

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

RPTR JOHNSON

EDTR SECKMAN

REPURPOSING THE C-BAND TO BENEFIT ALL AMERICANS

TUESDAY, OCTOBER 29, 2019

House of Representatives,

Subcommittee on Communications

and Technology,

Committee on Energy and Commerce,

Washington, D.C.

The subcommittee met, pursuant to notice, at 10:01 a.m., in Room 2322, Rayburn House Office Building, Hon. Mike Doyle [chairman of the subcommittee] presiding.

Present: Representatives Doyle, McNerney, Clarke, Loeb sack, Veasey, Soto, O'Halleran, Eshoo, Butterfield, Matsui, Welch, Schrader, Cardenas, Pallone (ex officio), Latta, Kinzinger, Bilirakis, Johnson, Long, Flores, Brooks, Walberg, Gianforte, and Walden (ex officio).

Staff Present: AJ Brown, Counsel; Jeff Carroll, Staff Director; Parul Desai, FCC

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Detaillee; Evan Gilbert, Deputy Press Secretary; Waverly Gordon, Deputy Chief Counsel; Tiffany Guarascio, Deputy Staff Director; Alex Hoehn-Saric, Chief Counsel, Communications and Consumer Protection; Jerry Leverich, Senior Counsel; Dan Miller, Senior Policy Analyst; Phil Murphy, Policy Coordinator; Joe Orlando, Executive Assistant; Alivia Roberts, Press Assistant; Michael Engel, Minority Detaillee, C&T; Margaret Tucker Fogarty, Minority Legislative Clerk/Press Assistant; Theresa Gambo, Minority Human Resources/Office Administrator; Peter Kielty, Minority General Counsel; Tim Kurth, Minority Chief Counsel, CPAC; Kate O'Connor, Minority Chief Counsel, C&T; Evan Viau, Minority Professional Staff, C&T; and Wilkins Nate, Minority Fellow, C&T.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. The Subcommittee on Communications and Technology will now come to order.

The chair now recognizes himself for 5 minutes.

Thank you, all of you, that are here today and thank you to the witnesses that are appearing before us today. Today, our subcommittee is holding an important legislative hearing entitled "Repurposing the C-band to Benefit All Americans."

The C-band is a block of spectrum currently used by satellite companies for the long-distance distribution of cable and broadcast video programming like NBC, ESPN, and HBO, as well as audio programming, like NPR and LDS radio. More than 100 million Americans receive content every day that is distributed through this band.

More than 2 years ago, the C-band satellite providers began to suggest that they could relinquish a portion of the band in exchange for incentive payments and that, in turn, the spectrum could be used for 5G mobile wireless. In the wake of the incentive option, it is good to see incumbent spectrum right holders come forward and offer to work with the government to free up spectrum. I think that tells us that the incentive model can work.

However, a number of these incumbent satellite companies have come together to propose a private transaction in the band whereby they sell the rights to spectrum they didn't purchase and that they keep the lion's share of the profits and that they may -- may -- give some of the money back to the U.S. Treasury on a voluntary basis.

There is a lot about this proposal that is deeply concerning. I have seen a number of reports that suggest that auctioning this spectrum could raise \$60 billion or more. This spectrum is so valuable because it will be essential for our Nation's

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

deployment of 5G services. It has the capacity and the propagation characteristics to usher in a newer era of innovation and economic opportunity. We need to get this right because this is a precious natural resource, and the way this spectrum is deployed in the marketplace will determine our Nation's wireless future.

That is why, last week, I introduced H.R. 4855, the Clearing Broad Airways for New Deployment Act, or the C-BAND Act, along with my colleague, Subcommittee Vice Chair Doris Matsui, who is a leader on this issue and with whom I have been working closely, along with our colleagues, Congressman Bill Johnson and Congressman Greg Gianforte.

This legislation would require the FCC to hold a public auction to sell between 200 and 300 megahertz of C-band spectrum. It would require the Commission to protect incumbent C-band dependent users who rely on this service to provide millions of Americans with video and radio services, and it requires the Commission to clear this spectrum and sell it within 3 years. This legislation would also create a golden opportunity to raise revenue and pay for many of our shared priorities.

We can fix problems we have talked about for a decade, colleagues, such as rural broadband deployment, which I know is near and dear to my colleagues Mr. Johnson and Mr. Gianforte. I know they care deeply about that. Rural telehealth, public safety communications, Next Generation 9-1-1, digital opportunity and inclusion and closing the digital divide. We have the opportunity with this legislation to address these critical needs.

Colleagues, we are never going to get an opportunity like this again. If we do nothing and tell our constituents that we gave away \$60 billion to a handful of foreign satellite companies and left the folks back home high and dry, this is something the American people are never going to forget. And no member of this committee or in the

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

House of Representatives ever, ever talk about the need to do rural broadband deployment when this is our first and only chance to have a pay-for. So this is an important piece of legislation.

As I said, there is no other sources of revenue to do this. How often in this committee have we talked about infrastructure, about broadband deployment, and the 800-pound gorilla in the room has always been, how are we going to pay for it? Well, this is a way to pay for it.

Now, on our panel today, we have a broad group, some for, some against, this private or public auction. I don't normally associate myself with the Taxpayer Protection Alliance or the Citizens Against Government Waste. I checked my rating. It is 7 percent. I suspect some of you guys over there have a little higher rating than I do with Citizens Against Government Waste. But I will tell you what, I am happy to have them testifying here today.

At the Senate appropriations hearing 2 weeks, Mr. Williams, President of the TPA, described the CBA plan for a private sale was one of the top 10 taxpayer rip-offs he has ever seen, up there with the bridge to nowhere.

The C-band legislation we have introduced is a win-win for everyone. It will ensure that the band is auctioned in a transparent and accountable fashion that results in the maximum return for the American people.

It also ensures that incumbent services that over 100 million Americans rely on continue to operate and are protected through the transition. And, finally, it gives us the opportunity and the ability to address critical needs in our country and close the digital divide.

I encourage all of my colleagues to support the C-BAND Act, and I look forward to

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

today's discussion on this important issue.

And I see that Mr. Walden and Mr. Pallone are here. And before I recognize our subcommittee chair, I want to recognize Mr. Pallone for a brief statement.

Frank.

[The prepared statement of Mr. Doyle follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

The Chairman. Well, I just wanted to say that I was not happy to hear that Mr. Walden was retiring. He called me yesterday and told me. And I know that he is going to listen to me about the issue, but -- he never does anyway. No, I am kidding.

