whether the particular service that they would like to offer to consumers is permitted, or are they subject to immediately going to enforcement action? I think that’s a problem.

Senator JOHNSON. Thank you, Mr. Chairman.

The CHAIRMAN. Thank you, Senator Johnson.

Senator Markey, further questions.

Senator MARKEY. No further question except to thank you and—thank you and the Ranking Member for this great hearing. I very much appreciate it. I thought it was excellent, and I just wanted to compliment you on that.

And I would just say to the FCC, I would urge you at the next open meeting to take up privacy and take up the BDS rulemaking so that we could begin to make progress on that. I just urge you to try to put that on the agenda.

But thank you, Mr. Chairman, for a great hearing.

The CHAIRMAN. Thank you, Senator Markey.

Senator Nelson, anything else? I have two questions I want to ask, but—

Senator NELSON. I want to enter into the record a letter that I had written to the FCC back in February on set-top boxes.

The CHAIRMAN. OK. Without objection.
[The information referred to follows:]

UNITED STATES SENATE
COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION
Washington, DC, February 12, 2016

Hon. TOM WHEELER,
Chairman,
Federal Communications Commission,
Washington, DC.

Dear Chairman Wheeler:

I write today regarding your plan for the Federal Communications Commission (FCC) to begin a rulemaking regarding competition in the cable set-top box marketplace. Section 629 of the Communications Act of 1934 directs the FCC to “assure the commercial availability” of navigation devices used to access cable and satellite pay TV services. I continue to support this mandate and its recognition that consumers should have options for how they access and watch pay TV services, while allowing innovators the freedom to do what they do best. And like so many others, I long for the day when the clunky set-top box fades away.

Indeed, even without FCC action, this day may be closer than we think. How consumers access and watch video programming has changed dramatically in recent years. From smart TVs to Internet-based video platforms to Apple TV, Roku, Amazon Fire TV, and Google Chromecast, advances abound in the competitive video navigation device market. TV viewers have downloaded hundreds of millions of video navigation applications on their phones, tablets, TVs, and set-top box alternatives, dwarfing the number of cable set-top boxes in use. Section 629 should always be implemented with an eye towards what is actually happening in the marketplace, and your rulemaking should conduct a fair and balanced inquiry about the many possible approaches to accomplish the goals in Section 629. The FCC should not proceed down a path to rules that fails to fully account for today’s pay TV viewing landscape.

While I support the objective of enabling competition and innovation in the market for set-top boxes, any new FCC rules in this area must not harm the production and distribution of video content. The FCC’s rules should not allow third-parties to do more with programming content than has been done through negotiated arrangements between content owners and their partners. Nor should any new FCC rules be the means by which third parties gain, for their own commercial advantage, the ability to alter, add to, or interfere with the programming provided by content providers. Otherwise, both the viewing experience and the economic underpinnings that support investment in innovative content stand to be diminished. Section 629 does not seem to contemplate such an outcome.

Given these concerns, the FCC must take a measured approach with respect to any rulemaking related to its Section 629 obligations. Your inquiry should be impartial and evenhanded, so that the FCC can develop a fulsome record on how best to ensure the availability of competitive TV navigation devices. The FCC also should avoid taking any action that could ultimately threaten the vibrant market for quality video programming.

Sincerely,

BILL NELSON,
Ranking Member.

CC: The Honorable John Thune, Chairman

Senator NELSON. And also just to make a comment, we had earlier here a conversation about packing the D.C. Circuit Court, and Senator Wicker expressed his opinion that he sees it one way. And I just want to make the distinction that for a Senator to express an opinion about court packing vis-à-vis a particular issue is certainly appropriate because the Senate in fact votes on the confirmation of these judges. But for members of an independent agency, which is a quasi-judicial body, is a separate issue. I want that distinction made clear.

The CHAIRMAN. Thank you, Senator Nelson.

Very quickly, I want to ask a couple of questions. And this was something that Senator Klobuchar touched on, and so I wanted to further build on some of the questions that she asked about, recent USF high-cost reforms.

But in its March Universal Service Fund Order, the Commission adopted several changes to the distribution of U.S. funds to small telecom companies that serve rural America. These USF funds are vital for the delivery of broadband services in states like South Dakota.

It's my understanding, however, that there has been very little information that has been released since March regarding how these reforms are going to be implemented. And I will tell you that rural telcos in South Dakota, and I suspect in most of the states that Members of this committee represent, are very concerned that unless more specific information is made available soon, their investment plans for 2017 will be seriously impacted, and I find that and I think most Members of this committee would find that to be unacceptable.

So the question has to do—and I would like every Commissioner to answer the question as to whether you will commit to do everything that you can to ensure that rural carriers receive in a timely fashion all the information they need to make critical investment plans for 2017 and beyond.

Commissioner Clyburn.

Commissioner CLYBURN. Yes. I think we have—rarely do we move as quickly as persons or entities want us to, but we have been very deliberative. We have—for a number of years now, I can speak for 7 years firsthand, really are laser-beamed on providing service to areas where there is none and to provide efficiency for those dollars that are limited.

The CHAIRMAN. OK.

Commissioner O'RIELLY. So, yes, my staff has been working with the Bureau to provide information and to expedite the answers that the carriers think that they may need. So we have been doing that work, given my work on the rate-of-return item.

The CHAIRMAN. OK.

Commissioner PAI. Yes, Mr. Chairman. It's not just a question of providing information; however, there are also a number of petitions that are pending with the Commission, and we need to address those with dispatch in order for the carriers to know whether or not it's appropriate for them to opt into the model. So those pending petitions are also important.

The CHAIRMAN. OK.

Commissioner Rosenworcel?

Commissioner ROSENWORCEL. The answer is yes, Senator.

The CHAIRMAN. OK. Thanks.

Mr. Chairman?

Chairman WHEELER. Yes, sir.

The CHAIRMAN. OK. Thank you.

And one final point, and I don't want to belabor this point because we've covered it at length, but, Chairman Wheeler, I just wanted to respond. My question about 3-2 party-line votes are on open meetings votes. And you brought up the Effective Competition Order, which was not a 3-2 vote; with you siding with Republicans,

it was at least in part unanimous, but it was not an open meeting vote.

And the votes that I refer to, and it's almost a third of the opening meeting votes, which is typically where the most important matters are voted on, those have been 3-2 party-line votes, which, again, is unheard of, at least relative to modern history.

I just want to ask one last question, and it has to do with that particular pattern but with respect to a different issue. And so I will direct this to Commissioner Pai. But we've heard today that the party-line FCC votes have become routine over the past few years, I've mentioned that.

You mentioned in your dissent of the recent Quadrennial Media Ownership Review that a bipartisan majority of Commissioners was willing to repeal the newspaper broadcast cross-ownership rule. You went on to say, however, that Commissioners were told that this rule would not be repealed unless all Commissioners agreed and one in the end chose to exercise that veto, unquote.

So I'm just going to ask, could you elaborate on that particular vote and approach as opposed to on so many issues Chairman Wheeler, who has embraced a partisan outcome, in this circumstance, to demand unanimity?

Commissioner PAI. Thank you for the question, Mr. Chairman. It was a rather odd situation since we seem to have an overwhelming bipartisan majority that agreed that the rule in question in the newspaper broadcast cross-ownership restriction, which was originally adopted in 1975, had long since outlived its usefulness, and the Third Circuit had instructed us to take a serious look at it.

The Chairman's office told my staff, "Look, we support getting rid of this restriction, we believe that most members of the Commission do, but if any member of the Commission objects, then we are not going to support getting rid of the rule."

And, unfortunately, as I pointed out in my dissent, one office exercised that option and objected. And what I thought was unfortunate was not just that it ended up becoming bad policy, I mean, I think this restriction should be removed, and most people would agree with that, at least behind closed doors at the FCC, but also just the process is very strange, to require unanimity on an issue when, as you pointed out in your chart, there are a number of high-profile issues where Commissioner O'Rielly and I, in particular, have suggested changes or made objections, and those suggestions or objections are either ignored or dismissed out of hand.

And so my preference would be to move forward in a bipartisan manner. Let's move the broadcast ownership regulations into the 21st century together as opposed to these random requirements of unanimity.

The CHAIRMAN. Mr. Chairman.

Chairman WHEELER. Rather than relying on hearsay, I think what's important to recognize here is that for 8 years there had been a failure at the Commission to comply with the statute that required these quadrennial reviews. The reason that that situation existed was because it had not been possible to get three Commissioners to represent a majority on this issue for 8 years. Working together, we got a majority on this issue.

It was not possible to keep a majority and make the kind of change that Commissioner Pai talked about. We have been criticized for not having a majority. We worked. We got the majority for the first time in 8 years.

And the exercise then became, OK, how do we follow through on our statutory mandate that everybody from Congress to the Third Circuit criticized us on because we didn't have the majority?

The CHAIRMAN. Well, it seems like it is, this is an issue where you could have done a separate rulemaking where you had bipartisan support. But I guess my observation in this circumstance is that it is contrasted quite sharply from the pattern that I pointed out earlier where we had 3-2 votes on a whole range of consequential issues, and then on this one, a requirement for unanimity. That strikes me as somewhat odd.

But overall I want to say thank you to all the Commissioners for being here today. And I know these are—you deal with contentious issues, I don't deny that, and deeply held differences of opinion about how to proceed. We deal with that on this committee on a regular basis, too.

We try as best we can, Senator Nelson and I and Members on both sides, to try and find that consensus, and we don't always succeed, but we work very hard to make that happen, and I would hope that at the Commission we could see a similar approach and attempt because the stuff that you're dealing with, as I said earlier, is incredibly important to our country.

And the Commission's role is incredibly important to our country and to our economy, and the relationship with Congress I think is incredibly important. We have an oversight role that we take very seriously.

So we appreciate your remarks today, your answers to our questions. I would just point out for anybody who wants to ask additional questions for the record, if you would, we'll get those to you, and if you could submit your answers within 2 weeks, it will be most appreciated. And with that, this hearing is adjourned.

[Whereupon, at 12:55 p.m., the hearing was adjourned.]

A P P E N D I X

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO HON. TOM WHEELER

Question 1. On October 6, 2016, you circulated for the Commission's consideration a draft rule and order in the broadband privacy proceeding.

A. Have the commissioners or staff at the Federal Trade Commission (FTC) had an opportunity to read the text of the new draft rule?

B. If not, will the text of the new draft rule be shared with the FTC before the Commission votes on the new proposal, and will the FTC have sufficient time to meaningfully provide input on the new draft rule before the Commission votes?

C. If the Commission does not intend to share the text of the new draft rule with the FTC, please explain why.

Answer. The Commission's rulemaking process, which has been followed over the years by both Democratic and Republican Chairs, is designed to give stakeholders and members of the public ample opportunity to engage in a transparent and vigorous discussion. The process is also designed to give Commissioners a three-week period to discuss in confidence the substance of an item before final decisions are released. This process is commonplace for administrative agencies and allows the FCC to adhere to the Administrative Procedure Act, which requires us to consider and address all comments received on our proposals.

In following this standard process with all stakeholders alike, the Commission has not published the text of the new draft Broadband Privacy Order, nor have we shared it with the Federal Trade Commission (FTC). The FTC has, however, had significant opportunity to publicly provide constructive input on the broadband privacy proceeding and has indeed done so. Staff of the FTC's Bureau of Consumer Protection filed comments with the Commission on May 27, 2016. FTC Commissioner Ohlhausen filed separate comments on the same date. Further, we extended the reply comment deadline for the privacy proceeding, providing the public, including the FTC, with additional time to submit reply comments. Since the reply period closed, we have continued to engage stakeholders and other interested entities. Upon circulating the item to my fellow Commissioners, we published a fact sheet and a blog post describing the new draft Order to allow the public to understand and engage with us on the broadband privacy issues before the Commission. Following this release, FTC Chairwoman Edith Ramirez issued a supportive statement, saying, "I am pleased to see the FCC moving forward to protect the privacy of millions of broadband users across the country. The FTC . . . provided formal comment to the FCC on the proposed rulemaking, and I believe that our input has helped strengthen this important initiative." The FTC, and other stakeholders, may continue to meaningfully provide the Commission with input on the publicly available information.

I can assure you that, as I stated last month at the Senate Commerce Committee's FCC Oversight Hearing, the FCC has had an ongoing dialogue with the FTC throughout the broadband privacy proceeding and has taken their comments seriously. Even though the FTC does not share jurisdiction with the FCC in this area, we are embracing many of their comments in our new draft Order. And as you may recall, at the Senate Commerce Committee's FTC Oversight Hearing last month, FTC Chairwoman Ramirez confirmed that the FTC engages in regular conversations with the FCC, both at the staff level and more senior levels, to discuss the approach that the FTC takes when it comes to privacy. Chairwoman Ramirez further stated, "I do . . . as you [Chairman Thune] already noted, do know that they [the FCC] take our comments very seriously."

Question 2. Recently, the FCC Inspector General (IG) completed his investigation into whether you authorized the disclosure of information about ongoing commissioner deliberations in advance of the March 31, 2016, open meeting. The IG found that you did indeed authorize the disclosure.

A. Do you agree with the IG's finding that you did indeed authorize a disclosure to *Politico* in advance of the March 31, 2016, open meeting?

Answer. I do not have a clear recollection of authorizing this specific disclosure of nonpublic information, but I do not dispute the testimony of my staff that I did so. As I explained to you in my May 2, 2016 response, my office sometimes decides to disclose nonpublic information when we think it will promote the discussion and understanding of important policy issues. As the IG report explains, on the morning of March 31, 2016, there was intense media interest in the timing and the content of the proposed Lifeline Order. The Director of the FCC's Office of Media Relations recommended that the Commission release high-level details about the Lifeline item to better inform the public of the item's status. I do not doubt that I accepted her recommendation, as I have done on other occasions when there is high public demand for information about the Commission's activities. As the IG Report explains, it has been the long-standing position of the FCC that section 19.735-203 gives the Chairman the authority "to change the character of information from previously non-public information to information that would be available for public disclosure."

B. Why did you previously refuse or decline to acknowledge that you had authorized the public disclosure of this information to *Politico*?

Answer. Your April 15, 2016 letter included allegations of improper conduct by Commission employees, including myself. In this situation, I was clearly disqualified from investigating your allegations, and pursuant to section 19.735-107(b) of the Commission's rules, I requested that the IG investigate them instead. In your April 15 letter, you also cited section 19.735-107(b) as authority for the opening of an IG investigation. I publicly promised to cooperate with the IG, and, as a potential subject of the investigation, I avoided taking any actions that might have had the appearance of interfering with or influencing the outcome of the investigation. I was not the only person who deferred to the IG's fact-finding process. At the hearing before the House Energy and Commerce Committee on July 12, 2016, for example, Chairman Walden announced that he would not ask questions about the disputed events of March 31 due to the pending IG investigation.

C. Rather than acknowledging your disclosure (or approval of the disclosure), why did you instead seek to discuss the disclosure of a fellow commissioner in your response to my April 15, 2016, letter?

Answer. In response to your question about my knowledge of whether I or other FCC employees disclosed nonpublic information, I simply pointed to already public reports that a commissioner's office had provided details about the Lifeline negotiations to outside parties. The IG's investigation identified a number of other instances in which commissioners' offices were communicating with media representatives prior to the Commission's open meeting on March 31.

D. The IG report states that you "planned to follow Commissioner Clyburn's lead on the compromise Lifeline Order" regarding how you would vote. Is this true?

Answer. The authors of this report make this statement based on information they learned in an interview with the FCC's Chief of Staff, Ruth Milkman, and on a contemporaneous e-mail she sent to other members of my staff. While I do not have a clear recollection of making this statement, it is consistent with the general approach since I have been Chairman of the Commission. Commissioner Clyburn is a skilled and passionate advocate for the Lifeline program and I look to her for policy leadership on Lifeline issues.

Question 3. Chairman Wheeler, in 2014, you said "there is a new regulatory paradigm" for cybersecurity characterized by reliance on private sector leadership and the market first, "while preserving other options if that approach is unsuccessful." You also noted that "[t]he pace of innovation on the Internet is much, much faster than the pace of a notice and comment rulemaking."

Similarly, the Administration has stressed the importance of public-private partnerships to enhance security, believing that static mandates cannot keep pace with growing and evolving cybersecurity threats and technological developments. Indeed, this approach, which the FCC's Communications Security, Reliability and Interoperability Council (CSRIC) has adopted, is helpful in tailoring guidance to small and mid-sized companies.

Despite the foregoing, this year the Commission has adopted security measures and reporting requirements in a series of orders and notices of proposed rulemaking on consumer privacy, communications network outage reporting, technology transitions, emergency alert systems, and 5G wireless licensing. Addressing cybersecurity in this manner through prescriptive rulemaking appears contrary to the Commission's professed desire to pursue the cooperative approach of an industry-led, public-private partnership.

A. Given the recent work of CSRIC IV, what is the reason for this apparent shift from industry-led, public private partnership to prescriptive rulemakings?

B. Has the Commission determined that a voluntary, market-based approach was unsuccessful?

Answer. The Commission continues to pursue the industry-led paradigm embraced within CSRIC IV. Rather than prescribing how service providers protect their systems, this paradigm lets service providers determine the security measures that are most appropriate and effective for their systems. We believe that providers are in the best position to assess their own risk and develop effective security measures to address that risk.

The Commission's work continues to focus on clear lines of accountability to address residual risk. We expect service providers to be proactive in securing their systems. This approach is consistent with the Commission's longstanding security policies that have relied on voluntary best practices, leveraging CSRIC recommendations and, coupled with outage reporting rules, that do not require that providers engineer or operate their networks in a particular manner.

Under this approach, the Commission must understand where providers have accepted cybersecurity risk. The reporting mechanisms recently adopted by the Commission accomplish this through a mechanism that is similar to how the Commission has tracked network outages for over a decade. This approach allows the Commission to identify reliability trends and work with industry to flag concerns without having to resort to prescriptive rules.

Question 4. It has been fifteen months since the FCC received comments on the "Cybersecurity Risk Management and Best Practices" report submitted by CSRIC IV. The report was unanimously adopted by CSRIC and includes segment-specific analysis to apply the Cybersecurity Framework, as well as recommendations in response to the Commission's charge.

A. What is the status of this proceeding and when will the Commission take action?

Answer. I circulated an item to my fellow Commissioners earlier this year that would implement CSRIC IV's recommendations. The item remains under consideration.

B. What action has the Commission taken under CSRIC or other contexts to examine vulnerabilities with regards to key communication protocols like Signaling System 7 and Diameter?