But I just wanted to say, Greg, that it is just -- I mean, obviously, we are still here for another -- I don't know -- 16 months or whatever it is. But you have just been outstanding in terms of, you know, your principles and what you stand for and fighting for the things that you believe in, but at the same time, always willing to work with us.

Because I think you said many times that the main thing is to see if we can get some legislation passed and if we can come to an agreement. Failing that, then, you know, we can fall back and, you know, say what our positions are and if we disagree. But you are always -- always -- reaching out to the other side of the aisle and trying to think of ways that we can actually accomplish things for the American people.

And I just wanted to commend you for that and say that, as much as I regret the fact that you announced your retirement, we will still work together over the next year or so and beyond as well.

So I yield back.

Oh, I yield to the gentlewoman, yes.

Ms. Eshoo. Thank you for yielding, Mr. Chairman.

I echo your sentiments. Greg left a message for me yesterday. My heart sank when I listened to it and then read the reports. We have had and continue to and I think always will have a wonderful friendship and mutual regard for one another. And you have practiced that, Greg.

So, you know, we celebrate what you have accomplished, we celebrate the person

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

that you are, and I am just glad that we have -- what -- 15, 16 months to go together. So let's cook up some new stuff and get it done.

But Greg served as the chairman of this subcommittee, and I was the ranking member. And we are talking about auctions today. On our watch, we did a gigantic one when no one even recognized that a penny would be raised.

So there are opportunities. But you have represented your party, obviously, to the best of your ability. But I think you are going to be remembered as a person of integrity, a real patriot, and that you have always been value added to the House of Representative.

Thank you.

[The prepared statement of Ms. Eshoo follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. Greg, I just want to say that you -- all of the members on this side of the aisle hold you in high regard, and we have tremendous respect for how you have chaired the committee when you were the chair. And I want to say, on a personal level, that it has been a pleasure to work with you. And I think this should require a vote of the committee before you can retire.

Mr. Walden. We had that vote. My wife won. And by the way, it was unanimous between the two of us.

Mr. Doyle. Okay. Would you like to say anything before I recognize the ranking member?

Mr. Walden. Just take a second. We have got important witnesses and work to do here. But it has been a great joy and privilege to serve with all of you and some who aren't here at this subcommittee certainly as well.

And this is a wonderful institution. Sometimes it gets a little rocky. Sometimes it gets a little off the rails, but it is the best around. And it is about the people. And the great staff we all get to work with, they are all family. I think the hardest thing for me yesterday was breaking the news to my personal staff and then my district staff. And by the time I got up here to the committee staff, I was pretty much a blubbing mess.

But it is a great committee. We all know that. And we have had a lot of fun together. And it is interesting; we are talking auctioning spectrum one way or another here today. As Anna knows -- and we fought that battle -- CBO told us the AWS-3 spectrum was never going to happen, never auctioned, gave us a zero for the score. It sold for \$40 billion, which, by the way, makes this subcommittee and our full committee

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

probably the biggest single payer down of debt because the extra proceeds all went to buy down the national debt. So you can put that in your brochure, if needed, with your bad Citizens Against Government Waste score to overcome that.

No, it is been a great privilege and joy. And with all of these wonderful comments today, whenever my memorial service actually gets scheduled sometime, you don't have to come now, you know.

But thank you. I yield back.

Mr. Doyle. The gentleman yields back.

The chair now recognizes Mr. Latta, our ranking member of the subcommittee for 5 minutes.

Mr. Latta. Mr. Chairman, if I could, just on a point of personal privilege, before my time starts, if I can just also thank Greg for his great service to the committee and the House. He had great trust in me when he was the chairman of this subcommittee, when I was his vice chair, and then also having me as one of the subcommittee chairs in the last Congress. And I will never forget it. So I really appreciate your leadership and your friendship. And best of luck to everything to come. So thank you very much.

Well, Mr. Chairman, thank you very much for holding today's hearing and thank you very much to our witnesses for being here for our second hearing on C-band spectrum. It is very important for us to consider that before us today.

The FCC has signaled an intent to show progress on C-band in the near future, which will make critical mid-band spectrum available to 5G. However, a debate lingers on the best path forward to serve the public interest and encourage U.S. leadership in 5G.

In a world with a greater innovation and a growing appetite for wireless technology, an equation for making new spectrum available has become increasingly

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

challenging. While bipartisan, market-based principles have led us well over the last two decades, it is important not to rest as other countries continue to feel free to continue adding additional spectrum for commercial use.

Taking bold steps have led us to success in the past like we saw in 2012 when we pioneered a new reverse auction, the fruits of which are now being deployed in low-band 5G spectrum.

I am pleased to have worked with Chairman Doyle on the SHARE Act to facilitate a system for Federal users on how to better their share spectrum and thus optimize its use, but there is an impending need to clear more spectrum now.

That brings us to today's topic, how to clear C-band spectrum for 5G deployment from willing sellers. Without question, when it comes to more technically, legally, and economically complex spectrum bands like this one, we should be encouraging industry and the FCC to work together on innovative approaches to spectrum management that serves the public interest.

In today's legislative hearing, we will discuss a bipartisan proposal on this important swath of spectrum. But I understand there are other views on the committee from both sides of the aisle.

To be clear, all of these views have merit. Each provides an important stakeholder perspective from the terms of current occupants and users of C-band to how to best expedite its clearing so that it may quickly be deployed.

As our witnesses know, and will hopefully help us better understand today, there are several complex issues that present challenges for clearing C-band spectrum for mobile wireless service. We must consider the technical steps necessary to protect the incumbent programming services, how to best get cleared spectrum into the hands of

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

those who will deploy it, how to ensure a fair and transparent process, how to promote participation of small rural users, and how to avoid costly court challenges that put a strain on U.S. 5G leadership at a time when our economic and national security interests are in the balance.

Our main objectives, no matter the approach, should be to get the spectrum to market quickly, fairly, and transparently.

With very few legislative days left in this session, time is running out to legislate the type of detail that was necessary to unlock the spectrum identified in the 2012 Spectrum Act. However, there is clearly a role for Congress to play in ensuring the public interest is served through effective spectrum policy and its related revenues.

I look forward to hearing more about those issues from our panel today. And, again, I want to thank our witnesses for being here.

And, at this time, I want to yield the remainder of my time to my friend, the gentleman from Ohio, Mr. Johnson.

[The prepared statement of Mr. Latta follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Johnson. Well, thank you. Thank you to my colleague for yielding.

And to chairman -- or used to be Chairman Walden, thank you for all your leadership. And I have enjoyed working with you. It is a sad day to hear the news that you are leaving.

Well, look, this is a very important hearing today. The question is not whether this important mid-band spectrum should be repurposed but what process the FCC should use to transition C-band spectrum from satellite to terrestrial wireless broadband use, enabling 5G services, and importantly, greater broadband deployment to rural areas.

As a lead sponsor of the C-BAND Act, it is clear that I prefer the FCC conduct a public auction. In my view, this would enable a transparent and competitive process and ensure the taxpayers are the primary beneficiary from any auction or sale of this national resource.

I am hopeful that today's hearing will provide a thoughtful discussion on all of the FCC's options for repurposing C-band spectrum. I am particularly interested in hearing what resources Congress could provide the FCC to best enable a fast and efficient release of this vital mid-band spectrum in addition to how best the spectrum can be used to meet the needs of rural America.

It is important that we get this right. A timely and competitive process is critical, as is the accountability and transparency provided by an FCC-led efforts.

And, with that, I thank you for the time, and I yield back.

[The prepared statement of Mr. Johnson follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. The gentleman yields back.

The chair now recognizes Mr. Pallone, chairman of the full committee, for 5 minutes.

The Chairman. Thank you, Chairman Doyle.

Today, we are discussing how to reallocate the C-band in a way that benefits all consumers and helps us invest in connecting more Americans to better technology.

C-band spectrum is essential mid-band spectrum that can be used to speed up our efforts to implement new wireless technologies. Currently, the spectrum is underutilized, but it is not unused. Right now, in fact, it hosts satellite services that provide important services across the country, including the delivery of news and entertainment content to rural America.

In July, we had a hearing to discuss the country's spectrum needs where we discussed C-band at length, and we heard from a group of satellite service providers called the C-band Alliance. The Alliance advocated for taking the lead and selling the spectrum privately to wireless carriers of their choosing and then made the argument that a private sale may make the spectrum available for 5G faster than a public auction would.

I don't think that is necessarily true. And what is more, the proceeds from that sale would mostly go to the foreign satellite companies that make up the Alliance. Their recent offer to make a voluntary payment to the Treasury from their multibillion-dollar private sale raised novel enforcement and transparency issues.

And this would be an unprecedented departure from the way Congress has instructed the FCC to reallocate spectrum in the past. Under the Communications Act,

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

we required the FCC to run auctions that provide revenues to the Treasury, which is critical to ensuring the American people benefit from these auctions, and the revenues could go a long way in helping us invest in high-speed broadband in unserved and underserved areas and next generation 9-1-1 as we do in the LIFT America Act. Some estimates indicate the C-band auction could yield as much as \$60 billion to fund those priorities.

A public auction conducted by the FCC would also ensure that the process is fair, transparent, and competitive. And, furthermore, the FCC has the experience and the expertise to carry out this auction. After all, it has conducted over a hundred public spectrum auctions that have already earned \$120 billion.

So, last week, Chairman Doyle and Representatives Johnson, Matsui, and Gianforte introduced the C-BAND Act, which would require the FCC to conduct a public auction of the C-band. I will let them explain it, but this bipartisan effort is a powerful step towards using our public airways to benefit all Americans. We can't afford a delay in making this important spectrum available for 5G, and we can't afford give away billions of dollars that could be used for improving public safety and connecting Americans to broadband.

And, with that, I would like to yield the 2 and a half minutes left to Representative Matsui.

[The prepared statement of The Chairman follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Ms. Matsui. Thank you very much.

And I would also like to say to Mr. Walden, the ranking member, how much I appreciate working with him on the full committee and the subcommittee and look forward to completing the work ahead. So thank you very much.

Thank you, Chairman Doyle, for holding this important and timely hearing on repurposing the C-band. As the United States works to establish itself as a world leader in 5G and beyond, I remain committed to advancing policies that would promote better utilization of spectrum to meet the growing demand for wireless services and strengthen our economy.

I am pleased to join Chairman Doyle and Representatives Johnson and Gianforte in introducing the C-BAND Act. This bill is an important part of discussion about the future of 5G and represents bipartisan agreement that the FCC must pursue an open and transparent auction process that respects American taxpayers.

The C-BAND Act would build on the progress of my WIN 5G Act, which will help ensure the U.S. wins the race to 5G and beyond while also making needed investments in rural broadband. The approach contained in these bills is an important part of ensuring this valuable public resource is made available -- 5G -- quickly, equitably, and transparently.

Our FCC-led public auctions have been successful in bringing spectrum to market. I am concerned that the Commission may be pursuing alternatives to public auctions that would field proceeds to private parties, rather than taxpayers, and trigger time-consuming legal challenges. That is why I recently sent a letter to Chairman Pai reiterating my belief that the Chairman does not have the authority to conduct a private



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

auction of the C-band and must use the auction authority provided by Congress through an FCC-led public auction.

Abandoning this proven model could lead to protracted litigation, causing unnecessary delays in making this 5G spectrum available and shortchange the American taxpayer.

I would like to thank the witnesses here today for appearing before this committee, and I look forward to this very important discussion about the future of C-band.

And, with that, I yield back to the chairman.

[The prepared statement of Ms. Matsui follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. The chairman yields back?

The Chairman. I yield back.

Mr. Doyle. The chairman yields back.

The chair now recognizes Mr. Walden, ranking member of the full committee, for 5 minutes for his opening statement.

Mr. Walden. Well, good morning, Mr. Chairman.

And thanks, again, to all of you for your very kind and generous comments.

I want to welcome our witnesses today to this hearing. Before diving into the debate over how to best clear up a portion of the C-band and 5G deployment, I want to emphasize the goals I believe every member here shares.

First, the process must lead to auction revenues and spectrum allocations benefiting Americans in all parts of our country. I think we can agree to that.

Second, we must preserve spectrum for those that are reliant on the current C-band services now and into the future.

Third, we must take interference concerns into account when redeploying spectrum. I think that is essential.

And, fourth, we should seek to make this critical mid-band spectrum quickly available for 5G.

Fifth, this process should not overlook the opportunity to also facilitate resources for connecting rural communities with broadband and upgrading or emergency call centers to Next Generation 9-1-1, all without any deficit spending. So, to your point, Mr. Chairman, there is a pay-for here that we can all see, and we have a lot of work to do in the country.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

So, lastly, the process has to be fair, open, and transparent.

So, with that in mind, I know there are differences of opinion from our various stakeholders of how the FCC may proceed. And I would expect the Commission is taking a hard look at weighing the ramifications of each option.

To further facilitate that public conversation and to ensure our discussion moves to the next level without ceding the point on an auction mechanism, I am pleased to see a legislative proposal for today's hearing.