Answer. As communications technologies transition from legacy systems and networks to new all IP-networks, legacy technology is potentially vulnerable to new risks. SS7 is one such legacy protocol that is both nearing its end of life but still an essential part of the communications ecosystem. For this reason, earlier this year, the Commission tasked CSRIC to examine vulnerabilities associated with the SS7 protocol and other key legacy communications protocols. CSRIC established a working group to assess vulnerabilities and current defensive mechanisms related to these legacy communications protocols and to make recommendations to the FCC on solutions. After meeting with several communications security experts on the SS7 security issues, the group provided its initial risk assessment brief at its September meeting. The briefing highlighted the vulnerabilities inherent in SS7 in both the wireline and mobile environments, vulnerabilities associated with the interworking between SS7 and DIAMETER, and potential risk mitigation strategies. CSRIC will submit a final report with recommendations to the Commission in March of next year.

The FCC continues to scrutinize our numbering initiatives to identify how underlying SS7 vulnerabilities may increase risks. We are working with our Federal Government and communications sector partners to bring about meaningful solutions and risk mitigation strategies that will reduce risk from SS7 vulnerabilities consistent with the Commission's charge to ensure that communications networks are secure, reliable, and resilient.

Question 5. The CSRIC IV's "Cybersecurity Risk Management and Best Practices" report recommends that the FCC, in partnership with DHS, participate in voluntary meetings with communications sector stakeholders to review cybersecurity risk management practices.

A. Does the Commission still plan to conduct these voluntary meetings?

B. If so, how will the Commission ensure that it does not use information voluntarily shared for enforcement or rulemaking purposes?

Answer. Strong cybersecurity policies and protections are crucial to maintaining the reliability and resiliency of our commercial networks and public safety mechanisms. CSRIC IV proposed that the Commission use the DHS Protected Critical Infrastructure Information (PCII) program to ensure the strongest protection against

disclosure of the information that would be received in assurance meetings. The Commission would prefer to employ the DHS PCII program, but in the interim the Commission is considering an item that would establish legally equivalent protections that could apply to such meetings at the Commission.

Question 6. A recent independent evaluation to determine the effectiveness of the Commission's information security program and practices for Fiscal Year 2015 determined the Commission was not in compliance with the Federal Information Security Modernization Act. The evaluation disturbingly found significant deficiencies in several security areas.

A. Will you commit to implement information security-related recommendations from the IG and independent auditors fully and in a timely manner?

B. Will you please provide the Committee with regular updates on your progress to implement these recommendations?

Answer. The FCC commits to implementing information security related recommendations from its Inspector General and independent auditors fully and in a timely manner. Furthermore, the FCC will provide the Committee with regular updates on its progress to implement these recommendations. We would be glad to work with the Committee staff to establish a recurring process that fits your needs.

Question 7. Please provide a copy of the Commission's document retention policies. Please include details on the Commission's retention of e-mail messages and voice-mail messages and the Commission's process for searching e-mail and voice-mail in response to Freedom of Information Act requests or other requests.

Answer. The Commission's document retention policies for Federal records are reflected in its records retention schedules. All retention schedules are approved by the National Archives and Records Administration (NARA), taking the form of either a General Records Schedule developed by NARA and adopted by the FCC, or an FCC-developed schedule approved by NARA. All of the General Records Schedules are available on NARA's website at <https://www.archives.gov/records-mgmt/grs.html>. Furthermore, the FCC specific schedules are also available on NARA's website at the following link: <https://www.archives.gov/records-mgmt/rcs/schedules/index.html?dir=/independent-agencies/rg-0173>. In addition, the Commission would be happy to provide committee staff with the Commission's internal directive that describes the overall process that the FCC uses for record management, including coordination with NARA and roles and responsibilities within the FCC.

These schedules specify the duration for which records must be stored. E-mails and voice-mails are generally considered records under Federal records laws. Currently, there is no specific records schedule for e-mail and voice-mail messages. However, consistent with OMB's Managing Government Records directive (OMB Memorandum M-12-18) and NARA guidance (NARA Bulletins 2013-02—Guidance on a New Approach to Managing E-mail Records, and 2014-06—Guidance on Managing E-mail), the Commission is in the process of developing a records schedule that would specifically cover e-mails. Among other things, this new schedule would generally require that the e-mails of high-level officials be treated as permanent records.

Prior to August 2015, unless otherwise required under our records schedules, the Commission retained e-mail and voice-mail messages according to administrative need. The Commission's retention policy for e-mail messages was to keep all messages available on staff e-mail accounts for 45 days. At the completion of 45 days, messages would be held in a user's "Deleted Items" folder for ten additional days. After that time, messages would be automatically deleted from the user's e-mail account. FCC employees who needed to retain an e-mail message for business purposes longer than 45 days could move the message to an archive folder where it would be retained indefinitely. The policy for retaining voice-mail messages was the same as for e-mail messages, as the Commission's e-mail platform (Microsoft Exchange) maintained a user's voice-mail messages in their e-mail account. The 45-day retention policy was put in place to meet users' needs and to prudently manage electronic storage of messages based on limited electronic storage space.

Beginning in August 2015, the FCC moved to a cloud-based solution for e-mail messages, Office 365, greatly increasing the available electronic storage for e-mail and voice-mail. At that time, the agency decided to retain all e-mail messages that are potentially Federal records that were sent or received since August 2015, pending the adoption of the new e-mail records schedule.

With respect to searches, the agency conducts all FOIA searches consistent with the requirements of the FOIA, *i.e.*, one that is "reasonably calculated to uncover all relevant documents." Upon receipt of a FOIA request, Commission FOIA personnel contact any Commission staff likely to possess records responsive to the request. These staff perform a search of their own records for any responsive material. The

staff then provide copies of those responsive records to the FOIA personnel for processing and release. On a case-by-case basis, the agency determines whether additional searches are necessary to meet FOIA's requirements. The agency uses a similar process to respond to Congressional and litigation-related searches.

Question 8. As part of the Spectrum Frontiers Order, the FCC made available nearly 11 GHz of spectrum, but less than 4 GHz of that will be made available on a licensed basis. And a portion of that licensed spectrum will be allocated on a shared basis.

A. I believe that there should be a balance between licensed and unlicensed spectrum. Does this Order strike the proper balance? If so, please explain why.

Answer. Opening up spectrum and offering flexibility to operators and innovators is the most important thing we can do to enable the 5G revolution, and I share your view that there should be a balance between licensed and unlicensed spectrum. I have consistently pursued spectrum policies that take an "all of the above" approach—making more spectrum available for licensed, shared, and unlicensed access. In the Spectrum Frontiers Order, we increased the amount of licensed spectrum available by over four times what is currently available. We made a small portion available on a shared basis, and 7 gigahertz available on an unlicensed basis. Importantly, there are unique physical properties of the unlicensed band that makes it best suited for unlicensed access. Specifically, the spectrum in the 60 gigahertz range is not able to travel long distances—the atmosphere absorbs and dissipates the signal beyond a few meters. It therefore is very effective for short range, high data applications, and does not lend itself to a traditional wide-area geographic licensing approach. This spectrum will serve as a breeding ground for new innovations, and I believe will help drive economic activity in the U.S. as a complement to the licensed spectrum we made available.

As the Commission looks to open up additional spectrum bands, including an additional 18 gigahertz that the Commission proposed to make available on a licensed basis through the Spectrum Frontiers FNPRM, it will continue to pursue this balanced approach, while at the same time taking into account the unique circumstances in each spectrum band.

B. Should the Commission look for more licensed spectrum as it considers additional high frequency bands in its further notice?

Answer. As the demand for wireless technologies increases, so does the need for greater coverage and wireless network capacity. To keep up with the growing demand the Commission is pursuing an "all of the above" policy, and licensed spectrum will play an integral role in future spectrum bands. As described above, the Commission will continue to pursue a balanced approach to spectrum policy, while at the same time examining the unique circumstances in each spectrum band. The Further Notice of Proposed Rulemaking that was adopted contemporaneously with the Report and Order seeks comment on making an additional 18 gigahertz of licensed spectrum available, on top of the 3.85 gigahertz made available in the Report and Order.

Question 9. The 18th Mobile Wireless Competition Report states, "Given the complexity of the various inter-related segments and services within the mobile wireless ecosystem, any single conclusion regarding the effectiveness of competition would be incomplete and possibly misleading in light of the complexities we observe."

A. If the Commission is unable to accurately assess overall competition within the mobile wireless ecosystem given these "complexities," how can it reasonably conclude that its regulatory actions, undertaken in the absence of an overarching conclusion regarding the ecosystem's state of competition, are in the public interest?

B. If the Commission is able to assess overall competition within the ecosystem, why has it repeatedly failed to make such an assessment and finding?

Answer. Similar to the first seven Reports and the five most recent Reports, the 19th Mobile Wireless Competition Report (19th Report), released on September 23, 2016, provides extensive data and analysis of competition in the mobile wireless marketplace and does not make a finding that there is or is not effective competition in the marketplace. First, as explained in the 19th Report, the mobile wireless ecosystem is sufficiently complex and multi-faceted that it would not be meaningful to try to make a single, all-inclusive finding regarding effective competition that adequately encompasses the level of competition in the various interrelated segments, types of services, and vast geographic areas of the mobile wireless industry. In addition, there are significant variations in size, market share, spectrum holdings, investment, and other indicators between the top two mobile wireless providers and the next two nationwide wireless providers. The extent of these variations makes a broad, singular determination of how competitive the overall mobile wireless mar-

marketplace is unhelpful in the application of careful and empirically driven regulatory oversight.

Furthermore, as the 19th Report and previous Reports note, there is no agreed upon definition of “effective competition.” However, this does not preclude the Commission’s ability to make determinations as to the public interest benefits of particular Commission actions, which address discrete issues, or specific facets of the mobile wireless marketplace. Those actions follow notice and comment rulemaking processes that allow for an extensive public record addressing the particular matter at hand.

Question 10. The Commission’s Mobile Competition Reports have repeatedly claimed that Form 477 data are subject to “methodological limitations” and have “the potential to overstate coverage.” What steps is the Commission taking to ensure it has adequate information to properly assess whether or not the Commercial Mobile Radio Services marketplace is effectively competitive? Please describe in detail what activity there has been in each of the past three years.

Answer. The Competition Report historically has used data from third-party sources such as Mosaik because the Commission did not have adequate data sourced internally. However, in recent years, the Commission has increasingly used Form 477 data. The Commission used Form 477 data in its last two Competition Reports (the 18th Report and the 19th Report), but did not use Form 477 data in its 17th Competition Report, released December 8, 2014. Form 477 data are collected using standards and methodologies specified by the Commission. The data are provided, and certified as accurate, by the service providers directly to the Commission, and not to a third-party entity like Mosaik. However, Form 477 data, as well as that from third-parties, are potentially subject to errors or overstatements by the providers themselves. The Commission recognizes the importance of accurate information to our policymaking and enforcement, as well as to consumers, and is exploring ways to ensure the accuracy of these data.

Further, another limitation has been the centroid methodology used to determine whether a census block is considered “covered.” Under the centroid methodology, if the geometric center point, or centroid, of a census block is within the boundary of a provider’s coverage map, that block is considered to be “covered” even if significant portions of the census block may be outside of any provider’s coverage. In addition, coverage estimates based on the centroid methodology represent deployment of mobile networks and do not indicate the extent to which service providers affirmatively offer service to residents in the covered areas, and thus likely overstate the coverage experienced by some consumers. In the 19th Report, for the first time, the Commission also reports coverage based on the actual area coverage methodology, which calculates the exact area of a census block reported as covered by each service provider by technology, and yields more precise estimates.

Finally, while coverage data is most useful as a necessary tool for measuring and understanding developments in mobile coverage year over year, it is just one element of competition between service providers in the mobile wireless marketplace. As noted in the answer to Question 9 above, the mobile wireless ecosystem is sufficiently complex and multi-faceted that it would not be meaningful to try to make a single, all-inclusive finding regarding effective competition. In addition, there is no agreed upon definition of “effective competition.”

Please be assured that the Commission therefore continually evaluates its current data sources and methodologies, and strives to find new data sources and develop new methodologies, in order to improve the quality and reliability of the data provided in the Competition Report. Stakeholders are requested to comment on such matters, as well as provide information and data, which the Commission takes into account in its preparation of each edition of the report.

Question 11. In the 2016 Broadband Progress Report, the Commission asserts that, “the availability of advanced telecommunications capability requires access to both fixed and mobile services.” This is in direct contradiction to 47 U.S.C. Sec 706(d), which defines “advanced telecommunications capability . . . *without regard to any transmission media or technology*, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications *using any technology*” (emphasis added). Please explain how the Commission determined that both fixed and mobile services were required by the statute. Please include any legislative history supporting the Commission’s interpretation.

Answer. In the 2016 Broadband Progress Report, the Commission determined that the availability of advanced telecommunications capability in today’s communications landscape requires access to both fixed and mobile broadband services, not because the services use different network technologies, but because they offer dis-

tinct and complementary functions or capabilities to consumers. As noted in the Report, consumers use fixed broadband service for high-capacity home use, including streaming high-definition video, uploading large files, and certain web services, but also increasingly rely on mobile broadband services for activities like navigation, communicating with family and friends and on social media, and receiving timely news and information when away from home. Mobile usage represents about 62 percent of American time spent on a computing device, and 67 percent of smartphone owners use their phone for navigation and direction. Fixed and mobile broadband services are both critical means by which Americans communicate, and both should be evaluated in our analysis. Thus, as part of this inquiry, the Commission took the common-sense step of including mobile broadband services in the assessment of advanced telecommunications capability.

Question 12. Stakeholders have expressed serious concerns that your business data services (BDS) proposal could further exacerbate the challenges of providing residential broadband services in rural areas. They argue your proposal would further disincentivize investment in the infrastructure needed to provide broadband services to rural customers.

A. Do you share these concerns about the BDS proposal?

Answer. Business data services (BDS) play an important role in the day-to-day life of consumers, business, and industry, and are integral to the competitiveness of the U.S. economy as a whole in the information age. My goal is to maximize the benefits of business data services for U.S. consumers and businesses, especially those in rural areas. I fully agree that maintaining incentives to invest—both by BDS providers and by their customers—is paramount. Let me assure you that we have continued to take the views of all stakeholders into consideration as we work to complete BDS reform. The proposal I have circulated to my fellow Commissioners recognizes the real challenges faced in rural areas and strikes a balance that addresses the problems in this market while maintaining incentives for investment by BDS providers.

B. If not, please describe, in detail, why you think your plan is sound policy for our Nation's rural communities and the overall growth of our Nation's Internet infrastructure.

Answer. Earlier this year we sought broad public comment on reforming and modernizing the existing, fragmented regulatory BDS structure with a new framework. It is worth noting that the reform being considered is focused on areas served by incumbent LECs regulated pursuant to price cap regulation, not the rural areas served by rate-of-return LECs. In early October, I circulated to my fellow Commissioners proposed rules to reform the regulatory regime for BDS to promote fairness, competition, and network investment in this important marketplace. The circulated Order provides a new framework that strikes a balance between targeted regulation for lower-bandwidth legacy services, where evidence of market power is strongest, and lighter-touch regulation for packet-based services, where there has been new entry and competition may be emerging. The proposed Order is grounded in the comprehensive record of this proceeding, including careful review of the sophisticated economic analyses presented by multiple parties as well as other record evidence. As we work to achieve these important goals, we take into careful consideration the impacts various forms of regulation would have in the markets that utilize BDS, and we also pay particular attention to impacts any potential regulations may have in rural areas.

Question 13. The Commission has proposed an exception to the local media cross-ownership ban that would allow a broadcaster to invest in a newspaper when it is "failing." This exception for cases in which a newspaper is "failing" renders little value to a newspaper that needs investments now, well before it is "failing." By the time a newspaper is "failing," a local broadcaster may no longer see it as a worthwhile investment—particularly in light of the consumer trend toward digital and mobile applications for news and entertainment. Shouldn't the Commission be seeking ways to encourage investment in newspapers *before* they get to a state of "failing," and before such newspapers may have to make the difficult decision to cut back on local reporting resources?

Question 14. Thanks to the Internet and other digital platforms, consumers today have available to them a nearly endless variety of sources of information, even while some of those outlets find it increasingly difficult to find the scale to compete in the new media landscape. In light of dramatic and transformative changes in the 41 years since the cross-ownership ban was adopted, why should newspapers, alone among all media providers in an Internet Age, be singled out and generally disqualified from being co-owned with even a single television or radio station in their local markets?

Answer. (*Questions 13 and 14*): The media ownership rules adopted in the recently concluded proceeding were based on a comprehensive, refreshed record that reflects the most current evidence regarding the media marketplace. With respect to the Newspaper/Broadcast Cross-Ownership (NBCO) Rule, the record demonstrates the continuing role of newspapers and broadcast stations as the primary producers of original local news and public interest programming. Accordingly, the Commission concluded that regulation of newspaper/broadcast cross-ownership within a local market remains necessary to protect and promote viewpoint diversity.

With that said, the Commission did revise the NBCO Rule to provide for a modest loosening of the previous ban on cross-ownership. The modifications include: (1) modifying the rule to update its analog parameters to reflect the transition to digital television; (2) in order to focus the application of the rule more precisely on the areas served by broadcast stations and newspapers, revising the trigger of the NBCO Rule to consider both the contour of the television or radio station involved, and whether the station and the newspaper are located in the same Nielsen DMA or Audio Market (if any); (3) in recognition of the fact that a proposed merger involving a failed or failing entity does not present a significant risk to viewpoint diversity, adopting an explicit exception to the NBCO Rule for proposed mergers involving a failed or failing broadcast station or newspaper; and (4) considering requests for waiver of the NBCO Rule on a case-by-case basis and granting relief from the rule if the applicants can show that the proposed merger will not unduly harm viewpoint diversity in the market.

The “failed or failing entity” provision is only one exception and the revised rule explicitly provides for waiver requests on a case-by-case basis. Thus, an entity may seek investment before it is “failing,” as long as viewpoint diversity is not unduly harmed by the merger.

Question 15. Chairman Wheeler, in March of this year, I publicly asked you whether you would resign from the FCC at the end of President Obama’s term, but you did not provide a clear response at that time. Since then, however, you have privately assured me you would indeed resign after the election. Will you now publicly commit to resigning from the FCC at the end of President Obama’s term, unless explicitly asked to stay on by the next president?

Answer. As I said during our private conversation and at the September Senate Commerce Committee Oversight Hearing, I will cooperate fully with the new administration to assure a smooth transition at the FCC.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROGER F. WICKER TO
HON. TOM WHEELER

Question 1. Regarding the USF reform order for small, rate-of-return carriers earlier this year, you’ve already committed to work with Congress and affected stakeholders to promptly address any adverse or unintended consequences that arise out of the reforms. We want to talk about one issue that has come to light—we understand that the record in the proceeding shows that, even with the new standalone broadband support mechanism, most small carriers still will be forced to offer broadband-only service at prices far in excess of what’s available in urban areas. This runs directly counter to the Communications Act’s promise of reasonably comparable services and rates.