Mr. Chairman, as I have said since the very first hearing you chaired, we remain committed to working with you to find bipartisan solutions. And I think we have proven that on both sides with passage of the robocall legislation and soon moving on the broadband mapping and supply-chain-related measures. Those are both important, and we are making progress on those. And now I think we all know there is this little one still begs for us to get involved and solve. The court kind of ruled in kind of -- and I won't say net neutrality, but eventually we might get to that one, too. But that is a little more problematic.

With that said, we all agree we must make this critical mid-band spectrum available and do so quickly. If we are questioning on how the Commission may act, then I think we have an obligation to clear that up so the FCC has clear direction from us on how to accomplish our shared goals. If there is a concern over the timeframe it would take to complete a public auction due to outdated software that can't run multiple or complex auctions, then we should take up authorizations for the FCC and NTIA so they have state-of-the-art tools for their respective spectrum management roles going forward.

Let me raise another point that bears review. In our recent legislative hearing on

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

the supply chain bills, we heard from our witnesses about the stark competitive implications for trusted equipment vendors and the pressures they face to lower prices, especially to appeal to rural providers in hard-to-reach areas, like places in my district in Oregon.

While those bills are important for addressing our current frame network vulnerabilities and understanding future risk, we can do so significantly more through market incentives to give rural providers options that maybe more cost-competitive. That can only happen when trusted vendors have a market for mid-band equipment, and we know that freeing up C-band holds the key in that regard.

If we don't, there could be potentially serious long-term implications for the trusted vendors we rely upon now.

So, to put an even finer point on it, our failure will worsen the digital divide for rural constituents who can benefit the most from propagation aspects in mid-band spectrum that could come online.

We are all Americans. I know we can work together to beat the command and control markets dictated by some countries to protect and expand their homegrown vendors base for world dominance. That is a big statement. So, on this and other priorities I outlined, we would be remiss to let this opportunity pass by.

Please see Chairman Pai's commitment to deliver this mid-band spectrum to market fairly, transparently, and expeditiously, and I look forward to a thoughtful discussion today on how to achieve our common goals.

With that, Mr. Chairman, I thank you again and look forward to working with you.

I yield back. Before I do, just so the committee knows, we have got another subcommittee I have to go to as well, but I will be bouncing back and forth.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

So, again, thank you very much for participation in our witness panel, and I yield back.

[The prepared statement of Mr. Walden follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. I thank the gentleman. The gentleman yields back.

The chair would like to remind members that, pursuant to committee rules, all members' written opening statements shall be made part of the record.

So I would now like to introduce our witnesses for today's hearing.

First, Mr. Ross Lieberman, senior vice president, ACA Connects, American's Communication Association. Welcome.

Next, Mr. Jeff Campbell, vice president, Government Affairs Technology Policy with Cisco. Welcome.

Ms. Deborah Collier, director of technology and telecommunications policy, Citizens Against Government Waste. Welcome.

Mr. James Frownfelter, chairman and chief executive officer, ABS Global. Welcome, sir.

And, finally, Mr. Phillip Berenbroick, policy director with Public Knowledge.

We want to thank all of the witnesses for joining to us today. We look forward to your testimony.

At this time, the chair will now recognize each witness for 5 minutes to provide their opening statement.

Before we begin, I would like to explain our lighting system. In front of you is a series of lights. The light will initially be green at the start of your opening statement. It will turn yellow when you have 1 minute remaining. Please start to wrap up your testimony at that point. And when the light turns red, your time has expired.

Mr. Lieberman, you are recognized for 5 minutes.

This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.

**STATEMENTS OF ROSS LIEBERMAN, SENIOR VICE PRESIDENT, ACA CONNECTS – AMERICA'S COMMUNICATIONS ASSOCIATION; JEFF CAMPBELL, VICE PRESIDENT, GOVERNMENT AFFAIRS AND TECHNOLOGY POLICY, CISCO; DEBORAH COLLIER, DIRECTOR OF TECHNOLOGY AND TELECOMMUNICATIONS POLICY, CITIZENS AGAINST GOVERNMENT WASTE; JAMES FROWNFELTER, CHAIRMAN AND CHIEF EXECUTIVE OFFICER, ABS; AND PHILLIP BERENBROICK, POLICY DIRECTOR, PUBLIC KNOWLEDGE.**

**STATEMENT OF ROSS LIEBERMAN**

Mr. Lieberman. Thank you.

And we, too, were saddened by your announcement of your retirement, Congressman Walden.

The members of ACA Connects have appreciated your leadership on so many vital telecommunications issues that affect them.

So thank you for the opportunity to share ACA Connects' ideas on how to reallocate C-band spectrum for 5G, protect consumers, and deliver broadband for all Americans.

We appreciate Chairman Doyle, Representatives Gianforte, Congressman Johnson, and Congressman Matsui, for introducing the C-BAND Act, a bipartisan bill that includes many elements that are essential to achieving these goals.

Today, C-band satellites are the best way for ACA Connects members to receive the cable programming networks that their customers demand. The C-band works especially well for rural operators because nationwide satellite transmissions that

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

originate from studios in New York City and Los Angeles can reach remote -- can reach their remote systems.

Over time, our members have invested over one hundred -- hundreds of thousands of dollars in their -- per cable headend to use the C-band. While large cable operators are switching to fiber as their delivery path for video programming, this is not an affordable option for many ACA Connects members today.

So who are ACA Connects members? They are people like Patty Boyers, president of BOYCOM in Poplar Bluff, Missouri, who I assume you remember from her colorful and compelling testimony before this subcommittee in June. Most of our members, like her, are family businesses, with fewer than 10 employees and fewer than 1,000 customers who operate in small towns and rural areas. These are the very communities that broadband mapping and other rural broadband initiatives are intended to help.

So how would these communities fair if the FCC repurposed 300 megahertz of C-band and packed existing users into what remains as the satellite industry's C-band Alliance proposes? Simply put, without a fiber alternative, our members and their customers will be stuck with higher prices to use a less reliable C-band that is more prone to interference and unable to meet future demands.

Lacking any details, the CBA outlined its plan only yesterday evening.

But it is clear that ACA Connects members who -- would need to execute a grueling series of tasks, installing filters, repointing dishes, and replacing dozens or even hundreds of pieces of equipment in each of their 2,000-plus headends. It would be all pain and no gain. That sure doesn't sound like a win for rural America.

ACA Connects shares the committee's goal in making 5G a reality, but we must be



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

careful to avoid imposing real harms on rural Americans in the process.

So is there a way to clear C-band spectrum that avoids these harms? The answer is yes. ACA Connects and its allies have a plan that would clear 370 megahertz of the band. Our 5G plus plan would do this by migrating video traffic off the C-band and onto fiber, enabling small and rural operators to upgrade to the next generation technology that is already becoming the standard for larger operators.

Auction proceeds would cover all transition costs, including to deploy 120,000 fiber route miles to connect the rural systems that will need it. This would deliver a tremendous economic boost to rural America and help close the digital divide.

To boot, the 5G Plus Plan would clear more spectrum than other proposals, and it would do so in the same timeframe in which others have proposed clearing a far less amount.

The 5G Plus Plan also protects consumers. The plan would use a public auction to reallocate C-band spectrum and bring in tens of billions of dollars to the U.S. Treasury. The satellite industry, by contrast, has proposed a legally unsound private sale from which they could reap a windfall of \$60 billion or more, without spending a single penny on rural broadband. Surely, auction proceeds are better spent on new fiber infrastructure and other public benefits for Americans.

Indeed, our 5G Plus Plan presents a rare opportunity to deliver a triple win for America, new spectrum for 5G, greater connectivity in rural areas to close the digital divide, and substantial revenue for the Treasury.

In closing, I appreciate the opportunity to be here today on behalf of ACA Connects. We know we are just the small businesses in rural America in this debate. But our members and, most importantly, their customers in rural America have a great

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

deal at stake.

Thank you, and I look forward to your questions.

[The prepared statement of Mr. Lieberman follows:]

\*\*\*\*\* INSERT 1-1 \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. Thank you, Mr. Lieberman.

Mr. Campbell, you are recognized for 5 minutes.

#### **STATEMENT OF JEFF CAMPBELL**

Mr. Campbell. Mr. Chairman, Ranking Member Latta, and members of the committee, thank you for the opportunity to testify this morning on the topic of how to transition a key part of the 3 gigahertz band from one commercial use to another.

Cisco is a San Jose, California, based company that produces a wide range of technologies that address both the needs of service providers, government, and private enterprise. Cisco CEO Chuck Robbins has called 5G a step change in networking technology, but one that requires additional spectrum allocations. Cisco believes that the 3 gigahertz band should be opened as promptly as possible.

For several years, Cisco has been involved in the effort to open mid-band spectrum for terrestrial mobile services. Early on, we took the view that the private auction approach held promise as a faster mechanism than any other transition mechanism available to the FCC, and we urged its consideration.

To be clear, we are not wedded to any particular mechanism for the transition of spectrum from one use to another. We do believe that, historically, government-led spectrum transitions have been tremendously difficult and slow, and that in the case of 3 gigahertz, the United States needs to put a priority on dispatching this work at a faster clip.

Why do we believe this? Well, one reason is consumers. Cisco has forecast

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

that the mobile services traffic will rise fivefold through 2022, reflecting both continued use of powerful 4G networks and the initial deployment of 5G networks and devices. A lesson learned here: If you build it, they will come.

But a less obvious reason is that national economic interests are also at stake, to the level of potentially affecting our GDP. Unlike previous mobile technologies, 5G technology for the first time makes possible a ubiquitously available set of wireless capabilities that can make our economy work better by facilitating operations that are data-driven and more efficient. In some cases, it enables a wireless solution where one does not exist, while in others, it makes a wireless solution easy to utilize relative to existing solutions.

For example, today, you can automate the timing of traffic signals and change the timing from a central control room. But without having data about the density and speed of traffic, how do you make informed decisions about how to set the timers? There is no wireless technology available today that would give you that data. But 5G will.

A farmer today can use existing sensor technology and WiFi to create critical data about his or her crops and soil conditions, but that requires spending some portion of the workweek managing the farm's IT. What if the farm were blanketed by 5G and the same data is delivered to the farmer from his service provider?

Or what if a trucking company that specializes in food distribution wants to monitor its vehicles comprehensively, for route efficiency, refrigeration temperature, and time spent loading or unloading? There is no single technology today that can perform all of those functions. However, 5G could.

Three gigahertz spectrum is important to 5G, because spectrum is available in

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

bands wide enough to address these and many other use cases. The spectrum is capable of being deployed across wide areas. It goes through walls, and it can be deployed in small cells to enable dense coverage.

That is why the speed of this transition is important. Networks built on 3 gigahertz spectrum can flexibly address the many use cases that networks will need to support.

We must recognize that the business applications for 5G do not exist today for the most part. They have to be defined, and the networks must be configured to support them. That is a big challenge for the mobile industry, so there is a lot to learn. The sooner that service providers and businesses can get to work defining these new services, the better our economy will run. That means spectrum must get into the hands of people who will build 5G networks with it.

Other nations are moving quickly, very quickly, recognizing this dynamic as one that could boost their prospects globally or leave them behind. At best, a government-run auction would likely occur sometime in 2021, and the C-band bill puts this date sometime in 2022. That compares to the CBA's view that it could run an auction by mid-2020.

In short, the value of an auction is that it puts a useful resource in the hands of those who will generate great economic activity from it, and that is what boosts national economies and competitiveness. Auction proceeds capture headlines but are dwarfed by the underlying benefits of putting spectrum to productive use. And in the case of 5G technologies in the 3 gigahertz band, there are national competitive interests at stake which we believe mitigate moving expeditiously.

Thank you very much.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

[The prepared statement of Mr. Campbell follows:]

\*\*\*\*\* INSERT 1-2 \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. Thank you, Mr. Campbell.

Ms. Collier, you have 5 minutes.

#### **STATEMENT OF DEBORAH COLLIER**

Ms. Collier. Thank you.

Mr. Chairman, Ranking Member Latta, and members of the committee, since its inception in 1984, CAGW has been in the forefront in the fight for efficiency and accountability in government. With more than 1 million members and supporters nationwide, CAGW has helped save taxpayers \$1.3 trillion through the implementation of Grace Commission findings and other recommendations over the last 35 years.

The organization's mission reflects the interest of taxpayers and covers had a wide variety of issues. The sale of Federal assets, including spectrum, has been a part of CAGW's agenda for many years.

The widespread use of wireless 5G will dramatically change mobile communications across the Nation and lay the groundwork to support new technical innovation in communications, health care, transportation, and the Internet of Things.

However, for 5G to be most effective, spectrum must be available in high-band, mid-band, and low-band ranges. Mid-band has unique properties that allows data signals to travel through a larger range of spectrum, and its wide channels provide for high-speed data transfers, making it a sweet spot for 5G deployment.