A. What steps will the FCC take to streamline and expedite its waiver process to ensure that the broad major reforms to USF support that the FCC adopted for rate of return carriers can be tailored to meet individual carrier realities?

Answer. In the *USF/ICC Transformation Order*, the Commission recognized that some carriers impacted as a result of reform might need a waiver exempting them from some or all reforms. To assist potential applicants in effectively formulating their waiver petitions, the Commission provided guidance on the circumstances that would be persuasive and compelling grounds for grant of a waiver under the Commission’s ordinary standard for granting waivers under section 1.3 of the Commission’s rules. The Commission provided further clarification and guidance in response to a subsequent petition from several rural associations. To date, the Commission has addressed petitions seeking waiver of support reductions for about a dozen carriers, with two more recently filed petitions still pending. The Commission has not received any petitions for waiver of the reasonable comparability requirement from carriers since the March 2016 *Rate-of-Return Reform Order*.

B. How do you plan to make sure ultimately that rural consumers are paying reasonably comparable rates to urban consumers regardless of whether its voice or broadband they want? How can you ask carriers to certify that their broadband

rates are reasonably comparable to those in urban areas when the record clearly shows that many won't get enough support to offer that?

Answer. The *Rate-of-Return Reform Order* adopted by the Commission was the result of a bipartisan effort, aided by the rate-of-return carriers themselves, to expand rural broadband deployment by modernizing the USF high-cost support program for rate-of-return carriers, including by providing support for standalone broadband.

As a condition of receiving high-cost support, the Commission requires carriers to offer voice and broadband services in supported areas at rates that are reasonably comparable to rates for similar services in urban areas. We annually survey urban rates and recipients of high-cost support are required to report annually whether their rates are reasonably comparable to those urban rates. Based on the Commission's most recent survey, the benchmark in 2016 for broadband service of 10 Megabits per second (Mbps) downstream and 1 Mbps upstream and a 150 Gigabytes (GB) per month usage allowance was \$71.17. Carriers must certify annually that they are in compliance with that benchmark, and the Commission has stated it will deal with carriers that are not able to make that certification on a case-by-case basis.

In the December 2014 *Connect America Order*, the Commission stated that it will gather more information if eligible telecommunications carriers (ETCs) are unable to make the reasonable comparability certification for their broadband rates. ETCs may present factual evidence explaining the unique circumstances that preclude them from offering service at a rate meeting the requisite benchmark. As we continue to implement the rate-of-return reforms we put in place earlier this year, including providing support for standalone broadband, we will continue to monitor consumer broadband-only rates to ensure that our policies support reasonable comparability.

Question 2. Carriers need to let the FCC know in the next few months if they want to elect a new cost model for USF support on a voluntary basis or continue to receive support through a modified version of the system that was in place before. But we understand that information regarding several aspects of the reforms—such as budget controls and buildout duties and the effects of certain caps—haven't been made public yet.

A. How can carriers make informed choices about what option is right for them without such information? Will you commit to giving carriers complete information about both the model and the other changes to the current support systems so that they can make informed decisions before they need to make their final choice?

Answer. The Commission provided detailed information about both the model and the impact of reforms for those who do not select the model in advance of the November 1, 2016 deadline for electing the model. In August, the Wireline Competition Bureau (WCB) released the model support amounts offered to rate-of-return carriers. These amounts were announced by a Public Notice and were accompanied by a spreadsheet detailing the offer, as well as a map and a list of census blocks showing areas that would be funded by carriers accepting the offer.

The Commission also made available information regarding the operating expenses limitation, capital investment allowance, extent of incumbent carrier broadband coverage (which is used to calculate several aspects of other reforms), extent of competitive overlap, deployment obligations for carriers remaining on legacy mechanisms, transition payments for carriers that would receive less support if they elect to receive model support, and the operation of the budget control mechanism for the first half of 2017. In addition, on October 6, 2016, Commission staff and USAC held a webinar to answer the industry's questions. Also on October 6, 2016, WCB released an order regarding tariff revisions that must be made before carriers may receive universal service support for standalone broadband starting January 1, 2017. All of this information, and more, is available on USAC's website: <http://www.usac.org/hc/rules-and-orders/rate-of-return-reform-order.aspx>.

B. We also understand that depending on how the model election is conducted, that could lead to carriers that did NOT elect the model being harmed and getting less funding. How is that fair or reasonable? Why are carriers who did nothing and changed nothing in how they do business going to get less support due to the election choices of a few companies? Can we count on you to make sure this does not happen?

Answer. In 2011, the Commission allocated \$2 billion of the total high-cost budget to support for rate-of-return carriers. The *Rate-of-Return Reform Order* did not alter that amount, but did make available to carriers a voluntary path to model-based support as well as adopt certain reforms to the legacy support mechanisms. Given the benefits and certainty of the model, the Commission did allocate an additional \$1.5 billion over the 10-year term to facilitate the voluntary path to the model. Carriers that choose to continue receiving support from the reformed legacy mecha-

nisms will still receive support based on their own costs, but will be subject to budgetary controls to ensure efficient use of our finite Federal universal service resources.

The deadline for carriers to make this decision was November 1. On November 2, the Wireline Bureau released a Public Notice announcing that 216 rate-of-return carriers elected the model and soliciting feedback on what measures should be considered to address the high level of interest in model-based support.

Question 3. Your recent Order provides for companies to elect to receive their future support through your Model or to continue to receive support through the modified Legacy mechanisms. However, rather than allowing each company to make that decision independently, you've required all companies within a single state and owned by the same holding company to make the same election. That is, all of these companies must elect to be supported under a modified Legacy model or under the new Model support system. So, all companies within a single state and owned by the same holding company must make that decision as a whole regardless of the differences between the companies, while two companies owned by the same holding company and only a few miles apart, but across state lines from each other, may elect separately to take Model support or Legacy support.

A. What was the rationale in the election process for the FCC to aggregate all companies owned by a holding company within a single state, even if those companies within that state may be hundreds of miles apart and very different from each other when it did not aggregate those companies owned by the same holding company that may be in differing states, but very similar and only a short distance from each other?

Answer. The Commission adopted its proposal to require participating carriers to make a state-level election, which was generally supported in the record. The Commission did not require carriers to make elections across state boundaries as rural incumbent carriers are designated as eligible telecommunications carriers on a state-by-state basis by the state commissions.

B. How does this further the ultimate goal of Telecommunications Act—affordable, comparable Universal Service available to all?

Answer. Requiring carriers to make a state-level election prevents rate-of-return carriers from cherry-picking the study areas in a state where model support is greater than legacy support, and retaining legacy support in those study areas where legacy support is greater. Requiring carriers with multiple study areas in a state to make a state-level election facilitates decisions about managing different operating companies on a more consolidated basis.

Question 4. What is the timetable for the FCC to begin its CAF Phase II reverse auction and CAF Phase II Mobility Fund?

Answer. The Commission has not established dates for the CAF Phase II Auction or the Mobility Fund Phase II (MF-II) Auction.

The May 2016 Commission Order & FNPRM established a framework for the CAF Phase II competitive bidding process that will allocate more than \$2 billion over the next decade in support for rural broadband, but important details regarding the operation of the auction remain to be decided. Many of these details will be determined in a forthcoming Auction Procedures Public Notice.

The Commission will consider the Mobility Fund Phase II Order at our November Open Meeting. Our recently-completed analysis of Form 477 data shows that there are significant gaps in 4G LTE coverage throughout the country that need to be addressed through MF-II. The primary focus of MF-II will be targeting our necessarily limited universal service funds to promote 4G LTE service in areas where it might not otherwise be expanded or sustained without Federal support.

Question 5. You mentioned during the hearing that the FCC continues to struggle with gathering credible data regarding wireless coverage in rural areas. My colleague, Senator Manchin, has proposed a number of potential methods for gathering “real-world” measurements of rural coverage, including studying the feasibility of coverage drive testing through the United States Postal Service, commercial entities, and any other appropriate means. Has the FCC considered employing any of these or other methods of measuring rural wireless coverage? Can you assure my colleagues and I that the FCC will not proceed with any reductions to existing rural wireless USF support mechanisms until it can reliably gather data about actual wireless coverage throughout rural America?

Answer. In the past, the Commission has confronted several challenges in our attempts to measure mobile coverage in a way that matches up with the public's real-world experiences. A very significant challenge has involved the process of data collection. For the past several years, the Commission relied on data that came from states via the National Telecommunications Information Administration—data that

was used in the National Broadband Map—and third party commercial vendors. For a variety of reasons, the data collected by the states and third party commercial vendors did not always reflect the real world experiences of consumers.

Recognizing the need to improve our mobile coverage data, the Commission adopted an order in 2013 that required mobile wireless data collection from one of the most reliable sources available—the mobile wireless carriers themselves. As a result the Commission is now collecting coverage data directly from wireless carriers through the Commission’s Form 477. Each carrier that submits data must certify to its accuracy. We expect the data wireless carriers provide through these submissions will be more accurate than our previous data because it comes directly from the entity that is deploying the wireless facilities. Commission staff have actively been analyzing the new coverage data from wireless carriers through the revised FCC Form 477, and recently released a detailed analysis of the December 2015 data (along with its methodology and the raw data on which it is based) so that stakeholders can make their own assessments regarding the reliability of the carriers’ filings. In addition, in the context of providing for ongoing support for mobile broadband service, we intend to provide a process to consider stakeholders’ challenges to ensure accurate decisions on the eligibility of particular areas.

I believe that all these steps substantially advance the Commission’s ability to address the inherently difficult task, given the very nature of wireless networks, of accurately measuring mobile broadband coverage throughout the country. The Commission remains open as well to working with stakeholders regarding additional data sources, including new third party sources, and specific methods that we can employ to obtain more reliable information on mobile broadband coverage.

A core principle of universal service reform is that finite dollars should be distributed in an efficient, cost-effective manner that focuses funding on areas where service would be unavailable absent Federal support. As such, USF support should not go to areas that are served by an unsubsidized provider. So MF–II will seek to target ongoing support as much as possible to areas that lack unsubsidized 4G LTE coverage. Overall, MF–II will therefore both preserve existing service where necessary and provide substantial support for further expansion of 4G LTE in areas where it is not currently available.

Question 6. What impact do you anticipate the FCC’s proposed changes to existing rural wireless USF support mechanisms might have on critical services, like remote patient monitoring and precision agriculture applications, that rely on USF-supported wireless networks to function today? Can you assure me that the changes to wireless USF support mechanisms you are considering will do no harm to these existing services?

Answer. The Commission’s recently-completed analysis of Form 477 data shows that there are significant gaps in 4G LTE coverage throughout the country that need to be addressed through MF–II. The primary focus of MF–II will be targeting finite universal service funds to promote 4G LTE service in areas where it might not otherwise be expanded or sustained without Federal support. With that goal in mind, the Commission is working to address the key structural and operational issues for a MF–II fund, including the appropriate budget, eligible geographic areas, proper distribution methodology, and the public interest obligations of support recipients. MF–II will also make targeted support available to current competitive eligible telecommunications carrier (CETC) support recipients where needed to ensure preservation of existing service.

Question 7. In consideration of potential changes to wireless USF support mechanisms and rural coverage data, have you or your staff considered differences in coverage in rural areas by providers utilizing incompatible technologies? What impact does this have on seamless service availability for rural Americans?

Answer. In recent years, the Commission has taken steps to ensure interoperability among mobile networks. The Commission has adopted rules to enable consumers, especially in rural areas, to enjoy the benefits of greater competition and more choices, and encourage efficient use of spectrum, investment, job creation, and the development of innovative mobile services and equipment. These changes mirrored a voluntary industry solution to remove the lack of interoperability in the 700 MHz band while allowing flexibility in responding to evolving consumer needs and technological developments. The FCC also adopted basic device interoperability requirements in the AWS–3 and the 600 MHz service rules. Interoperability requirements in these bands will promote better, more seamless service, while allowing for the industry to continue to innovate, to the benefit of consumers across the country—in rural and urban areas alike.

With regard to providing universal service funding for the mobile broadband networks of the future, I believe that the priority needs to be to close the remaining

4G LTE coverage gaps existing in rural area as much as possible, rather than ensuring that such future networks are backwards compatible with network technologies that will be in the process of being phased out. I do believe that the proposed transitional phase down of current support will help address this issue in the interim.

The Commission is also considering a notice of proposed rulemaking that would classify VoLTE as a Title II service and unify the voice and data roaming standards, which actions together aim to provide all consumers, including rural consumers, with seamless access to service in all areas of the country, regardless of provider and regardless of how a particular voice call is delivered.

Question 8. Proposed broadband privacy rules suggest creating a new category of confidential information that reaches far beyond the type of information that is protected in the telephone environment, including a customer’s name, postal address, and telephone number.

A. Can the Commission explain why it proposes to require ISPs to protect information that is available in a telephone or on-line directory?

Answer. The Commission’s recently adopted privacy rules apply to customer proprietary information, a category that includes personally identifiable information (PII). The protection of PII is at the heart of most privacy regimes, including the FTC’s enforcement-based work under Section 5 of the FTC Act. Names, postal addresses, and telephone numbers are quintessential PII—each of these can readily be used to identify an individual person.

Of course, not all PII is equally sensitive. People routinely introduce themselves to strangers but tend to carefully guard their Social Security numbers. The privacy rules take this difference into account by tying customer approval requirements for the use and disclosure of customer data to the sensitivity of the data. While use or sharing of sensitive customer proprietary information requires affirmative “opt-in” consent, an ongoing ability to “opt-out” is sufficient for non-sensitive data—such as basic contact information. That is, ISPs can generally use and share their customers’ names, addresses, and telephone numbers under our rules unless and until a customer exercises the right to opt-out of that activity. The new rules also permit ISPs and other telecommunications carriers to use this and other non-sensitive customer information to market additional communications services commonly bundled together with the subscriber’s telecommunications service. This approach preserves reasonable customer expectations while minimizing burdens on providers.

B. Has the Commission considered only applying any new CPNI rules to only that information that ISPs hold uniquely in their role of providing telecom services?

C. If not, why not?

Answer. The Commission’s recently adopted privacy rules reflect ISPs’ unique role as “gatekeepers” in the Internet ecosystem. An ISP handles all network traffic, which means it has an unobstructed view of all of unencrypted online activity (such as webpages visited, applications used, and the times and date of Internet activity). On a mobile device, an ISP can track the physical and online activities throughout the day in real time. Even when data is encrypted, an ISP can still see the websites that a customer visits, how often they visit them, and the amount of time they spend on each website. Using this information, they can piece together enormous amounts of information about an individual—including private information such as a chronic medical condition or financial problems.

To be absolutely clear, the rules apply only to information that an ISP obtains by virtue of its role of providing service to its customers as a telecommunications carrier. The rules do not apply to information an ISP may obtain through its operation of an edge service, such as a music streaming app. Nor do the rules apply to information an ISP purchases on the open market.

Question 9. The Commission offers a laundry list of data to which ISPs ostensibly have access, and which the Commission proposes should be protected under a standard of strict liability.

A. Can the Commission explain why ISPs should be held to a stricter standard than application and edge providers that have access to the same data points?

Answer. In our final rules we adopt a standard that requires each ISP to take reasonable measures to secure the customer data it collects and possesses. What is reasonable for a given provider will depend on contextual factors, including the size of the provider, the nature and scope of its activities, and technical feasibility. We do not specify the particular measures a provider must undertake to meet its data security obligation, but we offer a list of “exemplary practices” as guidance. This context-based, “reasonableness” approach is consistent with the approach the FTC has taken in its enforcement work and with other privacy regimes.

B. Does the Commission have any plans to address consumer confusion that may well arise from the disparate way in which different actors in the broadband ecosystem are treated?

Answer. The Commission recently adopted privacy rules to implement Section 222 of the Communications Act, which requires telecommunications carriers to protect the confidentiality of their customer's proprietary information. As those rules become effective, we will work with all stakeholders to educate consumers, as well as their ISPs, about ISP obligations and customer rights pursuant to those rules.

The rules reflect ISPs' unique role as "gatekeepers" in the Internet ecosystem, which gives them comprehensive visibility into their customers' online lives. In this regard they are distinguished from even the largest edge providers. Moreover, the Commission's rules are grounded in statutory authority—including Section 222 of the Communications Act—that applies to ISPs but not to edge providers or other Internet ecosystem participants.

That said, the Commission's rules were not drafted on a blank slate. The rules incorporate the teachings of many well-established privacy and data security frameworks, including the Fair Information Practice Principles (FIPPs), the NIST Cybersecurity Framework, FTC precedent and best practices guidance, and state law. In addition, these rules are the culmination of an extensive public process in which FTC staff, ISPs, edge providers, digital advertisers, state governments, academics, consumer advocacy groups, and other stakeholders provided input and debated one another's ideas. Through this process, the key issues in this proceeding were sharpened, leading us to refine and improve upon our original proposals.

C. Would the Commission propose that application and edge providers that are not within the purview of FCC jurisdiction be regulated similarly?

Answer. As I have repeatedly said, edge providers are outside the scope of this rulemaking. The FTC has a strong track record of ensuring that edge providers protect consumer privacy under their Section 5 authority, and I would defer to the FTC's opinion on how application and edge providers outside of the FCC's jurisdiction should be regulated.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. ROY BLUNT TO
HON. TOM WHEELER

Question 1. As the Chairman of the Senate Rules Committee, I oversee the Copyright Office, which is the entity designated by Congress to interpret the Nation's copyright laws.

On August 3, the Copyright Office wrote a letter highly critical of your initial proposal in proceeding MB Docket No. 16-42 because it violated copyright law, and violated the Constitution.

If I ask the Copyright Office for its views on your new proposal, are they going to say that this proposal is legal under copyright laws?

Answer. I think it is important to note that while Section 701(b) of the Copyright Act authorizes the United States Copyright Office (USCO) to "advise" Congress on copyright matters and "provide information and assistance" to other Federal agencies, only Federal courts have the power to authoritatively interpret copyright laws.

The USCO and other parties representing content owners expressed concern that the "three information flows" approach we proposed in the NPRM would allow third parties to interfere with the licensing agreements that programmers negotiate with multichannel video distributors (MVPDs). In response to these concerns, the Order on circulation employs an "apps-based" approach to the delivery of MVPD programming. Under this approach, which both the MVPDs and programmers supported during the rulemaking, all MVPD content will be delivered to consumers through an MVPD-controlled software application, ensuring that copyright protections and the terms of programming license agreements remain in place. I cannot speak for the Copyright Office's view on this revised approach.

Question 2. The Copyright Office plainly states the law affords copyright owners—in this case TV show producers—the "sole right to license" the use of their work, as well as the right to impose conditions on such use under the license.

Under what authority can the FCC usurp the law codified under Title 17 of United States Code as part of proceeding MB Docket No. 16-42?

Answer. Because section 106 of the Copyright Act gives content owners the exclusive right to copy and publicly perform their works, MVPDs must obtain a license from the owners to distribute their works. However, licensing agreements between programmers also commonly contain terms that do not implicate the owners' exclusive section 106 rights. Courts have viewed these terms as simple contractual cov-

enants. In other words, the Copyright Act does not give content owners a “right” to impose terms on licensees that are unrelated to their exclusive section 106 rights.

The FCC’s authority to promote the commercial availability of navigation devices under section 629 of the Communications Act is both independent of and complementary to the exclusive rights section 106 of the Copyright Act grants to content owners. As we carry out Congress’s command to promote innovation and competition in the navigation device marketplace, we do not intend to (nor could we) change the rights and remedies available to copyright holders, or the defenses and penalties applicable in cases of copyright infringement.

Question 3. The Copyright Office plainly states that “only Congress, through the exercise of its power under the Copyright Clause, and not the FCC or any other agency, has the Constitutional authority to create exceptions and limitations in copyright law.”

Under what authority can the FCC usurp the Constitution as part of proceeding MB Docket No. 16–42?

Answer. As stated above in response to Question 2, the FCC’s authority to promote the commercial availability of navigation devices under section 629 of the Communications Act is both independent of and complementary to the exclusive rights section 106 of the Copyright Act grants to content owners. As we carry out Congress’s command to promote innovation and competition in the navigation device marketplace, we do not intend to (nor could we) change the rights and remedies available to copyright holders, or the defenses and penalties applicable in cases of copyright infringement.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. KELLY AYOTTE TO
HON. TOM WHEELER

Question 1. FairPoint Communications, a New Hampshire constituent company, has a petition before the FCC regarding back payments of high-cost support. Delay in granting the petition may have the effect of delaying further broadband deployment to rural America. Can you commit to me that the FCC will work with FairPoint Communications to resolve this petition before the end of the year?

Answer. Commission staff is evaluating FairPoint’s petition and has met with the company several times to discuss the issues raised in the petition. Staff is working to address a number of priorities by the end of the year, including FairPoint’s petition.

Question 2. Carriers need to notify the Commission in the next few months if they plan to elect a new cost model for USF support on a voluntary basis, or continue to receive support through a modified version of the system already in place.

a. I understand that depending on how the model election is conducted, it could lead carriers that did not elect the model to be harmed and receive less funding.

i. How is that fair or reasonable? Why would carriers who did nothing and changed nothing in how they conduct business receive less support?

ii. Can we count on the Commission to ensure that this does not happen?

Answer. In 2011, the Commission allocated \$2 billion of the total high-cost budget to support for rate-of-return carriers. The *Rate-of-Return Reform Order* did not alter that amount, but did make available to carriers a voluntary path to model-based support as well as certain reforms to the legacy support mechanisms. Given the benefits and certainty of the model, the Commission did allocate an additional \$1.5 billion over the 10-year term to facilitate the voluntary path to the model. Carriers that choose to continue receiving support from the reformed legacy mechanisms will still receive support based on their own costs, but will be subject to budgetary controls to ensure efficient use of our finite Federal universal service resources. How the model election process affects the allocation of the rate-of-return budget amongst carriers will depend on how many and which companies elect the model and how many and which companies choose to remain on the legacy mechanisms.

Question 3. Under the Universal Service Fund, why do the Lifeline and E-rate programs have automatic inflationary adjustments, but the High Cost program lacks this corresponding mechanism? What is the Commission’s reasoning for not placing all USF programs on more consistent regulatory footing?

Answer. Of the Universal Service Fund programs, only the E-rate and Lifeline programs have an automatic inflation adjustment. Beginning in 2010, the Commission began adjusting the E-rate cap to account for annual inflation to try to gradually align that program’s needs with available funding. With respect to Lifeline programs, beginning in 2016, the funding cap on Federal universal service support for Lifeline shall be automatically increased on an annual basis to take into account

increases in the rate of inflation. The High-Cost and Rural Health Care programs do not have such adjustments.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. DAN SULLIVAN TO
HON. TOM WHEELER

Question. The FCC has spent much of its time developing regulations for areas that, to my understanding, do not need more regulation. Yet I have a constituent who has had license renewal applications pending at the FCC for more than 13 years! It seems that the FCC is so busy finding areas to regulate that it has abandoned the duties that they are actually responsible for.

Chairman Wheeler, on June 10, 2016, I, along with members of the Alaska delegation, Senator Murkowski and Congressman Young, sent you a letter requesting that you provide us with a date certain for when the FCC plans to act on pending applications from this company, who has had these applications pending for over 13 years at the Commission. You responded to our letter by saying that you will take action by the fall.

Is it still your intention to make a decision on these pending applications by fall? If so, can you provide me with a date certain?

Answer. On September 30, 2016, the Audio Division of the Media Bureau took action on these applications in a letter decision (DA 16-1117).

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. RON JOHNSON TO
HON. TOM WHEELER

Question. I continue to be concerned that the FCC is layering on reporting and disclosure obligations on wireless providers that will divert resources from broadband deployment in Wisconsin and across the country. One example of this is the FCC's Open Internet Order's Enhanced Transparency Requirements. Apparently, FCC staff has created a safe harbor to these requirements when companies use the FCC-created Measuring Mobile Broadband American Program. However, this program has well-documented flaws and is not even available in large parts of the country. Has the Commission considered creating a safe harbor based on commercially-available sources for mobile performance that would be available to all wireless providers, including small companies in Wisconsin?

Answer. The 2010 Open Internet (OI) Order adopted the Transparency Rule, which requires broadband providers to publicly disclose information regarding the network management practices, performance, and commercial terms of its broadband Internet access services. However, subsequent to adoption of the 2010 Transparency Rule, the Commission continued to receive numerous complaints from consumers suggesting that broadband providers are not providing information that end users and edge providers need to receive. The Enhanced Transparency Rule adopted in the 2015 OI Order, therefore, merely enhanced the Transparency Rule to require specific disclosures beyond the examples provided in the 2010 Order.

The Commission expects that in order to evaluate their own network performance, mobile broadband providers generally already have access to key network performance information representative of the geographic areas in which consumers purchase service. That data—acquired through their own or third party testing—would be the source of a provider's disclosure under the transparency rules. The Commission has provided an optional safe harbor; however, providers remain free to implement alternative approaches for their network performance disclosures.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CORY GARDNER TO
HON. TOM WHEELER

Question 1. Chairman Wheeler, I'd like to commend the Commission on a rare bipartisan win with its recent issuance of the Spectrum Frontiers item. As the world continues to innovate and attempt to overtake the United States in cutting-edge wireless technology, it's more important than ever that we lay the groundwork for continued leadership. Designating spectrum for 5G operations is a major first step in that process.

Recently, Senator Booker and I successfully passed an amendment to the MOBILE NOW Act that demonstrated the importance of both unlicensed and licensed spectrum. Much of the spectrum in the recent Spectrum Frontiers proceeding, however, is already licensed or being made available for unlicensed use. And while it's

a positive step that those licensees will be able to deploy mobile services, there is still much work to be done.

Given that the United States is fighting to remain the world's leader in wireless technology, can you commit that the Commission will work to find additional opportunities for licensed spectrum to be made available?

Answer. Yes. As the demand for wireless broadband increases, so does the need for greater coverage and wireless network capacity. To keep up with the growing demand the Commission is pursuing an "all of the above" policy that relies on a balance of licensed, unlicensed, and shared spectrum. Opening up spectrum and offering flexibility to operators and innovators is the most important thing we can do to enable the 5G revolution. The Further Notice of Proposed Rulemaking that was adopted contemporaneously with the Report and Order seeks comment on making an additional 18 gigahertz of licensed spectrum available, on top of the 3.85 gigahertz made available in the Report and Order.

Question 2. Chairman Wheeler, what efforts is the FCC currently undertaking to ensure the expeditious deployment of wireless infrastructure to support 5G service?

Answer. High-speed mobile broadband requires high-speed broadband buildout. However, the regulatory burdens associated with deployments can be expensive and time-consuming. Beginning in 2014, the Commission has taken concrete steps to immediately and substantially ease those burdens. The Commission adopted an Order that recognized a technological revolution with regard to infrastructure deployment had changed the landscape. Distributed Antenna Systems (DAS) networks and other small-cell systems use components that are a fraction of the size of larger, older antennas and towers and can be installed on utility poles, buildings, and other existing structures. The Order excluded certain types of these installations from review, and also directed Commission staff to further streamline review of DAS and small cell deployments within 18–24 months, which was done in late summer of this year. The FCC also substantially reformed tower lighting and marking requirements, which greatly eased compliance burdens for tower owners without any adverse impact on aviation safety.

The success of 5G will hinge upon deploying more densified wireless networks and promoting common-sense siting policies that are essential for these new networks. The Commission is placing particular emphasis on expanding access to spectrum, enabling backhaul connections, and promoting infrastructure deployment. In August, as noted above, the FCC took a critical step forward on the infrastructure front when our nationwide programmatic agreement was amended, which has streamlined the environmental and historic review process for many small cells. The FCC has also tightened our "shot clock" for siting application reviews. The Commission will continue working to eliminate unnecessary infrastructure siting hurdles for small cells and to ensure that siting review fees and processes at the local level are fair and reasonable.

Advances in technology require that the FCC not only act now to pave the way to the next generation of wireless networks, but we must also update our rules to facilitate the transition away from legacy wired networks. Phone and Internet providers are increasingly replacing their legacy copper networks with next-generation networks that enable greater broadband speeds, efficiency, capacity, and a wealth of innovate features. The Commission acted to ensure that providers can move forward with these transitions efficiently while also ensuring consumers and other customers have the information they need. The Commission also established a streamlined process for reviewing providers' applications to transition to next generation services while ensuring that the enduring values of competition, consumer protection, universal service, and public safety that have long defined our networks remain protected.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. BILL NELSON TO
HON. TOM WHEELER

Question. I have heard from my local broadcasters that Illegal pirate radio stations have been a big problem in Florida. Importantly, those broadcasters tell me that these pirate radio stations interfere with the Emergency Alert System, which is incredibly important given the natural disasters that can affect Florida. What are you doing to address pirate radio stations, both in Florida and nationwide? Are you able to use fines and equipment seizures to stop these broadcasts, or do you need additional enforcement authority?

Answer. The FCC is committed to enforcement of the licensing requirements of the Communications Act, which the Commission has interpreted to prohibit unlicensed radio broadcasting. Last year, 20 percent of the Enforcement Bureau's activi-

ties were directed towards pirate radio. That's more than any other area of enforcement. During FY 2015, the Enforcement Bureau issued 130 enforcement actions for pirate operations. So far in FY 2016, the Enforcement Bureau has investigated 459 pirate operations, leading to: (1) 159 enforcement actions; (2) six Notices of Apparent Liability for Forfeiture totaling \$80,000; and (3) four Forfeiture Orders totaling \$55,000. Nearly 36 percent of those pirate enforcement actions (57) have been against Florida pirates.

In addition to taking formal enforcement actions, the Commission is also addressing the issue by working more closely with broadcasters and raising public awareness about pirate radio. For example, in March of this year, the Commission issued an Enforcement Advisory about pirate radio and all five Commissioners signed letters addressed to local officials as well as groups that may provide support, intentionally or unintentionally, to pirate radio operations. The letters and accompanying Enforcement Advisory explain the harms caused by pirate radio and seek to enlist the assistance of local officials, landlords, and advertisers in identifying pirates and depriving them of financial support. The letters and Enforcement Advisory may be accessed on the Commission website at: <https://www.fcc.gov/document/enforcement-advisory-unauthorized-radio-broadcasting>.

Finally, you ask whether the Commission needs additional enforcement authority to stop pirate broadcasters. As you note, the Commission has authority under the Communications Act to issue fines. We also have authority to work with the Department of Justice and, in some cases, state or local authorities, to seize illegal communications equipment, including pirate radio equipment. While this authority allows us to take strong action against those who control pirate radio operations, as we have previously stated, it would be helpful for Congress to amend the Communications Act to create liability for parties who aid or abet those operations. Creating clear legal consequences for advertisers, DJs, landlords, and other parties who provide material support to pirate operations would give the Commission another effective tool to address this problem.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. MARIA CANTWELL TO
HON. TOM WHEELER

Question 1. Smart City market estimates show rapid growth in coming years, and the number of Internet-connected devices in Smart Cities alone is expected to grow from 1.2 million in 2015 to 3.3 billion in 2018. This aspect of our Internet economy is expected to grow from almost \$2 billion in 2015, to \$147.5 billion by 2020.

I think we need to do everything possible to facilitate growth in this space.

Given this rapid growth in Smart Cities technology, what is the Commission doing now to usher in next-generation networks to meet anticipated spectrum demands?

Answer. As the demand for wireless technologies increases, so does the need for greater coverage and wireless network capacity. High-speed mobile broadband requires high-speed broadband buildout. However, the regulatory burdens associated with deployments can be expensive and time-consuming. Beginning in 2014, the Commission has taken concrete steps to immediately and substantially ease those burdens. The Commission adopted an Order that recognized a technological revolution with regard to infrastructure deployment had changed the landscape. Distributed Antenna Systems (DAS) networks and other small-cell systems use components that are a fraction of the size of larger, older antennas and towers, and can be installed on utility poles, buildings, and other existing structures. The Order excluded certain types of these installations from review, and also directed Commission staff to further streamline review of DAS and small cell deployments within 18–24 months, which was done in late summer of this year. The FCC also substantially reformed tower lighting and marking requirements, which greatly eased compliance burdens for tower owners without any adverse impact on aviation safety.

The success of 5G will hinge upon the deployment of more densified wireless networks and promoting common-sense siting policies that are essential for these new networks. The Commission is placing particular emphasis on expanding access to spectrum, enabling backhaul connections, and promoting infrastructure deployment. In August, the FCC took a critical step forward on the infrastructure front when our nationwide programmatic agreement was amended, which has streamlined the environmental and historic review process for many small cells. The FCC has also tightened our “shot clock” for siting application reviews. The Commission will continue working to eliminate unnecessary infrastructure siting hurdles for small cells and to ensure that siting review fees and processes at the local level are fair and reasonable.

Advances in technology require that the FCC not only act now to pave the way to the next generation of wireless networks, but also update our rules to facilitate the transition away from legacy wired networks. Phone and Internet providers are increasingly replacing their legacy copper networks with next-generation networks that enable greater broadband speeds, efficiency, capacity, and a wealth of innovative features. In recent years, the FCC has acted on numerous occasions to facilitate this transition, while preserving enduring values that have long defined our networks: competition, consumer protection, universal service, and public safety.

Question 2. Some members of the content community are worried their property interests won't be protected under the set top box proposals out there.

The Copyright Office has also expressed concerns. And given the complexity and the varying stakeholder interests, is the agency coordinating with the Copyright Office to understand and address these concerns?

Answer. The United States Copyright Office and other parties representing content owners expressed concern that the "three information flows" approach we proposed in the NPRM would allow third parties to interfere with the licensing agreements that programmers negotiate with multichannel video distributors (MVPDs). In response to these concerns, the Order on circulation employs an "apps-based" approach to the delivery of MVPD programming. Under this approach, which both the MVPDs and programmers supported during the rulemaking, all MVPD content will be delivered to consumers through an MVPD-controlled software application, ensuring that the terms of programming license agreements remain in place. As we carry out Congress's command to promote innovation and competition in the navigation device marketplace, we do not intend to (nor could we) change the rights and remedies available to copyright holders, or the defenses and penalties applicable in cases of copyright infringement.

My staff has reached out to the Copyright Office on multiple occasions.

Question 3. I'm interested in providing consumers maximum privacy protections and promoting the continued growth of our innovation economy. Many Internet economy business models are built on the monetization of information from and about consumers.

Moreover, this model is not new. In many sectors, consumers have gotten "free" services in exchange for their willingness to be exposed to marketing material. For example, consumers get free over the air television in exchange for watching ads—also known as the "eyeball model." It's worked in the past, and can go forward.

I'm confident we can have both strong consumer protections and a robust, innovative Internet economy that leverages consumer info. Before we take steps that could upset that balance, I'm interested in seeing available data revealing how these changes could impact this important sector of our economy. Stakeholders in these proceedings have made many assertions about consumer behavior in "opt-in" vs. "opt-out" privacy frameworks.

What information do we have about these critical issues? Should we be studying them?

Answer. The Commission recently adopted a harmonized set of privacy and data security rules for Internet service providers (ISPs) and other providers of telecommunications services. These rules give consumers the tools they need to make informed choices about their ISPs' use and sharing of their personal data, as well as confidence that the data is being kept secure. The focal point of the rules is customer control: ISPs can use their customers' individual data in innovative ways with customer approval. The methods for getting customer approval—"opt-in" and "opt-out"—are designed to track customer expectations. Subject to certain exceptions, under these new rules, if an ISP wants to use individually identifiable sensitive customer data it must first receive opt-in consent from the customer. Where the data is not sensitive, the customer's ongoing ability to opt-out is sufficient. Also, the rules permit ISPs to use customer data that they have properly de-identified outside of the consent regime, opening up another path for innovation. The record in the broadband privacy proceeding demonstrates that the rules the Commission adopted are consistent with current ISP practices.

The rules take a cautious, incremental approach on "pay-for-privacy" arrangements, *i.e.*, where a provider offers a discount or other incentive in exchange for consent to use or share personal information. We prohibit ISPs from conditioning the provision of service altogether on a customer's surrender of personal data. But we otherwise permit pay-for-privacy deals, subject to heightened disclosure requirements. We will continue to monitor these kinds of arrangements as they develop, and we stand ready to take action where necessary to guard against predatory or coercive pricing schemes. This case-by-case approach will permit continued innova-

tion in this dynamic area while protecting consumers against practices that vitiate their privacy rights.

Question 4. I am concerned about creating a dual-privacy regime in the Internet ecosystem. Is there value in coordinating with the FTC on privacy issues relating to consumer Internet use, and if so, what actions could the agency take? Are there steps we could take to facilitate better coordination?

Answer. There is great value in having the FCC and FTC coordinate on privacy issues. The two agencies have worked together on privacy and other consumer protection issues for a very long time. Earlier this year, the Commission and the FTC entered into an updated consumer protection Memorandum of Understanding (MOU). In the MOU, each agency recognized the others' expertise and agreed to coordinate and consult on areas of mutual interest. An FTC manager co-moderated one of the panels at the workshop we held to begin our exploration of broadband privacy. The FTC filed constructive comments in the proceeding, which informed virtually all aspects of the rules we ultimately adopted. Additionally, the FCC has looked to the good work that the FTC has done throughout the broadband privacy rulemaking proceeding. The FCC looks forward to continuing to work with the FTC on this important issue.