Access to mid-band spectrum has been more difficult to achieve, in part because of the number of incumbent users already in the spectrum range.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

The focus of this hearing is the C-band spectrum for 3.7 to 4.2 megahertz. This 500 megahertz of prime mid-band spectrum is currently accessed by satellite owners, video content providers, and satellite phone service providers, to name a few, all across the country. They access this through a full-band, full-arc access, which allows for the transmission of data signals between satellites and Earth stations. Therefore, it cannot be licensed for 5G communications until the Federal Communications Commission reallocates the band for licensed flexible use. Every Earth station and satellite accessing this band receives authorization from the FCC to transmit data through this spectrum, but authorization to access the spectrum does not constitute ownership. The only clear ownership within the band is that of the taxpayer, as represented by the U.S. Government.

In April 2019, CAGW published a report, "The Race to 5G: Protecting Taxpayers Through Spectrum Auctions." I ask that this report be included, along with my written testimony, for the record.

Mr. Doyle. Without objection, so ordered.

[The information follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Ms. Collier. The underlying legal authority for an FCC auction of spectrum is found in Section 309(j) of the Communications Act of 1934. Section 309(j)(c) provides for -- and I quote -- the recovery for the public of a portion of the value of the public spectrum resource made available for commercial use and avoidance of unjust enrichment through the methods employed to award uses of that resource.

As noted by FCC Chairman Ajit Pai during the October 17th hearing, in his testimony before the Senate Appropriations Subcommittee on Financial Services and General Government, the agency is required by law to deposit all proceeds generated from a spectrum auction into the Treasury, unless Congress specifies use of the proceeds for other purposes.

For example, Subcommittee Chairman John Kennedy has proposed using proceeds from the C-band spectrum auction to provide additional funding for broadband deployment in rural America. There will be costs associated with vacating portions of the C-band spectrum, including installing new hardware and reconfiguring thousands of affiliate reception sites to accommodate more efficient encoding, compression, and modulation technologies. An auction of C-band spectrum has a potential value of between \$11 billion and \$60 billion, depending on exactly how much spectrum is made available for sale.

CAGW appreciates the introduction of H.R. 4855, the C-BAND Act, which clearly designates the FCC as the only appropriate entity for reallocating this spectrum for broadband internet access services and conducting a public auction of the spectrum.

Since the beginning of the discussions over C-band, CAGW has maintained that it is a public asset and only the FCC has the authority to reallocate an auction of this

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

spectrum for flexible terrestrial use.

Again, thank you for the opportunity to testify, and I look forward to any questions you have.

[The prepared statement of Ms. Collier follows:]

\*\*\*\*\* INSERT 1-3 \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. Thank you, Ms. Collier.

Mr. Frownfelter, you are recognized for 5 minutes.

#### **STATEMENT OF JAMES FROWN FELTER**

Mr. Frownfelter. Chairman Doyle, Ranking Member Latta, and distinguished members of the subcommittee, I am Jim Frownfelter, chairman and chief executive officer of ABS Global.

Earlier in my career, I was president of PanAmSat, the company responsible for privatizing the satellite industry, and then president at Intelsat when the two companies merged in 2006.

I am here today speaking for my company, ABS, and two other small satellite operators, Hispasat and Claro. We call ourselves the small satellite operators, or SSOs, representing three of the current eight satellite operators who are licensed to serve the United States using C-band.

We have invested collectively about \$750 million to build and deploy advanced satellites with C-band payloads designed to serve the U.S. market.

From the beginning of the FCC proceedings, we have supported repurposing C-band spectrum for 5G terrestrial services in a reasonable and balanced way.

We believe the FCC, or Congress, should repurpose 300 megahertz of C-band for 5G by using off-the-shelf compression technology, which we believe can be done in 18 to 36 months; permit a transparent and efficient private sector auction under FCC rules that fairly and equitably compensate all FCC-licensed satellite operators whose C-band

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

spectrum use rights will be reduced; mandate multibillion dollar payments to the Treasury from such an auction; and, finally, to set forth financial incentives for U.S. Earth station operators to install the compression equipment in a timely manner, thus facilitating a fast C-band transition, maximizing the amount of frequency spectrum to be repurposed, and expediting rollout of 5G services.

Some have argued that C-band spectrum should simply be taken from satellite operators without compensation and auctioned. Confiscating spectrum rights in this way would not only be a disaster for us, it would be a disaster for investment in all wireless services. As we sit here today, companies are investing billions of dollars in new global satellite networks and in new 5G terrestrial networks. But they do so only because they have confidence that the FCC won't simply take their licenses away.

If the FCC or Congress simply confiscates our spectrum rights, that confidence would be irrevocably shaken, with, I assure you, a disastrous impact on future investment.

It is also important to emphasize that the impact on future investment will be felt even, as the CBA has proposed, you simply confiscate the spectrum rights of companies that did not earn U.S. revenues in 2017.

Take my company, ABS. My colleagues and I acquired it in 2010, intending to transform it from a regional satellite operator into a global one. To be a global player, which is required to be a successful satellite services provider today, coverage of the United States is essential. So we designed a satellite that was built by Boeing and launched by SpaceX, specifically to serve the United States. We spent almost a quarter of a billion dollars seeking and receiving an FCC authorization to use C-band in April of 2017.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

How can someone reasonably argue, after we spent almost \$250 million on this satellite that was designed to serve the United States, after we did everything required to obtain an FCC authorization, and after we finally received that authorization, that most of our spectrum can be confiscated simply because we didn't illegally build a revenue base prior to receiving that authorization in 2017? Why would we, or anyone else for that matter, invest that kind of money in reliance on U.S. law and FCC rules ever again?

The SSOs have active, valid FCC authorizations. They have invested a fortune in reliance on FCC rules and have done everything right. We hope that the FCC and Congress will do right by us, too.

Thank you for your time, and I look forward to answering your questions.

[The prepared statement of Mr. Frownfelter follows:]

\*\*\*\*\* INSERT 1-4 \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. Thank you, Mr. Frownfelter.

And, finally, Mr. Berenbroick, you are recognized for 5 minutes.

#### **STATEMENT OF PHILLIP BERENBROICK**

Mr. Berenbroick. Thank you.

Chairman Doyle, Ranking Member Latta, and members of the subcommittee, thank you for the opportunity to testify about how to best repurpose the 3.7 to 4.2 gigahertz band, otherwise known as the C-band.

It is critical that Congress and the Federal Communications Commission ensure the public airwaves are used efficiently and in ways that best serve the public interest.

I am the policy director of Public Knowledge, a nonprofit public interest organization that advocates for free expression and public access to information, affordable communications tools, and creative works. PK has a long track record working with the Energy and Commerce Committee and the FCC on spectrum policy issues. Our advocacy aims to increase public access to the public's airwaves, encourage innovative, efficient use of spectrum that advances the public interest in wireless communications and promotes procompetitive spectrum policies to ensure broadband is affordable and accessible for all.