We view the FTC's and FCC's roles in this area as complementary. The FTC, through its enforcement mandate under Section 5 of the FTC Act, has demonstrated great leadership in the area of protecting the privacy of consumers by addressing unfair or deceptive acts or practices. As the expert agency on communications policy issues, the FCC is well positioned to ensure consumers have the right level of control over personal information that ISPs obtain through their unique role as "on-ramps" to the Internet.

Question 5. There are many parts of rural America that have poor or nonexistent broadband connections. It seems to me that that solving the rural broadband problem is like putting together a puzzle.

The pieces of the puzzle include smart planning, a regulatory regime that promotes deployment, adequate Federal and state funding and private investment—all those pieces must fit for ubiquitous coverage.

The FCC's Business Data Services proceeding impacts the private investment part of the puzzle. I want to ensure that as we examine this problem, we keep in mind the rural broadband development piece.

Do you have any concerns about the impact of this rulemaking on rural broadband access? How would rural economic development, jobs, and anchor institutions be affected if the BDS regulations made rural investments uneconomical?

Answer. Business data services (BDS) play an important role in the day-to-day life of consumers, business, and industry, and are integral to the competitiveness of the U.S. economy as a whole in the information age. Earlier this year we sought broad public comment on reforming and modernizing the existing, fragmented regulatory BDS structure with a new framework. It is worth noting that the reform being considered is focused on areas served by incumbent local exchange carriers (LECs) regulated pursuant to price cap regulation, and not the rural areas served by rate-of-return LECs. My goal is to maximize the benefits of business data services for U.S. consumers and businesses, including those in rural areas. I fully agree that maintaining incentives to invest—both by BDS providers and by their customers—is paramount.

In early October, I circulated to my fellow Commissioners proposed rules to reform the regulatory regime for BDS to promote fairness, competition, and network investment in this important marketplace. The circulated Order provides a new framework that strikes a balance between targeted regulation for lower-bandwidth legacy services, where evidence of market power is strongest, and lighter-touch regulation for packet-based services, where there has been new entry and competition may be emerging. The proposed Order is grounded in the comprehensive record of this proceeding, including careful review of the sophisticated economic analyses presented by multiple parties as well as other record evidence. As we work to achieve these important goals, we take into careful consideration the impacts various forms of regulation would have in the markets that utilize BDS, and we also pay particular attention to impacts any potential regulations may have in rural areas.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CLAIRE MCCASKILL TO
HON. TOM WHEELER

Question 1. This is an issue I have raised with you in the past but I want to revisit it because there have been development that I don't think most people are aware of. Between September 2013 and February 2014, the FCC issued Notices of

Apparent Liability (NALs) proposing \$94 million in fines against 12 companies, touting them in press releases and notices to Capitol Hill as cracking down on waste, fraud and abuse in the Lifeline program. We know that in the spring of 2015, the Department of Justice successfully prosecuted one of those companies, Icon Telecom, for inflating its subscriber numbers, securing a 48-month sentence for the owner and recovering more than \$20 million. Setting that example aside, which the FCC Office of Inspector General referred to DOJ for action, to date there has been no public announcement of further action on these 12 cases. What is the current status of each these cases?

Answer. The Commission's Enforcement Bureau (EB) issued the 12 Notices of Apparent Liability (NALs) you reference based on data from In-Depth Data Validation (IDV) audits. On November 16, 2015, EB referred the 12 cases to its Office of Inspector General (OIG) to avoid duplication of efforts, prevent adverse effects on parallel OIG investigations, and ensure efficient use of Commission resources. After referring these cases, EB closed these matters. We were informed by letter that the Inspector General (IG) found no waste, fraud, or abuse in six of the cases that he was investigating. He also found that the USF had been fully repaid in those six cases. The IG's decision is final and those six matters are now closed. We will not take further action on these matters. Even though the IG found no waste, fraud, and abuse in those cases, we will continue to keep a close eye on others participating in the program to ensure they comply with the Lifeline rules. We have also taken a number of steps to increase oversight of the program in recent months and will continue to make certain that taxpayer dollars are well spent.

We understand that the other six matters remain with the IG.

Question 2. It sounds like changes will be made to the broadband privacy rule before it is finalized, and I look forward to learning more about that. One thing of great importance to me is cracking down on robocalls. Concerns have been raised over Paragraph 108 of the NPRM, which asks whether we should "harmonize" the broadband privacy rules with traditional voice rules, and thus require opt-in consent for third parties to use data. Those who are working on robocall and call spoofing solutions tell me they need access to the information (name and phone number) they have today on an opt-out basis to be effective. Can you assure me that any final action on the privacy rule will continue to allow opt-out consent for important services like Caller ID and enhanced Caller ID to fight spoofed robocalls, and will otherwise do nothing to hinder the use of existing or future technologies to fight robocalls?

Answer. I agree with you about the importance of cracking down on robocalls. The broadband privacy rules the FCC recently adopted include measures to aid in addressing this pressing concern. Specifically, there is an exception that permits a carrier to use or share customer data without the customer's approval where necessary to protect against fraudulent, abusive, or unlawful practices. Efforts to combat unlawful robocalling would fall within this exception.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. AMY KLOBUCHAR TO
HON. TOM WHEELER

Question. The Internet has revolutionized access to news and information and upended the newspaper industry. No one would argue that that the media landscape today is the same as when the Commission adopted the media cross-ownership rules in 1975. In 2014, the Commission proposed significant changes to the cross-ownership bans involving newspapers, but the order that was finally adopted left them essentially unchanged.

Chairman Wheeler, what did you see in the record that convinced you the current rules are still appropriate?

Answer. The media ownership rules adopted in the recently concluded proceeding were based on a comprehensive, refreshed record that reflects the most current evidence regarding the media marketplace. With respect to the Newspaper/Broadcast Cross-Ownership (NBCO) Rule, the record demonstrates the continuing role of newspapers and broadcast stations as the primary producers of original local news and public interest programming. Accordingly, the Commission concluded that regulation of newspaper/broadcast cross-ownership within a local market remains necessary to protect and promote viewpoint diversity.

With that said, the Commission did revise the NBCO Rule to provide for a modest loosening of the previous ban on cross-ownership. The modifications include: (1) modifying the rule to update its analog parameters to reflect the transition to digital television; (2) in order to focus the application of the rule more precisely on the areas served by broadcast stations and newspapers, revising the trigger of the

NBCO Rule to consider both the contour of the television or radio station involved, and whether the station and the newspaper are located in the same Nielsen DMA or Audio Market (if any); (3) in recognition of the fact that a proposed merger involving a failed or failing entity does not present a significant risk to viewpoint diversity, adopting an explicit exception to the NBCO Rule for proposed mergers involving a failed or failing broadcast station or newspaper; and (4) considering requests for waiver of the NBCO Rule on a case-by-case basis and granting relief from the rule if the applicants can show that the proposed merger will not unduly harm viewpoint diversity in the market.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. BRIAN SCHATZ TO
HON. TOM WHEELER

Question 1. The FCC did not prohibit zero rating practices as part of the Open Internet Order but I understand that you have been keeping an eye on new developments related to this practice.

On one hand zero rating can provide some great opportunities for consumers. On the other hand, it might be tough to align zero rating practices with the principles the FCC adopted in the Open Internet Order—namely that everyone should have access to a free and open Internet.

Can you provide an update on the status of your examination of these practices? How are you balancing the value these plans could have for consumers with the principles set forth in the Open Internet Order?

Answer. The Commission’s informal policy review is ongoing. Commission staff continues to watch and learn. In some cases, these offerings continue to evolve since first announced. For instance, T-Mobile has made significant changes to Binge On since it was first released late last year (including allowing video providers to opt-out). T-Mobile also recently introduced a new pricing model (*i.e.*, the “One” unlimited plan that is targeted at the new iPhone7 launch) that incorporates some portions of the original Binge On model but not others. And T-Mobile has made material changes to that pricing model since its initial rollout.

This fluid situation with T-Mobile illustrates the value of the Commission’s case-by-case review laid out by the Open Internet rules. As the market continues to evolve and innovate, the Commission will watch carefully and work through the public interest considerations. We want to be sure to give ample time for thoughtful conversations with the carriers, experts, and other stakeholders. Needless to say, we want to get this right—and that takes time.

As part of this ongoing review, the Wireless Telecommunications Bureau recently sent AT&T a letter expressing serious concerns about the impact of its “Sponsored Data” program on competition for mobile video services and asking AT&T to address those concerns forthwith. In its letter, the Bureau reiterated that its concerns are not with zero-rating *per se*, but with the specific impact of AT&T’s zero-rating practice on competition, as implemented through the terms and conditions of its Sponsored Data program.

Question 2. Due to Hawaii’s unique geography, it is particularly challenging for broadband service providers to deploy and maintain a state of the art network in the state. This is particularly true for providers in the state who are trying to expand their networks to provide services to the most remote areas. For this reason, I believe that the FCC should take extra care to ensure that the Business Data Services (BDS) investments in the rural areas of our state are not inadvertently disrupted by the FCC’s Business Data Services proposals. What steps are you taking to ensure that the proposed rules will not inadvertently negatively impact network investment in Hawaii?

Answer. Business data services (BDS) play an important role in the day-to-day life of consumers, business, and industry, and are integral to the competitiveness of the U.S. economy as a whole in the information age. Earlier this year we sought broad public comment on reforming and modernizing the existing, fragmented regulatory BDS structure with a new framework. My goal is to maximize the benefits of business data services for U.S. consumers and businesses, including those in rural areas, such as remote areas of Hawaii. I fully agree that maintaining incentives to invest—both by BDS providers and by their customers—is paramount.

In early October, I circulated to my fellow Commissioners proposed rules to reform the regulatory regime for BDS to promote fairness, competition, and network investment in this important marketplace. The circulated Order provides a new framework that strikes a balance between targeted regulation for lower-bandwidth legacy services, where evidence of market power is strongest, and lighter-touch regulation for packet-based services, where there has been new entry and competition

may be emerging. The proposed Order is grounded in the comprehensive record of this proceeding, including careful review of the sophisticated economic analyses presented by multiple parties as well as other record evidence, including developments since the 2013 data collection. As we work to achieve these important goals, we take into careful consideration the impacts various forms of regulation would have in the markets that utilize BDS, and we also pay particular attention to impacts any potential regulations may have in rural areas.

Please note that Hawaiian Telcom provides DS1 and DS3, which are lower-bandwidth legacy services, under price caps. The rates for these services were initially based on the costs Hawaiian Telcom's predecessor—Verizon Hawaii—incur in providing business data services, and thus reflected the specific costs of providing business data services in Hawaii. While the circulated Order provides for reductions in these rates, in the event such reductions are inconsistent with the actual costs of serving a rural area, providers such as Hawaiian Telcom will have the option of making a tariff filing accompanied by cost data showing that higher rates are warranted, which the Commission would carefully review and consider.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. EDWARD MARKEY TO
HON. TOM WHEELER

Question. Do Stingrays and related surveillance products cause harmful interference to consumer cellular networks, in particular to 911 access? To what extent has the FCC examined the issue of interference in regards to law enforcement practices with wireless surveillance technology?

Answer. The FCC remains committed to protecting the integrity of the Nation's communications and to ensuring that use of equipment by all parties complies with U.S. law and FCC regulations. As you know, regulatory responsibility for the radio spectrum is divided between the FCC and the National Telecommunications and Information Administration (NTIA). NTIA administers spectrum and transmitter authorization for Federal use. Given this divided responsibility, we have engaged in discussions with our Federal partners regarding the deployment and use of cell site simulators (CSS) through the internal FCC task force on CSS that I established in 2014. The Commission's CSS equipment authorizations expressly contemplated that the use of equipment by state and local law enforcement would be under the auspices of the FBI. To date, we are not aware of any substantiated reports of disruption of cell phone calls by CSS devices. In addition, we understand that the equipment includes the capability to recognize and release 911 calls.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CORY BOOKER TO
HON. TOM WHEELER

Question 1. As you know, the state of New Jersey does not have a designated market area despite being one of the most densely populated states in the Nation. To alleviate the lack of local coverage, WWOR is required to “devote itself to meeting the special needs of its new community (and the needs of the Northern New Jersey area in general).” However, there is a longstanding dispute in front of the FCC on whether WWOR is fulfilling its special obligation.

In connection with its petition to deny the renewal of WWOR's station license, Voice for New Jersey submitted substantial evidence that the station is not fulfilling its obligations to its community of license. The evidence included a detailed review and analysis of the station's programming over a representative (2 week) period, an analysis of five quarters of Issues and Programming reports filed by WWOR which indicated that the station provided an average of only about two minutes per day of New Jersey news, and a study by The Eagleton Institute of Politics at Rutgers University which concluded that WWOR “barely covered” local and state elections.

When determining whether a station renewal is in the public interest, what weight is typically given to information given by private citizens?

When determining whether to renew a station's license, what evidence does the FCC typically look for to determine whether the renewal is in the public interest?

When determining whether to review a determination by the Media Bureau, what criteria does the FCC typically use in determining whether there is a substantial question of fact as to whether renewal of the station license is in the public interest?

Answer. The Commission's consideration of the application for the renewal of the license for station WWOR-TV is an ongoing proceeding and requires the agency's consideration of outstanding applications for review and responsive pleadings. Under these circumstances, our responses below are intended to provide an overview of the statutory considerations that govern the Commission's review of broad-

cast renewal applications in general and do not address the specific issues in the WWOR proceeding. In addition, because that proceeding has been declared permit-but-disclose pursuant to our *ex parte* rules (47 C.F.R. §1.1206), we are placing a copy of this response in the public docket of that proceeding (MB Docket No. 07–260).

In determining whether to grant an application for renewal of a broadcast license, under Section 309(k)(1) of the Communications Act, the Commission considers whether, during the preceding term of that station’s license:

- (A) the station has served the public interest, convenience, and necessity;
- (B) there have been no serious violations of the Communications Act or the rules and regulations of the Commission; and
- (C) there have been no other violations by the licensee of the Communications Act or the rules and regulations of the Commission, which, taken together, would constitute a pattern of abuse.

If a petition to deny has been filed against a broadcast renewal application, the Commission (or the Media Bureau, on delegated authority) reviews the petition pursuant to Section 309(d) of the Act to determine whether it contains “specific allegations of fact sufficient to show . . . that a grant of the application would be *prima facie* inconsistent with” the factors contained in Section 309(k)(1) noted above. If a *prima facie* case is established, pursuant to Section 309(e), the Commission examines the record to determine whether a “substantial and material question of fact is presented” warranting further inquiry in a hearing.

In determining whether there is a substantial and material question of fact, the Commission looks at the totality of the record, including evidence submitted by petitioners, the responsive pleadings filed by the station and others, the station’s renewal application, the station’s public file, and any information produced in response to inquiries from the agency. The facts adduced are then evaluated in accordance with Commission precedent. Following this review, if the Commission finds that a substantial and material question of fact exists as to whether renewal of the license is in the public interest, it will designate the renewal application for hearing before an administrative law judge. If it finds that there are no substantial and material questions of fact and that grant of the application would be consistent with Section 309(k)(1), the Commission will grant the application, although, depending on the facts before it, it may impose conditions on the grant.

The appropriate vehicle for a party to seek Commission review of an action on delegated authority by the Media Bureau is the filing of an application for review. A party seeking such review must demonstrate in its pleading the existence of at least one of the factors set out in 47 C.F.R. §1.115(b)(2), namely that the Bureau’s action: (1) conflicts with statute, regulation, precedent, or established Commission policy; (2) involves a question of law not previously resolved by the Commission; (3) involves application of a precedent or policy which should be overturned; (4) involves an erroneous finding as to an important or material question of fact; or (5) involves a prejudicial procedural error.

Question 2. Chairman Wheeler, I applaud your efforts to move the country toward adopting 5G networks. It is critical for U.S. innovation that we lead the way in 5G deployment. What is the FCC doing to meet the speed and bandwidth requirements of 5G networks through wired backhaul services, and what further steps need to be taken to make sure wired networks do not limit continued wireless innovation?

Answer. As the demand for wireless technologies increases, so does the need for greater coverage and wireless network capacity. High-speed mobile broadband requires high-speed broadband buildout. However, the regulatory burdens associated with deployments can be expensive and time-consuming. Beginning in 2014, the Commission has taken concrete steps to immediately and substantially ease those burdens. The Commission adopted an Order that recognized a technological revolution with regard to infrastructure deployment had changed the landscape. Distributed Antenna Systems (DAS) networks and other small-cell systems use components that are a fraction of the size of larger, older antennas and towers and can be installed on utility poles, buildings, and other existing structures. The Order excluded certain types of installations from review, and also directed Commission staff to further streamline review of DAS and small cell deployments within 18–24 months, which was done in late summer of this year. The FCC also substantially reformed tower lighting and marking requirements, which greatly eased compliance burdens for tower owners without any adverse impact on aviation safety.

The success of 5G will hinge upon deploying more densified wireless networks and promoting common-sense siting policies that are essential for these new networks. The Commission is placing particular emphasis on expanding access to spectrum,

enabling backhaul connections, and promoting infrastructure deployment. In August, as noted above, the FCC took a critical step forward on the infrastructure front when our nationwide programmatic agreement was amended, which has streamlined the environmental and historic review process for many small cells. The FCC has also tightened our “shot clock” for siting application reviews. The Commission will continue working to eliminate unnecessary infrastructure siting hurdles for small cells and to ensure that siting review fees and processes at the local level are fair and reasonable. In addition, the FCC has adopted rules aimed at providing that both wireless and wired providers of telecommunications services, including wireless services and wired backhaul services, have nondiscriminatory access to utility poles, ducts, conduits, and rights-of-way on rates, terms, and conditions that are just and reasonable.

Advances in technology require that the FCC not only act now to pave the way to the next generation of wireless networks, but we must also update our rules to facilitate the transition away from legacy wired networks. Phone and Internet providers are increasingly replacing their legacy copper networks with next-generation networks that enable greater broadband speeds, efficiency, capacity, and a wealth of innovative features. The Commission acted to ensure that providers can move forward with these transitions efficiently while also ensuring consumers and other customers have the information they need. The Commission also established a streamlined process for reviewing providers’ applications to transition to next generation services while ensuring that the enduring values of competition, consumer protection, universal service, and public safety that have long defined our networks remain protected. Additionally, in the Business Data Services (BDS) proceeding, the Chairman recently circulated an order proposing actions that would support rapid deployment of innovative 5G mobile service by ensuring that wireless providers have fair access to BDS at just and reasonable rates, terms, and conditions. By preserving a light regulatory touch, we will encourage continued investment in high-speed Ethernet facilities that will be essential to 5G.

Question 3. Is the U.S. keeping pace with other nations in moving forward with 5G?