Public Knowledge is a member of the broad-based public interest spectrum coalition that includes national consumer, civil rights, education, rural broadband, and social justice organizations, and we are also a member of the Broadband Access Coalition, a coalition of rural broadband providers, equipment manufacturers, technology

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

companies, and consumer and public interest groups that support more efficient use of the C-band to help close the digital divide.

Public Knowledge supports repurposing portions of the C-band for wireless use. To this end, Public Knowledge supports the bipartisan, commonsense legislation introduced last week by Chairman Doyle, Representatives Johnson, Matsui, and Gianforte. H.R. 4855, or the C-BAND Act, promotes the speedy repurposing of C-band spectrum for the deployment of next generation 5G networks, protects incumbent users and their customers, and ensures reallocation of C-band licenses occurs via public auction that will serve the public interest and that -- that proceeds significant revenues that can be used to benefit the public.

Reallocation of the C-band has the potential to efficiently put all 500 megahertz of C-band spectrum to use for mobile and fixed wireless service. To be clear, the benefits of any reallocation of the public's airwaves in the C-band must flow to the public. Repurposing portions of the C-band for wireless broadband use presents unique opportunities to advance multiple goals simultaneously.

First, unleash hundreds of megahertz of mid-band spectrum for next-generation mobile broadband networks; second, dramatically upgrade efficient use of the C-band in ways that spur more widespread availability of high-speed fixed wireless broadband in rural and other unserved and underserved areas; and, third, recoup tens of billions of dollars for the Treasury that could then be allocated to provide substantial benefits to the public, such as closing the digital divide.

First, the FCC should modify C-band spectrum licenses under section 316 of the Communications Act, to permit flexible use of the spectrum and hold a public auction of those licenses, using its authority under section 309(j) of the act. This public auction is

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

what is prescribed by the C-BAND Act.

This process is the fastest, proven, and legal approach available for the Commission to free up significant C-band spectrum for 5G deployment. A public auction process would also ensure there is transparency for the public and auction participants, prevent collusion and anticompetitive conduct, reduce the risk of a failed auction, and make certain that auction revenues can be put to work to serve the public interest.

With specific regards to speed, a traditional FCC ascending clock auction could be scheduled quickly. The Commission should also set a date certain by which the repack of C-band incumbents would occur, which would create certainty for when the auction portions of the C-band will be made available for new licensees to commence deployment.

Second, the Commission should promote point-to-multipoint fixed wireless operations in the C-band. Fixed wireless services can help close the digital divide by using underutilized spectrum to reduce the economic barriers to deploying in rural areas.

Fixed wireless services could operate in the repacked upper portion of the C-band without harmful interference to incumbents and would bring high-speed fixed wireless broadband to tens of millions of households.

Finally, proceeds from the public auction of C-band licenses could be allocated by Congress to address priorities, such as deploying high-speed fixed broadband to unserved and underserved areas. This proposal has a dual benefit. It would make fixed high-speed broadband accessible in communities that currently lack access. It would also provide the necessary fixed backhaul that 5G and future generations of wireless networks will need, improving the economic conditions for deployment in communities that are otherwise unlikely to see 5G service for the foreseeable future.



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Again, the C-band represents unique win-win-win opportunity for policymakers.

Thank you for the invitation to testify here today. I welcome the opportunity to answer your questions.

[The prepared statement of Mr. Berenbroick follows:]

\*\*\*\*\* INSERT 1-5 \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. Okay. Thank you to all of the witnesses for your opening statements.

We are going to now move to member questions. Each member will have 5 minutes to ask questions of our witnesses. And I will start by recognizing myself for 5 minutes.

Mr. Frownfelter, under the CBA proposal, your company, ABS, and other small satellite operators in the C-band, would potentially stand to receive no incentive or relocation funds from a private sale, and you would be required to relinquish access to the same spectrum rights as CBA members.

Is that correct?

Mr. Frownfelter. That is correct.

Mr. Doyle. Thank you. Let me follow up.

If the FCC approves that CBA plan and you are hung out to dry, do you think it is likely that you or other affected SSOs will sue the FCC?

Mr. Frownfelter. Yes, I do.

Mr. Doyle. Thank you.

Mr. Berenbroick, do you think lawsuits from ACS or other SSOs, or to be honest, from any of the other parties impacted by a private sale, will slow the process down? Don't you think that any of the imagined benefits of a private sale disappear pretty quickly when you think of the mountain of lawsuits that would pile up from this \$60 billion giveaway?

Mr. Berenbroick. Yes, Congressman, I think -- or chairman, I think that is right. You know, I think the -- you know, as Mr. Frownfelter mentioned, you are likely to see

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

litigation, you know, if the FCC authorizes the CBA proposal.

Secondly, the FCC simply doesn't have the authority under the Communications Act to delegate its authority to run an auction to a private party. So, yes, you will see litigation, and that will dramatically slow down the perceived benefits of the CBA plan.

Mr. Doyle. Mr. Lieberman, if CBA was responsible for facilitating a transition in the C-band, what recourse do your members have if CBA makes mistakes? For instance, would your smaller members, like Ms. Boyers, who testified before our committee, would she need to call Luxembourg to get tech support? I mean, who would be accountable?

Mr. Lieberman. This is a big problem with the CBA plan. I mean, I would first say that the C-band plan is 3 pages at this point, for an FCC that wants to adopt this in December. So we really have no details whatsoever.

They have discussed the plan with small cable operators, not at all. We have not had a single conversation. They have not come to us and said this is what it is going to mean for you. So, to be honest, we don't really know what it is going to mean, but I do know that they have a strong incentive to do it on the cheap because whatever they don't give to us means that their foreign -- you know, foreign investors get to keep that money.

Mr. Doyle. Mr. Collier, how profound a waste do you think it would be if the government simply allowed a small handful of foreign satellite companies to walk away with potentially \$60 billion for something they don't even own? And what kind of opportunity is Congress missing if we don't try to use that revenue to address pressing national needs, like deploying broadband, funding public safety, or closing the digital divide?

Ms. Collier. If the CBA is allowed to sell this spectrum and retain all of the proceeds, the taxpayer is not going to see one cent out of this. They claim that they are

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

going to give a voluntary contribution, but what is that? A dollar, \$10, \$100, a million dollars? There is a potential for \$60 billion here that would be walking away from this country.

This funding, portions of which could be used to reimburse the cost of, you know, making the transition to cable operators, and other users of this spectrum. For the cost of the transition, part of the proceeds could be used for deploying rural broadband, expanding our 9-1-1 system, and doing further development in bridging that digital divide that we are also focused on. We wouldn't have that opportunity if the CBA was permitted to sell this spectrum.