Answer. 5G is a national priority, and we are the first country to establish the regulatory framework for making high-frequency spectrum available for new 5G services. The Spectrum Frontiers Report and Order repeats the proven formula that made the United States the world leader in 4G: (1) make a large amount of spectrum available quickly; (2) protect and preserve competition through the adoption of pro-competitive policies; and (3) adopt a flexible, technology-neutral framework that enables operators to innovate and serve the needs of consumers. Opening up spectrum and offering flexibility to operators and innovators is the most important thing we can do to enable the 5G revolution. Some other countries have adopted a different, top-down approach to 5G, which involves studying what 5G should be and how it should operate and then determining how to allocate spectrum based on those assumptions. We believe it is better to make the spectrum available on a flexible basis and then get out of the way.

Question 4. There appear to be a substantial number of illegal “pirate” radio operations in certain regions of the United States today. For example, the New York State Broadcasters Association (NYSBA) believes they have identified 76 illegal radio stations operating in Northern New Jersey and in New York City. What steps is the Commission taking to enforce its rules against illegal radio broadcasting?

Answer. The FCC is committed to enforcement of the licensing requirements of the Communications Act, which the Commission has interpreted to prohibit unlicensed radio broadcasting. Last year, 20 percent of the Enforcement Bureau’s activities were directed towards pirate radio. That’s more than any other area of enforcement. During FY 2015, the Enforcement Bureau issued 130 enforcement actions for pirate operations. More than half of those actions were in the New York/New Jersey area. So far in FY 2016, the Enforcement Bureau has investigated 459 pirate operations, leading to: (1) 159 enforcement actions; (2) six Notices of Apparent Liability for Forfeiture totaling \$80,000; and (3) four Forfeiture Orders totaling \$55,000. Nearly 50 percent of these enforcement actions (74) have been against New York/New Jersey-area pirates.

In addition to taking formal enforcement actions, the Commission is also addressing the issue by working more closely with broadcasters and raising public awareness about pirate radio. For example, in March of this year, the Commission issued an Enforcement Advisory about pirate radio and all five Commissioners signed letters addressed to local officials as well as groups that may provide support, intentionally or unintentionally, to pirate radio operations. The letters and accompanying Enforcement Advisory explain the harms caused by pirate radio and seek to enlist

the assistance of local officials, landlords, and advertisers in identifying pirates and depriving them of financial support. The letters and Enforcement Advisory may be accessed on the Commission website at: <https://www.fcc.gov/document/enforcement-advisory-unauthorized-radio-broadcasting>.

Question 5. I understand that public television stations, the NAB and the Consumer Technology Association have filed a petition at the FCC, seeking approval to offer Next Generation TV—an exciting new optional standard that among other innovations will provide a robust emergency broadcast capabilities and the ability to provide more in-depth news to viewers. I know from experience that when my constituents dealt with Super Storm Sandy or more recently Hermine, they turned to their local broadcasters for news and updates. I am pleased with the increased emergency information that will be available to them with this new standard.

Mr. Chairman, what is the status of this petition and do you think it will be addressed by the end of this year?

Answer. The Media Bureau issued a Public Notice seeking comment on the ATSC 3.0 Petition on April 26, 2016, and the comment period closed on June 27, 2016.

Commission staff is reviewing the record and engaging with industry representatives on this topic. Specifically, the Media Bureau and the Office of Engineering and Technology are actively considering the issues that should be raised in an NPRM proposing to authorize the ATSC 3.0 broadcast standard. We seek to support broadcasters' innovation while ensuring that consumers who are not yet equipped for this change can continue to receive the same level of TV service they have come to expect.

The record raises a number of complex issues. Although the benefits of ATSC 3.0 may be great, the transition to this broadcast transmission standard comes with considerable technical and logistical challenges, costs, and some risks to the many stakeholders involved, including consumers. A forthcoming NPRM will carefully study the balance between advancing broadcast technology that brings new features and opportunities to broadcasters and their viewers and ensuring the continuity and quality of broadcast service to all Americans.

Question 6. Broadcasters in my state and across the country have advocated for the installation of FM chips in cell phones to better enable communications during emergencies. What impact would enabling FM chips have on emergency communications and consumers' ability to access information when it's needed most? Should this be a requirement across the mobile industry?

Answer. One of the Commission's highest priorities is to ensure that all Americans can receive timely and accurate alerts, warnings, and critical information regarding disasters and other emergencies, irrespective of what communications technologies they use. This capability is essential to ensure that Americans can take appropriate action to protect their families and themselves.

FM chip sets can provide important benefits to consumers. I understand that there are already an increasing number of phones that include them and at least one major carrier has embraced the technology by providing FM radio access to its customers. The question of whether activation of these chips should be mandated or based on consumer choice appears to be resolving itself in the marketplace.

Question 7. This summer the FCC's spectrum incentive auction began and seems to be falling short of predicted revenues. What is the Commission's plan to ensure this process moves forward smoothly and yields enough revenue to relocate broadcasters? Please provide an update of next steps in the auction process.

Answer. The Broadcast Incentive Auction is a voluntary, market-based means of repurposing spectrum. The reverse and forward auctions are integrated in a series of stages, with the auction proceeding to a new stage if the final stage rule is not met at the close of the forward auction in the preceding stage.

The Incentive Auction recently concluded the second stage of the auction. Bidding in the reverse auction concluded with a 37 percent reduction in broadcaster clearing costs. Although the final stage rule was not met during Stage 2, the auction continues to work as designed to find the market equilibrium between the supply of spectrum offered by broadcasters and the demand of wireless providers. The auction is a market-based mechanism for matching supply with demand. The Commission intentionally designed the auction to account for the possibility that supply and demand might not match at the initial clearing target. Conducting multiple stages to align supply and demand is something we planned for.

Stage 3—which will attempt to clear 108 megahertz for wireless use—began with bidding in the reverse auction on Nov. 1. If the revenues from Stage 3 of the forward auction meet or exceed the clearing costs from the reverse auction plus \$1.75 billion for the broadcaster relocation reimbursement fund and the Commission's estimated \$207 million in administrative costs for the auction, then the Incentive Auc-

tion will close. If not, then the Commission will calculate the next lowest clearing target and resume reverse auction bidding.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOE MANCHIN TO
HON. TOM WHEELER

Question 1. In 2011, the Commission (Federal Communications Commission) voted to expand rural broadband access by modernizing the Universal Service Fund. West Virginia had one of the lowest rates of broadband service in the Nation then, and in 2016 that is unfortunately where we remain. The job of bringing broadband access throughout my state is far from done. A critical part of delivering on the universal service mandate is moving forward on the next phase of the Mobility Fund.

Last year, I wrote the Commission to highlight the real communications challenges that remain in rural America. The fact is that tens of thousands of West Virginians and millions of Americans living in rural communities still do not have access to reliable advanced wireless services. We cannot leave rural America behind. I also led a letter with Senator Gardner and six members of this committee on the importance of getting an accurate measure of mobile broadband coverage in our states.

In that letter, we noted that the agency has previously indicated that 99.9 percent of Americans live in an area that has access to some wireless service. The reality in our states is far different than what the maps indicated. Unfortunately, significant gaps in mobile broadband coverage still exist in West Virginia and across rural America today. Inaccurate data has failed rural and remote communities across this country.

Therefore, I worked with my colleagues on the Committee on two provisions aimed at helping the FCC better understand the reality of mobile broadband coverage across our states. The first would explore the viability of conducting drive testing in rural areas to map where coverage exists, and, even more importantly, where it still needs to be delivered. The second would take an in-depth look at whether additional mobile coverage data should be collected from additional, or alternative, sources.

The Commission previously acknowledged that there are limitations in current data from reporting coverage data with reliable accuracy.

What steps is the Commission currently taking to address these limitations?

Answer. In the past, the Commission has confronted several challenges in our attempts to measure coverage in a way that matches up with consumers' real-world experiences. The biggest of these challenges involved the process of reliable data collection. For the past several years, the Commission relied on data that came from states via the National Telecommunications Information Administration—data that was used in the National Broadband Map—and third party commercial vendors. For a variety of reasons, the data collected by the states and third party commercial vendors did not always accurately reflect the real world experiences of consumers, including your constituents.

Recognizing the need to improve our mobile coverage data, in 2013 the Commission took a significant step forward in its *Modernizing the FCC Form 477 Data Program Order*, which substantially revised and enhanced its collection of mobile voice and broadband coverage data.¹ The scope and nature of the new Form 477 data on mobile services coverage is an improvement over earlier data sources in certain key respects, such as the uniformity of data reporting. As a result, the Commission is now collecting coverage data directly from wireless carriers through the Commission's Form 477. We expect the data that the wireless carriers provide through their Form 477 submissions will be more accurate than previous data because it comes directly from the entity that is deploying the wireless facilities and is certified by the carriers to be an accurate reflection of their coverage.

In addition, in the context of providing for ongoing support for mobile broadband service, we intend to provide a process to consider stakeholders' challenges to ensure accurate decisions on the eligibility of particular areas. Finally, the Commission remains open to working with stakeholders regarding additional data sources, including new third party sources, and methods that we can employ to obtain more reliable information on mobile broadband coverage.

Question 2. I applaud the Commission's continued efforts to promote competition in the set-top box marketplace. Getting rid of set-top boxes in favor of an "apps-based" approach should reduce direct consumer costs. But innovations available to

¹See *Modernizing the FCC Form 477 Data Program*, Report and Order, 28 FCC Rcd 9887 (2013) (*477 Report & Order*). Also see Form 477 PN 2016.

urban and suburban consumers should be available to rural consumers as well. And I remain concerned about the West Virginians who still do not have access to affordable, reliable broadband service—or do not have broadband service at all. These West Virginians may be forced to keep a set-top box in their households.

For these rural consumers, do you believe this proposal will meet the Communications Act's mandate to assure the commercial availability of competitive devices?

Answer. During my recent trip to West Virginia, you and I spoke extensively about the challenges your constituents face regarding connectivity, so I understand your concerns. As we discussed, we will continue to do everything we can to address the broadband connectivity challenges those constituents are experiencing.

With respect to your concern, the cable and satellite TV industries have assured the Commission that they are able to provide a pay-TV app without a broadband connection.

In addition, the Order on circulation would maintain in the near term the CableCARD support requirements to ensure a retail marketplace for navigation devices such as TiVo, ensuring that consumers who choose a non-MVPD provided device today will continue to be able to use their devices.

Question 3. Consumers today are increasingly using their mobile devices as part of their everyday lives. The 2016 Broadband Progress Report found that fixed and mobile broadband are not functional substitutes for one another—they are both essential components of our lives today. I commend the Commission's recognition of the importance of allowing different technologies to compete to bring reliable broadband access to every home and business throughout the Nation. And I strongly support that goal and the Commission's work to ensure America continues to lead the next generation of wireless services, which will require an increasing amount of high-capacity backhaul. Could you explain how increasing competition would affect the significant investment required to build out robust wireless networks in rural areas?

Answer. Advanced broadband networks are a key driver of economic and social activity today, connecting consumers across the country to one another and to new job opportunities, education enrichment, and health care services. This is particularly true for small and rural communities, and every American, no matter where they live. Spectrum is a critical input in the provision of competitively provided mobile wireless services, and in recent years the Commission has made substantially more spectrum available and has ensured that our policies and rules facilitate access to spectrum in a manner that promotes competition. For example, prior to the currently ongoing Incentive Auction, the Commission took steps to reserve certain amounts of low-band spectrum. To promote competition, the reserve was established for nationwide providers that lacked such spectrum, as well as for non-nationwide providers irrespective of their low-band holdings. Consistent with our established policy to promote variety in licensees and to promote access to spectrum and facilitate capital formation for entities seeking to serve rural areas or improve service in rural areas, non-nationwide service providers were deemed eligible to bid on reserved spectrum in all markets nationwide. The Commission is committed to ensuring that all Americans, including those living and working in rural areas, have access to robust mobile broadband networks that are increasingly essential for full participation in today's society and economy.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
HON. JESSICA ROSENWORCEL

Question 1. As part of the Spectrum Frontiers Order, the FCC made available nearly 11 GHz of spectrum, but less than 4 GHz of that will be made available on a licensed basis. And a portion of that licensed spectrum will be allocated on a shared basis.

A. I believe that there should be a balance between licensed and unlicensed spectrum. Does this Order strike the proper balance? If so, please explain why.

Answer. Yes. Unlicensed spectrum supports Wi-Fi, which has helped democratize Internet access. Unlicensed spectrum also helps wireless carriers manage their networks. To this end, more than half of all wireless data connections are offloaded at some point onto unlicensed airwaves. Moreover, unlicensed spectrum is a launching pad for wireless innovation—and a vital part of the emerging Internet of Things. Plus, unlicensed spectrum has a powerful bottom line—it contributes more than \$140 billion to our economy annually. For all of these reasons, we need spectrum policies that have a role for both licensed and unlicensed spectrum—just as you suggest. I believe the Commission struck the right balance in its Spectrum Frontiers decision between licensed and unlicensed spectrum. In this decision, the agency

adopted policies to accommodate terrestrial wireless services in the 28 GHz, 37 GHz, 39 GHz, and 64–71 GHz bands. While the 28 GHz, 37 GHz, and 39 GHz bands are designated for licensed spectrum, the 64–71 GHz band is designated for unlicensed use. This division of licensed and unlicensed spectrum makes sense because the 64–71 GHz band is adjacent to an existing swath of unlicensed spectrum. Combining them enhances spectrum efficiency by enabling the use of wider channels, which creates new possibilities for the development of Wi-Gig services.

B. Should the Commission look for more licensed spectrum as it considers additional high frequency bands in its further notice?

Answer. Yes.

Question 2. The Commission has proposed an exception to the local media cross-ownership ban that would allow a broadcaster to invest in a newspaper when it is “failing.” This exception for cases in which a newspaper is “failing” renders little value to a newspaper that needs investments now, well before it is “failing.” By the time a newspaper is “failing,” a local broadcaster may no longer see it as a worthwhile investment—particularly in light of the consumer trend toward digital and mobile applications for news and entertainment. Shouldn’t the Commission be seeking ways to encourage investment in newspapers *before* they get to a state of “failing,” and before such newspapers may have to make the difficult decision to cut back on local reporting resources?

Answer. After careful consideration of the record, the Commission concluded in its Quadrennial Review decision that oversight of newspaper-broadcast cross-ownership remains an important part of protecting and promoting viewpoint diversity in local markets. However, the agency also determined that at this time an absolute ban on newspaper-broadcast cross-ownership is overly broad and restrictive. To this end, the Commission adopted several exceptions to its newspaper-broadcast cross-ownership rule. First, as you note, the Commission excepted failed or failing newspapers and broadcast stations from the general prohibition. However, the Commission went beyond consideration of failing firms and made clear that it also will consider exceptions on a case-by-case basis where applicants can show that the proposed combination will not harm viewpoint diversity in the local market. Finally, the Commission clarified the geographic scope of the rule by updating old analog parameters to more accurately reflect the markets that newspapers and broadcasters actually serve.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
HON. JESSICA ROSENWORCEL

Question 1. Commissioner Rosenworcel, both the Federal and state universal service funds are important to my constituents in Nebraska. As Chair of the Federal-State Joint Board, you are tasked with making a recommendation to the FCC on how to update and reform the collection of contributions for the Federal Universal Fund. Nebraska is currently considering proposals to reform the contributions process for the Nebraska State Universal Service Fund. Can you provide an update on a potential proposal from the FCC on contributions reform? Do you see a role for states in contributions reform, particularly if Federal action is not going to take place in the near future?

Answer. Now that the DC Circuit has issued its broadband reclassification opinion in *United States Telecom Association v. FCC*, the Federal-State Joint Board on Universal Service is continuing its work with new resolve. We have established a schedule for regular staff meetings, culminating in an in-person discussion next month at the quarterly gathering of the national association of state regulatory officials. Although it is premature to say when the recommended decision will be complete, work is certainly underway.

As you note, Nebraska, like some other states, has its own universal service fund. These state funds play an important role in ensuring that modern communications services reach our most rural communities. While the work of the Federal-State Joint Board on Universal Service proceeds, states may proceed with their own reforms, provided that any changes that are made are within their jurisdictional authority.

Question 2. I am excited about the opportunities that 5G networks and services may bring for the U.S. and the citizens of Nebraska, and I understand that in addition to making more spectrum available, we will have to build out new wireless infrastructure to make 5G services a reality. I know that 5G networks will rely on equipment that is much smaller than traditional wireless towers, and that these small cells will need to be widely deployed. In August, the FCC’s Wireless Bureau took positive steps to help streamline the deployment of small cell antenna systems.

However, you have made it clear that the FCC needs to do more. What should the Commission do to address barriers to deploying small cells?

Answer. Spectrum gets all the glory. But the unsung hero of the wireless revolution is infrastructure—because no amount of spectrum will lead to better wireless service without good infrastructure on the ground. This is especially true with the next generation of wireless services—known as 5G. With 5G services incorporating greater use of high-band spectrum, small cells are going to be a big thing. Getting these facilities fully deployed will take new focus and effort. That’s because our existing policies are designed for wireless towers and facilities that have a much greater footprint than small cells.

To remedy this problem, the Commission has already taken steps to update historic and environmental review practices in order to streamline them for small cell deployment. Specifically, in August of this year, the Commission modernized what is known as the nationwide programmatic agreement pursuant to the National Historic Preservation Act. This eliminates the need for historical review of small cell deployments on non-historic buildings, as well as on historic buildings or buildings within historic areas subject to visibility limits and historic landmark designations.

Going forward, however, we will need to do more. In the near term, the Commission should survey the fees municipalities charge for siting as well as the length of their review to better understand deployment challenges. In the long term, we will need to get creative. This could include holding a smart cities contest and rewarding the communities that put this infrastructure in place in a speedy way, facilitating the development of 5G services. In addition, we could develop the broadband and wireless equivalent of LEED certification, creating a market mechanism to encourage building owners to update their facilities for digital age service. This could be based on a model put in place by former New York Mayor Michael Bloomberg, which helped identify buildings with broadband infrastructure. We could also put a new premium on deployment on Federal facilities, by developing a state-by-state comprehensive list of Federal structures where deployment can occur in an expedited fashion.

Question 3. Consumers are increasingly using their mobile devices as part of their everyday lives. And, as such, we need to work together to find ways to allow for expansion into the 5G world. As part of that effort, I commend the FCC for its work on making high-band available for 5G. But, it is my understanding that wireless networks will need to use not only high-band spectrum but also will need access to more low-bands and mid-bands. This combination of bands is critical in order for consumers to continue to enjoy a fast paced, high demand, mobile experience. Will you agree to find ways to make more mid-band and low-band available for commercial use?

Answer. Yes. We have to remember that while we explore the possibilities of millimeter wave spectrum, mid-band and low-band spectrum is still vitally important today—and in the 5G future.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CORY BOOKER TO
HON. JESSICA ROSENWORCEL

Question 1. This month, New Jersey became the 5th state in the Nation to fully implement text to 9–1–1 services. This capability will expand 9–1–1 access to persons with disabilities and enable people in tough situations who cannot make a call, to still access the vital services provided by first responders. I am so proud of our state’s tremendous achievement and look forward to seeing more states follow suit.

What challenges do you see as most pressing when it comes to getting this and other 9–1–1 upgrades implemented nationwide?

Answer. Every year we make 240 million calls to 911. Every one of those calls is critical—and deserves a timely answer and response. But our 911 system is facing big challenges. By and large, the system we have today was designed for the analog era. It is organized around traditional wired telephony and does not fully reflect or feature the digital capabilities of modern networks. This needs to change.

To be clear, we are taking some steps to update this system and move forward. For example, the Commission recently adopted rules to strengthen location accuracy for wireless calls—so first responders can better pinpoint the location of emergency calls made from mobile phones. In addition, the Commission put in place a framework for texting to 911 which, as you acknowledge, is now up and running in a handful of states—New Jersey included.

To make real progress, however, more work is required. Three major challenges could slow down work in this area—so they need to be addressed.

First, funding is a challenge. There is no annual Federal funding system for 911 service. Our nation's 911 systems are funded strictly at the state and local level. In fact, roughly \$2.5 billion is collected each year by state and local jurisdictions to support 911 service. But as the Commission's report on 911 funding pursuant to the New and Emerging Technology 911 Improvement Act demonstrates, some states are diverting fees collected for 911 service for other purposes—including uses that have nothing to do with public safety. Stripping 911 service of funding will delay much-needed upgrades to our public safety system. It has to stop—and it is time to consider how Federal funding for other public safety purposes might be conditioned on a commitment to end fee diversion.

Second, jurisdiction is a challenge. Federal authority over 911 is limited. State and local authorities have primary responsibility for our Nation's 911 systems—which include more than 6,000 public safety answering points. These systems, however, are different in different parts of the country. To illustrate this, consider Nevada and Mississippi. Both states have populations of just under 3 million. But while Nevada has 12 public safety answering points, Mississippi has 375. In other words, we have very different ways of managing emergency calling in different parts of the country. It makes a uniform effort hard. Consequently, any Federal policy in this area must consider how implementation practices may vary from state to state.

Third, we need a common definition of next-generation 911. We need to ensure that when we talk about next-generation 911 in one jurisdiction it means the same thing in another jurisdiction. That is not the case today. Federal policymakers can assist with this effort—by developing nationally-accredited standards that promote interoperability between public safety answering points.

Question 2. What can members of Congress do to support upgrading these systems so that our first responders and public safety facilities keep pace with modern technology?

Answer. There are two things that can be done right now to support the update of our Nation's 911 systems—and improve public safety in the process.

First, we need to end 911 fee diversion. As described above, state and local authorities are responsible for funding 911 services. Every year, they collect \$2.5 billion in fees to support 911 facilities. This is typically accomplished through line items on wired and wireless phone bills that are identified as support for 911 service. However, not all states follow through and actually use these funds for 911 purposes. Some use them for budget shortfalls and projects that have nothing to do with public safety. This is not right—and needs to stop. Congress can condition Federal funding for public safety projects on states agreeing to end 911 fee diversion.

Second, we need to kick-start a special program that can help update our Nation's 911 systems that was included in the Middle Class Tax Relief and Job Creation Act of 2012. Section 6503 of this law re-established a 911 Implementation Coordination Office that is jointly run by the National Telecommunications and Information Administration and the National Highway Traffic Safety Administration. Even better, it authorizes a one-time \$115 million matching grant program to update 911 service. But four years after Congress authorized its creation, this program is still not up and running. This is not acceptable—especially because it is the best near-term resource we have to get going on next-generation 911. Congress can press the authorities responsible for this grant program to put it in place as soon as possible—and to structure the funding to support next-generation 911 projects that can be a blueprint for updating services in communities nationwide.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOE MANCHIN TO
HON. JESSICA ROSENWORCEL

Question 1. The Small Business Broadband Deployment Act would allow small businesses to focus on increased deployment, instead of overly burdensome reporting. Senator Daines and I worked with Senator Cantwell to reach a further bipartisan compromise that builds on the version of this bill that passed the U.S. House of Representatives by a vote of 411–0. The further agreement we reached would benefit rural consumers in all of our states. You have previously stated that you believe small businesses should be exempted from these additional reporting requirements and receive a permanent exemption. Do you agree that the temporary exemption coupled with a report by the Commission in our bill is a reasonable path forward?

Answer. Yes.

Question 2. I applaud the Commission's continued efforts to promote competition in the set-top box marketplace. Getting rid of set-top boxes in favor of an "apps-based" approach should reduce direct consumer costs. But innovations available to

urban and suburban consumers should be available to rural consumers as well. And I remain concerned about the West Virginians who still do not have access to affordable, reliable broadband service—or do not have broadband service at all. These West Virginians may be forced to keep a set-top box in their households.

For these rural consumers, do you believe this proposal will meet the Communications Act’s mandate to assure the commercial availability of competitive devices?

Answer. The Commission is still in the process of evaluating the best path forward to bring much-needed competition to the set-top box marketplace. In my review of any proposal, I will carefully consider the Commission’s legal authority as well as the impact on consumers in urban and rural areas. I believe any proposal that is adopted should be both legally sustainable and capable of benefiting consumers across the country.

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

Question 1. In its Further Notice of Proposed Rulemaking in the Spectrum Frontiers proceeding, the Commission talked about following the 4G playbook in making available high band spectrum that we all hope will be a platform for global 5G leadership. At the same time, the FCC sought comment on “use-it-or-share-it” proposals that some argue may devalue high band licenses. Are you at all concerned that these types of sharing proposals could undermine investment in high band frequencies, potentially putting our Nation’s leadership in 5G at risk?

Answer. One of my key priorities in the FCC’s Spectrum Frontiers proceeding is to ensure that our policies promote investment and innovation in these spectrum bands. As we move to the next phase of this proceeding, I will take the concern you have expressed to heart and support policies necessary for the U.S. to extend its 4G leadership into the 5G world.

Question 2. As part of the Spectrum Frontiers Order, the FCC made available nearly 11 GHz of spectrum, but less than 4 GHz of that will be made available on a licensed basis. And a portion of that licensed spectrum will be allocated on a shared basis.

A. I believe that there should be a balance between licensed and unlicensed spectrum. Does this Order strike the proper balance? If so, please explain why.

Answer. I dissented in part from the FCC’s 2015 Notice of Proposed Rulemaking in the Spectrum Frontiers proceeding because the FCC majority refused to seek comment on opening up over 12 GHz of additional spectrum—spectrum that could have been made available, at least in part, for licensed use. Because the Commission did not seek comment on freeing up those additional spectrum bands, the FCC was procedurally barred from including those spectrum bands in the Spectrum Frontiers Order we adopted earlier this year. I believe the agency would have been able to free up more licensed spectrum in that Order if the majority had agreed with me and Commissioner O’Rielly to seek comment on those additional spectrum bands in the 2015 Notice of Proposed Rulemaking.

But thankfully, the FCC is now seeking comment on opening up those and other spectrum bands in the ongoing Further Notice of Proposed Rulemaking. That is due, in no small part, to your work on the MOBILE NOW bill, which calls for the FCC to examine many of these bands. I hope that the FCC strikes the right balance between freeing up licensed and unlicensed spectrum when it adopts an order involving these additional bands.

B. Should the Commission look for more licensed spectrum as it considers additional high frequency bands in its further notice?

Answer. Yes. I have long advocated for the agency to take an all-of-the-above approach to spectrum. That includes making sure we identify spectrum in the Spectrum Frontiers proceeding for licensed use.

Question 3. The Commission has proposed an exception to the local media cross-ownership ban that would allow a broadcaster to invest in a newspaper when it is “failing.” This exception for cases in which a newspaper is “failing” renders little value to a newspaper that needs investments now, well before it is “failing.” By the time a newspaper is “failing,” a local broadcaster may no longer see it as a worthwhile investment—particularly in light of the consumer trend toward digital and mobile applications for news and entertainment. Shouldn’t the Commission be seeking ways to encourage investment in newspapers before they get to a state of “failing,” and before such newspapers may have to make the difficult decision to cut back on local reporting resources?

Answer. Yes, I agree, and that is why the Newspaper Association of America told the Commission that the “failing” newspaper exception “will not open any opportunities for newspaper companies to obtain investment from the media industry, and certainly will not serve the public interest.” Our goal should be to maintain newspapers as healthy and vibrant institutions. We shouldn’t deprive them of the investment they need to thrive until they are at death’s doorstep and then hope that someone will swoop in at the last minute to save them.

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

Question 1. Commissioner Pai, in a state like Nebraska, the High Cost universal service programs are vital to ensure that carriers can build out infrastructure. However, the FCC seems to have prioritized resources for Lifeline and E-rate in recent years by increasing their budgets and indexing those programs to inflation. Conversely, the High Cost fund has been flat-lined since 2011. This makes it difficult for rural carriers to deploy the infrastructure that is used for the other universal service programs. Commissioner, what justification is there for not putting all universal service programs on equal footing if all are aimed at the same goal of getting broadband networks built and affordable services to users?

Answer. I agree that the high-cost program is an essential means to ensure that every American has the opportunity to access 21st century communications networks, including high-speed broadband. Almost 34 million Americans don’t have access to the broadband networks needed to fully participate in today’s digital economy. That is why I have pushed to reform and improve our high-cost program for the past four years.

I also agree with you that spending dramatically more money on the Lifeline and E-Rate programs (without any meaningful spending constraint at all, in the case of the former program) was a mistake. First, the problem both programs faced was not a lack of funding, but poor design, which has led to improper administration. The Commission should have sought real reform of these programs rather than just increasing the budget for each. Second, you cannot have broadband Internet access without broadband networks; that would suggest putting a higher priority on the high-cost program, which promotes the build-out of the networks upon which many low-income residents, schools, and libraries rely.

Question 2. Small rural video providers face many challenges when providing service to customers. Prior to the FCC’s set-top box Notice of Proposed Rulemaking, some of them had shut down their video operations or were assessing the cost effectiveness of continuing to provide such services to consumers. These are companies that are providing service to the communities where they live and work, to their neighbors and friends. So many of them continued offering video services because wanted to preserve their customers’ access to terrestrial video offerings where they are often the only option. Chairman Wheeler’s fact sheet on the set-top box item suggests that the order will exempt small providers with fewer than 400,000 subscribers, but that small providers can develop apps if they choose to do so. Can you clarify which, if any, aspects of the order will apply to small video providers? For example, will they be subject to the same licensing requirements as larger providers?

Answer. The Commission has not yet adopted a set-top box order. But my position is that no aspect of the rules under consideration should apply to small video providers with fewer than 400,000 subscribers.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. RON JOHNSON TO
HON. AJIT PAI

Question. I have been told that it will cost a rural broadband provider in Wisconsin somewhere between \$20,000 to \$50,000 per year just on the training costs associated with the FCC’s currently proposed privacy rules. Does the FCC recognize that money spent on training and compliance lawyers diverts money to rural broadband build out?

Answer. The Commission’s proposed privacy rules from March were a wild departure from the rules that applied to Internet service providers under the Federal Trade Commission’s regime, and those rules would have imposed very large compliance costs on very small providers. I agree with you that such a radical departure from the FTC’s successful framework makes no sense, and that small ISPs should

be focused on what Americans so desperately want: higher-speed broadband throughout rural America.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CLAIRE McCASKILL TO
HON. AJIT PAI

Question 1. As the Ranking Minority Member of the Senate Permanent Subcommittee on Investigations, and throughout my time in the Senate, I have advocated for oversight and transparency for the Federal Government, and I take serious Congress' responsibility to hold Federal agencies accountable. As such, I was concerned to hear that some members of the Commission have not complied with Congressional inquiries conducted by my Republican colleagues in the House and Senate. I understand that neither Commissioner Pai nor Commissioner O'Rielly has provided documents in response to separate requests from the Senate Committee on Homeland Security and Governmental Affairs and the House Committee on Oversight and Government Reform relating to the rulemaking process for the Open Internet Order, which was released publicly on March 12, 2015.

Please explain all steps taken by you and your staff to respond to the inquiries by the Senate Committee on Homeland Security and Governmental Affairs and the House Committee on Oversight and Governmental Affairs into Federal Communications Commission's open Internet order.

Answer. My office has fully cooperated with these congressional investigations into the White House's influence on the Federal Communications Commission's net neutrality proceeding. At the outset of these investigations, my office informed the Committees' staff that we had no involvement in the preparation or development of the Commission's net neutrality order. Rather, this work was exclusively carried out in the Office of Chairman Wheeler, the Wireline Competition Bureau, the Office of General Counsel, and other Bureaus and Offices within the Commission.

My office therefore indicated to the Committees' staff in the first half of 2015 that we were poorly positioned to provide documents shedding any light on how the White House's intervention into the Commission's rulemaking proceeding impacted the development of the net neutrality order. In response, the Committees' staff told my office that they would be in touch with us if they wanted us to produce any documents and that they considered us to be in compliance with the Committee's request. We did not hear back from the Committees for the rest of the year. However, during this time, the Office of General Counsel provided the House Oversight and Governmental Reform Committee with documents from my office that we produced in response to a Freedom of Information Act request related to the FCC's net neutrality proceeding.

In February 2016, my Chief of Staff and Commissioner O'Rielly's Chief of Staff had a phone conversation with both majority and minority House Committee staff. During this call, they reiterated to staff what we had told Committee staff in 2015. Following this call, they met on March 4 with a representative of the Office of General Counsel to learn about the process that the Commission had used to identify and review documents that had been turned over to the Committee. During that meeting, they learned that the Office of General Counsel, pursuant to conversations with the Committee, had only turned over Commission documents from between November 1, 2014 and December 15, 2014. It was also confirmed that the Office of General Counsel has refused to provide the Committee with internal drafts of the net neutrality order from those two months. It is disappointing that the Commission is withholding these highly relevant documents from the Committee—documents that would show the changes that were made to the draft order following the White House's intervention into the rulemaking process. I can confirm that my office does not have a copy of any such drafts.

Following that meeting with the Office of General Counsel, my Chief of Staff and Commissioner O'Rielly's Chief of Staff had another phone conversation with both majority and minority Committee staff. During this call, we indicated that we would search for documents from between November 1, 2014 and December 15, 2014, using the same search terms as had been used by the Office of General Counsel. We also indicated that because our offices had no involvement in the development and preparation of the net neutrality order during these two months, we were skeptical that our efforts would produce any documents that would assist the Commission's investigation. My office performed that search and, as expected, this search confirmed that my office had no involvement in the development or preparation of the net neutrality order in November or December 2014.

Following those discussions, my office did not hear from the Committee for many months. On September 14, 2016, my office received a letter from Ranking Member

Cummings of the House Committee. In response to this letter, I told Ranking Member Cummings that I did not believe that I had any documents pertinent to the Committee's investigation of the White House's influence over the development of the net neutrality order. Nevertheless, in the interests of transparency, my office produced or re-produced hundreds of pages of documents related to net neutrality from the time-frame between November 1, 2014 and December 15, 2014. These documents confirmed that my office was not involved in developing the net neutrality order.

Question 2. Please explain your views on the obligation of you and your office to comply with congressional requests and cooperate with congressional investigations.

Answer. I believe that the FCC should fully cooperate with congressional investigations. That is why it is so disappointing that the Commission has refused to provide the Committee with internal drafts of the net neutrality order from November and December of 2014. These are highly relevant documents to the Committee's investigation because they would show the changes that were made to the draft order following the White House's intervention into the rulemaking process.

ATTACHMENT

FEDERAL COMMUNICATIONS COMMISSION
Washington, DC, September 16, 2016

Hon. ELLIJAH E. CUMMINGS,
Ranking Member,
Committee on Oversight and Government Reform,
U.S. House of Representatives,
Washington, DC.

Dear Ranking Member Cummings:

I am responding to your September 14, 2016 letter regarding the Oversight Committee's request for documents pertaining to the issue of net neutrality.

I sincerely apologize if there was a disconnect between my staff and the Republican or Democratic staff of the Oversight Committee. It is not my intention to delay or withhold any information from the Committee's review. Please know that any misunderstanding was unintentional, and I seek to remedy the situation immediately.

Pursuant to the conference call between Republican and Democratic Oversight Committee staff, my Chief of Staff, and Commissioner Pai's Chief of Staff that occurred on March 7, 2016, my staff believed that the Committee staff was satisfied with our responses and no further information would be necessary. Specifically, during that call, my staff outlined the screening process that we were told was used by the FCC's Office of General Counsel (OGC) in producing its response to the Committee's February 6, 2015 request, a production which your letter seems to indicate was deemed in full compliance. Significantly, the time-frame was limited from the period initially requested (January 14, 2014–February 6, 2015) to a six-week period from November 1 to December 15, 2014, and after two separate automated searches were performed, the remaining documents were individually reviewed by OGC staff for responsiveness to the Committee's requests. The documents considered to be responsive were then provided to the Committee, except for drafts of the net neutrality order itself, which OGC withheld as they are considered by OGC to be highly sensitive documents critical to the internal deliberative process. Majority and minority Committee staff confirmed that this was an accurate description of the production process used. Further, my staff represented and Committee staff seemingly accepted that there would be no responsive documents from my office had we conducted a similar process. Accordingly, no further review was conducted, and my office has had no further contact with majority or minority Committee staff since that date.

However, in response to your September 14, 2016 letter, my staff and I have individually reviewed each of our documents between November 1 and December 15, 2014, and identified all documents that could be considered relevant in any way. These largely consist of e-mails sent within my office in the process of drafting speeches or talking points for public events in which I participated during that time-frame. In the interest of attempting to fully resolve any outstanding concerns you may have, I will provide these documents to the Committee next week.

In terms of the lack of information filed with OGC, it has been Commission practice and precedent for minority Commissioners to file directly any materials or documents requested by a Congressional Committee. This is, in part, because the OGC has taken a much more active role in the policy of the agency, as opposed to strictly

acting in the capacity of a non-partisan counsel. This explains the description of the February 18, 2016 conference call between Committee staff and OGC, in which it was indicated that my office had not supplied OGC with any documents.

Lastly, I hope to clear up any misunderstanding regarding my May 5, 2014 *The Hill* op-ed, which was reviewed and commented upon by select outside individuals prior to publication. The Committee's press release indicated that I tried to argue that I wrote the op-ed "in [my] 'personal' capacity despite using official FCC resources, e-mail, and staff." To clarify, I do not claim in any way that I wrote my op-ed in my personal capacity. Instead, I was indicating that my interactions with outside parties in this matter did not rise to the level of requiring ex parte filings, because the outside parties did not seek to influence FCC proceedings, but responded to my personal views provided in the draft version of the op-ed.

I am hopeful that this will resolve any outstanding requests or concerns in this matter. Please do not hesitate to contact me directly or have your staff reach out to Robin Colwell in my office at (202) 418-2300 with any questions or concerns.

Sincerely,

MICHAEL O'RIELLY,
Commissioner.

cc: The Honorable Jason Chaffetz, Chairman

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOE MANCHIN TO
HON. AJIT PAI

Question. I applaud the Commission's continued efforts to promote competition in the set-top box marketplace. Getting rid of set-top boxes in favor of an "apps-based" approach should reduce direct consumer costs. But innovations available to urban and suburban consumers should be available to rural consumers as well. And I remain concerned about the West Virginians who still do not have access to affordable, reliable broadband service—or do not have broadband service at all. These West Virginians may be forced to keep a set-top box in their households.

For these rural consumers, do you believe this proposal will meet the Communications Act's mandate to assure the commercial availability of competitive devices?

Answer. This summer, I visited West Virginia and heard from many individuals who lack access to high-speed broadband. In my view, this situation is unacceptable and that is why I have been working at the FCC on a variety of initiatives to close the digital divide and expand broadband deployment in rural America. However, it is my understanding that consumers would not need to subscribe to broadband to take advantage of the "apps-based" approach currently under consideration in the set-top box proceeding.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
HON. MICHAEL O'RIELLY

Question 1. In its Further Notice of Proposed Rulemaking in the Spectrum Frontiers proceeding, the Commission talked about following the 4G playbook in making available high band spectrum that we all hope will be a platform for global 5G leadership. At the same time, the FCC sought comment on "use-it-or-share-it" proposals that some argue may devalue high band licenses. Are you at all concerned that these types of sharing proposals could undermine investment in high band frequencies, potentially putting our Nation's leadership in 5G at risk?

Answer. Generally, I support efforts to promote sharing of spectrum. However, I raised serious concerns about the sharing proposals in both the order and further notice in my statement on this item. The Commission is considering and seeking comment on "use-it-or-share-it" mechanisms for all millimeter wave bands. And, it already mandated a sharing paradigm between Federal and commercial users in the lower 600 megahertz of 37 GHz band (37-37.6 GHz), but exactly how sharing will work is teed up for comment in the further notice. The further notice also seeks comment about whether Federal users should be able to share spectrum with licensees for additional access in the upper 37 GHz band. I am concerned that sharing—whether with commercial or Federal users—will reduce investment, decrease certainty, and slow deployment, which could jeopardize the U.S. role as the leader in 5G. It is one thing to allow unlicensed entities to use unoccupied spectrum until the license holder is ready to use it; it is quite another issue—and a problematic one—to undermine commercial licenses obtained at auction.

Question 2. As part of the Spectrum Frontiers Order, the FCC made available nearly 11 GHz of spectrum, but less than 4 GHz of that will be made available on

a licensed basis. And a portion of that licensed spectrum will be allocated on a shared basis.

A. I believe that there should be a balance between licensed and unlicensed spectrum. Does this Order strike the proper balance? If so, please explain why.

Answer. I am supportive of unlicensed spectrum and the innovation that it can bring; therefore, I did not object to the designation of the highest bands (64–71 GHz) for unlicensed use. But, I also agree that the proper balance must be struck, which is why I expressed concerns about the sharing proposals raised above. As I stated above, I would have preferred that the lower 600 megahertz of the 37 GHz band was licensed. Also, licensed spectrum should be truly exclusive, but with stringent buildout requirements, so that licensees have the incentive to innovate without the inherent concerns about sharing spectrum. Going forward, more spectrum must be licensed on an exclusive basis.

B. Should the Commission look for more licensed spectrum as it considers additional high frequency bands in its further notice?

Answer. Yes, additional licensed spectrum must be part of any future spectrum allocations.

Question 3. In 2014, Chairman Wheeler said “there is a new regulatory paradigm” for cybersecurity characterized by reliance on private sector leadership and the market first, “while preserving other options if that approach is unsuccessful.” He also noted that “[t]he pace of innovation on the Internet is much, much faster than the pace of a notice and comment rulemaking.”

Similarly, the Administration has stressed the importance of public-private partnerships to enhance security, believing that static mandates cannot keep pace with growing and evolving cybersecurity threats and technological developments. Indeed, this approach, which the FCC’s Communications Security, Reliability, and Interoperability Council (CSRIC) has adopted, is helpful in tailoring guidance to small and mid-sized companies.

Despite the foregoing, this year the Commission has adopted security measures and reporting requirements in a series of orders and notices of proposed rulemaking on consumer privacy, communications network outage reporting, technology transitions, emergency alert systems, and 5G wireless licensing. Addressing cybersecurity in this manner through prescriptive rulemaking appears contrary to the Commission’s professed desire to pursue the cooperative approach of an industry-led, public-private partnership.

A. Given the recent work of CSRIC IV, how do you account for this apparent shift from industry-led, public private partnership to prescriptive rulemakings?

Answer. I, too, have observed that, despite assurances by the Commission that it would pursue a voluntary approach to security and risk management, including in a draft Policy Statement still on circulation, the Commission has repeatedly imposed or sought to adopt new requirements. The Chairman’s office would be in a better position to account for this shift.

Overall, I find the Commission’s efforts to adopt prescriptive rulemakings to be troubling as it does so without sufficient authority provided by Congress. Substantively, the Commission lacks the larger perspective gained from entities outside our purview, potentially creating conflicting requirements and imposing unnecessary burdens.

B. To your knowledge, has the Commission determined that the voluntary, market-based approach has proven to be unsuccessful?

Answer. I am not aware of any such determination.

Question 4. The Commission has proposed an exception to the local media cross-ownership ban that would allow a broadcaster to invest in a newspaper when it is “failing.” This exception for cases in which a newspaper is “failing” renders little value to a newspaper that needs investments now, well before it is “failing.” By the time a newspaper is “failing,” a local broadcaster may no longer see it as a worthwhile investment—particularly in light of the consumer trend toward digital and mobile applications for news and entertainment. Shouldn’t the Commission be seeking ways to encourage investment in newspapers *before* they get to a state of “failing,” and before such newspapers may have to make the difficult decision to cut back on local reporting resources?

Answer. While I support completely eliminating this particular cross-ownership restriction, to the extent that relief is going to be limited to an exception, I agree that the Commission should not require a newspaper to be “failing” before a partnership with a local broadcaster can even be considered. It is difficult to see this exception being of any value in today’s fast-paced media environment.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. DEB FISCHER TO
HON. MICHAEL O'RIELLY

Question 1. Commissioner O'Rielly, I want to thank you for your recent visit to Nebraska, where you got to see first-hand the importance of infrastructure deployment in a rural state like mine. As I'm sure you saw, there are still gaps in coverage that providers are working to close. I am concerned about the impact of the FCC's proposed privacy rules on broadband providers who serve rural areas of the state. Complying with these rules may be very costly and difficult, especially for providers with only a few employees and slim budget margins. I fear that these rules will require more money to be spent on regulatory compliance instead of deploying infrastructure to serve Nebraskans. Commissioner, do you agree?

Answer. Yes, I agree. I have worked hard, along with my colleagues, to reform the high-cost universal service program to promote broadband deployment in rural areas that would not otherwise be served. Imposing new burdens on providers that divert limited resources away from deployment would run counter to this effort. The Commission is currently considering adopting broadband privacy rules and I hope it will carefully consider the costs and benefits of any new requirements, especially for smaller entities.

Question 2. I am excited about the opportunities that 5G networks and services may bring for the U.S. and the citizens of Nebraska, and I understand that in addition to making more spectrum available, we will have to build out new wireless infrastructure to make 5G services a reality. I know that 5G networks will rely on equipment that is much smaller than traditional wireless towers, and that these small cells will need to be widely deployed. In August, the FCC's Wireless Bureau took positive steps to help streamline the deployment of small cell antenna systems. However, you have made it clear that the FCC needs to do more. What should the Commission do to address barriers to deploying small cells?

Answer. The Commission's spectrum efforts will only benefit Americans if decision makers, such as private land owners and municipal managers, approve the placement of infrastructure under reasonable terms. Unfortunately, stories of barriers being placed in front of network deployments abound. As I stated in my testimony, some Tribal and local governments are seeking to extract enormous fees from providers and operating siting review processes that are not conducive to a quick and successful deployment schedule. More specifically, I have heard several experiences of localities using the permitting processes to slow or stop facilities siting in their rights of way. At some point, the Commission may need to use the authority provided by Congress to preempt the activities of those delaying 5G deployment without justifiable reasons. This could include proactively trying to help resolve disputes caused by locality inaction or hostility, and designating specific Wireless Bureau staff to travel, testify, and investigate instances of siting problems.

Additionally, we must ensure that providers have the incentive to build backhaul. The Commission should remove barriers to deployment and not add unsubstantiated new burdens.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. RON JOHNSON TO
HON. MICHAEL O'RIELLY

Question. The FCC claims it must act on its Privacy Proceeding because Internet Service Providers (ISPs) have a unique insight into a person's viewing habits. However, today, all of the top 10 websites either encrypt by default or upon user login, as do 42 of the top 50. An estimated 70 percent of traffic will be encrypted by the end of 2016. So, with the rise of encryption, do ISPs really have this unique information?

Answer. The increasing prevalence of encryption clearly undercuts claims that rules are needed to address ISPs' access to user information. The Commission is currently considering adopting broadband privacy rules, and I hope it will carefully consider such data in determining whether and to what extent new requirements are warranted and justified.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. CORY GARDNER TO
HON. MICHAEL O'RIELLY

Question. Commissioner O'Rielly, you've expressed support for the FCC's efforts to streamline the deployment of small cell antennas, but you've also stated that there remains much work to be done. Particularly given the new buildout required for the oncoming 5G revolution, what more can the FCC be doing to move this effort

forward? Do you believe the FCC is capable of single-handedly addressing all remaining impediments to infrastructure buildout? If not, would legislation be helpful in this effort and what role do you believe is proper for Congress to play?

Answer. As I stated in my testimony, the biggest impediment to 5G infrastructure that I hear about is that some Tribal and local governments are seeking to extract enormous fees from providers and operating siting review processes that are not conducive to a quick and successful deployment schedule. For instance, I have heard several accounts of localities using permitting processes to slow or stop facilities siting in their rights of way. At some point, the Commission may need to use the authority provided by Congress to preempt the activities of those delaying 5G deployment without justifiable reasons. While the Commission may take this step, legislation is always helpful to obtaining consensus and facilitating Commission action, but I leave the decision as to whether such action is appropriate or warranted to Congress.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. CLAIRE McCASKILL TO
HON. MICHAEL O'RIELLY

Question 1. As the Ranking Minority Member of the Senate Permanent Subcommittee on Investigations, and throughout my time in the Senate, I have advocated for oversight and transparency for the Federal Government, and I take serious Congress' responsibility to hold Federal agencies accountable. As such, I was concerned to hear that some members of the Commission have not complied with Congressional inquiries conducted by my Republican colleagues in the House and Senate. I understand that neither Commissioner Pai nor Commissioner O'Rielly has provided documents in response to separate requests from the Senate Committee on Homeland Security and Governmental Affairs and the House Committee on Oversight and Government Reform relating to the rulemaking process for the Open Internet Order, which was released publicly on March 12, 2015.

Please explain all steps taken by you and your staff to respond to the inquiries by the Senate Committee on Homeland Security and Governmental Affairs and the House Committee on Oversight and Governmental Affairs into Federal Communications Commission's open Internet order.

Answer. I take very seriously my absolute obligation to respond fully to any Congressional request and to cooperate fully with any Congressional investigation. My staff and I reviewed each of our e-mails and documents from the applicable time frames, and had no documents responsive either to the February 9, 2015 request of the Senate Committee on Homeland Security and Governmental Affairs, or to the February 6, 2015 request of the House Committee on Oversight and Governmental Affairs. Pursuant to discussions my staff had with House Committee staff, we believed that my responses had been satisfactory and that no further information would be necessary. However, in response to the September 14, 2016 letter from the House Committee on Oversight and Governmental Affairs Ranking Member Cummings, I sent a letter on September 16, 2016, which is attached for the record.

Question 2. Please explain your views on the obligation of you and your office to comply with congressional requests and cooperate with congressional investigations.

Answer. I consider myself obligated, and have repeatedly committed to respond fully and promptly to any Congressional request and to cooperate fully with any Congressional investigation. The Federal Communications Commission, and my position within it, was created by Congress and is accountable to Congress in every possible respect.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOE MANCHIN TO
HON. MICHAEL O'RIELLY

Question. I applaud the Commission's continued efforts to promote competition in the set-top box marketplace. Getting rid of set-top boxes in favor of an "apps-based" approach should reduce direct consumer costs. But innovations available to urban and suburban consumers should be available to rural consumers as well. And I remain concerned about the West Virginians who still do not have access to affordable, reliable broadband service—or do not have broadband service at all. These West Virginians may be forced to keep a set-top box in their households. For these rural consumers, do you believe this proposal will meet the Communications Act's mandate to assure the commercial availability of competitive devices?

Answer. While I am a proponent of an apps-based approach for consumer video access, the Commission's recent regulatory proposal has many serious flaws, one of

which is its questionable technical feasibility. The ability of MVPD systems to support any given solution and deploy it to all of their customers should be a paramount consideration if the Commission ultimately moves forward with its efforts.

RESPONSE TO WRITTEN QUESTIONS SUBMITTED BY HON. JOHN THUNE TO
HON. MIGNON L. CLYBURN

Question 1. As part of the Spectrum Frontiers Order, the FCC made available nearly 11 GHz of spectrum, but less than 4 GHz of that will be made available on a licensed basis. And a portion of that licensed spectrum will be allocated on a shared basis.

A. I believe that there should be a balance between licensed and unlicensed spectrum. Does this Order strike the proper balance? If so, please explain why.

Answer. Thank you for the question, Mr. Chairman. The Commission's overall spectrum policy should seek to achieve a balance of licensed, unlicensed and shared access spectrum to enable established industry players as well as entrepreneurs to develop innovative service offerings for consumers. I believe that the Spectrum Frontiers Order and Further Notice, a bipartisan effort that was based on a fully developed record, did just that. Due to its propagation characteristics, the 64–71 GHz band is not well suited for licensed use; thus, it was allocated for unlicensed use.

B. Should the Commission look for more licensed spectrum as it considers additional high frequency bands in its further notice?

Answer. Yes. In the Further Notice, the Commission, recognizing the relative proportions of spectrum allocated for licensed and unlicensed use in the Order, proposed to make an additional 18 GHz of spectrum available for licensed use.

Question 2. The Commission has proposed an exception to the local media cross-ownership ban that would allow a broadcaster to invest in a newspaper when it is “failing.” This exception for cases in which a newspaper is “failing” renders little value to a newspaper that needs investments now, well before it is “failing.” By the time a newspaper is “failing,” a local broadcaster may no longer see it as a worthwhile investment—particularly in light of the consumer trend toward digital and mobile applications for news and entertainment. Shouldn't the Commission be seeking ways to encourage investment in newspapers before they get to a state of “failing,” and before such newspapers may have to make the difficult decision to cut back on local reporting resources?

Answer. Thank you for the question. My ultimate goal, consistent with the Commission's statutory mandate, is to ensure strong, local and diverse voices throughout the broadcast television, radio as well as newspaper industries. The Commission, as you know, adopted the failed or failing newspaper or broadcast station waiver as one way to inject new investment opportunities. I remain open to looking at other ways to support investment in the newspaper business. In assessing whether further changes should be made to the Commission's ownership rules, I would look to ensure we do not reduce the number of local voices; that we have a comprehensive picture of how the incentive auction has impacted local markets; and that we simultaneously address the dismal state of media ownership diversity.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. ROGER F. WICKER TO
HON. MIGNON L. CLYBURN

Question. What impact do you anticipate the FCC's proposed changes to existing rural wireless USF support mechanisms might have on critical services, like remote patient monitoring and precision agriculture applications, that rely on USF-supported wireless networks to function today? Can you assure me that the changes to wireless USF support mechanisms you are considering will do no harm to these existing services?

Answer. Thank you for the question, Senator. As you know, I have been a vocal proponent of the Mobility Fund for years, and am looking forward to the day the Commission makes it permanent. I anticipate that changing these support mechanisms to better target the funding to where it is most needed means that more Americans will be able to take advantage of services you speak of that rely on mobile wireless. Sadly, according to recent FCC staff analysis, about 1.5 million Americans still have no access to 4G LTE where they live. Our ultimate goal is to make sure more Americans to have access to not only the critical applications and services of today, but those of tomorrow. Moving forward on the Mobility Fund will help bring that goal closer to reality.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. MARIA CANTWELL TO
HON. MIGNON L. CLYBURN

Question. We have a rapidly-changing media market. I think people still want local news and access to a variety of content. One key evolution is the method of consuming that content. Now we are as likely to read or watch the news on smart phones as we are to pick up a newspaper or turn on the TV. What are your thoughts on how the Commission can get better information to make the best public interest-based decisions on media consolidation going forward?

Answer. Thank you for the question, Senator. I wholeheartedly agree that local news and information from a variety of viewpoints is at the heart of a vibrant media landscape and it is what consumers expect. As I stated during the Commission's recent Quadrennial Review proceeding, to satisfy judicial scrutiny and demonstrate the Commission's commitment to ownership diversity that is so desperately needed, we need a robust record . . . in a word, data. I also believe that the completion of the incentive auction presents an opportunity to thoroughly assess the state of media ownership and determine whether the Commission's rules correctly align with recent changes.

I stand ready to work with my fellow Commissioners and interested researchers to fulfill this goal so that the Commission has the information it needs to ensure that the right policies are in place to promote a vibrant and diverse media landscape.

RESPONSE TO WRITTEN QUESTION SUBMITTED BY HON. JOE MANCHIN TO
HON. MIGNON L. CLYBURN

Question. I applaud the Commission's continued efforts to promote competition in the set-top box marketplace. Getting rid of set-top boxes in favor of an "apps-based" approach should reduce direct consumer costs. But innovations available to urban and suburban consumers should be available to rural consumers as well. And I remain concerned about the West Virginians who still do not have access to affordable, reliable broadband service—or do not have broadband service at all. These West Virginians may be forced to keep a set-top box in their households. For these rural consumers, do you believe this proposal will meet the Communications Act's mandate to assure the commercial availability of competitive devices?

Answer. You raise an important question and one that I believe can be satisfactorily addressed through an "apps-based" approach. As you may know, today cable companies can deliver an app as a Title VI cable service or through the Internet as an over-the-top service. The cable industry has assured the Commission that they are able to deliver their app as a Title VI service, meaning that consumers could purchase a competitive device without needing an Internet connection. Similarly, it is my understanding that satellite providers also have the capability to deliver an apps-based approach to consumers without a broadband connection.

Independent of this proceeding, your question reiterates to me why it is imperative that the Commission have a laser-focus on bringing robust, affordable broadband services to all Americans, whether they live in an urban or a rural area.

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