Mr. Doyle. Thank you.

I am going to yield back my remaining 46 seconds and yield to my good friend from Ohio, Mr. Latta, for his questions.

Mr. Latta. Well, thank you, Mr. Chairman.

And, again, thanks to our witnesses for being here today and your testimony.

Mr. Frownfelter, if I could begin my questions with you. What is the range of the FCC's legal options for enforcement mechanism to ensure private or hybrid approach meets its conditions for the public interest, such as money going to the taxpayers, transparency on process, or how the licenses -- or the license sizes would end up?

Mr. Frownfelter. Yes, sir. We have proposed for the FCC what we consider to be a neutral third way of approaching the overall auction process.

As I mentioned in my opening statements, we are advocating a private sale with governance, guidelines, and oversight by the FCC to make sure that that process is transparent. And we do that because we think that is the quickest way to get us to 5G.

But the proceeds from that auction, we believe, should be distributed across three

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

different tranches. The first tranche is to incentivize U.S. Earth station operators. These are teleports, cable headends in rural facilities that connect our satellite capacity to the end user and incentivize them to install the latest technology and compression equipment so that we can quickly transition the C-band, free up the maximum amount of spectrum to be repurposed for 5G, and to expedite the rollout of 5G services.

The second tranche, which we have advocated from the beginning of this process, said a significant amount of the proceeds would be mandated by the FCC to go directly to the U.S. Treasury. In discussions that we have had with your staff on the Hill over the last couple of months, and as we have reported back to the FCC, we think the right amount is about 25 percent of the proceeds to go directly to the Treasury.

It is important to point out that, through the combination of these two tranches, depending on how much frequency spectrum is reallocated, 40 to 45 percent of the proceeds would immediately be reinjected back into the U.S. economy.

And then the final tranche would be distributing what we call our distribution and scoring model, which is a fair and equitable distribution system that would compensate the existing licensees for the modifications that would occur to their license and to compensate them for the capital that they have deployed and the loss of potential future revenue. And all eight licensees would be compensated in a fair and equitable manner.

From our perspective, this approach gets you to 5G the fastest. And doing it in a fair and equitable way, where we are recognizing all of the constituents, including the U.S. taxpayers, we minimize the potential for litigation and give us the best chances of rolling out 5G as soon as possible.

Mr. Latta. Okay. Thank you.

Mr. Berenbroick, what are your thoughts? My understanding is, from your

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

testimony, you support a public auction. But do you think it is possible to do a private approach that has these important conditions attached?

Mr. Berenbroick. Thank you for the question, Ranking Member Latta.

To be honest, given that the private auction proposal is relatively unprecedented -- it is an untested, unproven model -- I don't know what sort of public interest protections and oversight the FCC can exercise through to that process.

A traditional public auction ensures there is transparency, accountability, accounts for competition issues, a diverse range of bidders and auction participants get a seat at the table. We think those are critical pickup interest protections and benefits.

There is no way to account for that in a private auction. It is -- there is complete uncertainty.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

RPTR MOLNAR

EDTR HUMKE

[11:02 a.m.]

Mr. Latta. Well, thank you very much. Mr. Lieberman, if we go to the public option route with an option under Section 309J, what is the legal recourse for satellite operator incumbents to challenge the modification of the license?

Mr. Lieberman. There is a process that is available to them to challenge it and if they have concerns with what the FCC has done.

Mr. Latta. Thank you. Mr. Campbell, we are focused today on getting license spectrum cleared for 5G, but as a co-chair of the Wi-Fi caucus, I am aware that we also need to -- also need that unlicensed spectrum to reap the full benefits of the next generation mobile network. Would you explain how Wi-Fi fits into the race to 5G?

Mr. Campbell. Yes, Mr. Latta. Wi-Fi is an important complement to 5G. Currently if you think about most of the mobile use that goes on, actually occurs more on Wi-Fi than on the licensed networks. About 68 percent of current mobile traffic is actually carried by Wi-Fi. And so it is a complement.

So when you are in a Wi-Fi signal area, most devices will switch to Wi-Fi. Wi-Fi is now moving on to a new generation of Wi-Fi called Wi-Fi 6, which, think of it as 5G for Wi-Fi, which will have many of the same features as 5G.

And so we are looking to a point where devices that move between Wi-Fi and 5G will be able to provide the same kind of functionality to the users, and we need to make sure in these spectrum discussions that we are thinking of spectrum for both 5G and for Wi-Fi going forward.

Mr. Latta. Well, thank you very much. Mr. Chairman, my time is expired, and I

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

yield back.

Mr. Doyle. The gentleman yields back. The chair now recognizes Mr. McNerney for 5 minutes.

Mr. McNerney. I thank the chair.

I thank the witnesses for your testimony this morning.

Mr. Berenbroick, in your testimony, you noted that, quote, the C-band spectrum is essential for 5G deployment. I think that is pretty well understood, unquote. Given the importance of this band, we must use the time-tested methods of allocating the spectrum in the way that is transparent and fosters competition.

Has there ever been a private auction of spectrum approved by the commission in a way described by the C-Band Alliance?

Mr. Berenbroick. No, Congressman, not that I am aware of. It is an entirely untested, unproven proposal.

Mr. McNerney. Could allocating the C-band using an untested, private sale slow down 5G deployment because of legal challenges?

Mr. Berenbroick. Yes, Congressman. I think -- you know, we discussed earlier, the litigation risk is significant. And that could, in itself delay the process.

But, you know, frankly, you know, I think, as Mr. Lieberman alluded, you know, the C-band proposal, the current version of it was just filed last night, and it is all of three pages. And they also have not updated their proposal for how the auction would work. When the FCC took comment on that auction proposal over the summer, it was panned as overly opaque, as complex, as creating significant risk of auction failure. That, you know, auction failure would delay availability of 5G licenses as well.

So litigation risk is one risk of delay, but simply put, the auction design and the



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

untested nature of this proposal also creates significant delay risk.

Mr. McNerney. Thank you. Ms. Collier, I know the FCC has strong experience and proven expertise in conducting auctions. Is there an entity that has as much experience as the FCC when it comes to conducting auctions?

Ms. Collier. As far as spectrum auctions, no. The FCC has been conducting these auctions since 1994, 102 spectrum auctions under their belt, more than \$120 billion to the U.S. Treasury. This is quite a record. And they recently completed in 2017 the broadcast incentive auction, which has to be one of the most complex auctions of spectrum to date.

Mr. McNerney. Has the C-Band Alliance conducted any auctions to date?

Ms. Collier. No.

Mr. McNerney. Mr. Lieberman, under the private sales model, if the transition gets off track and problems arise, who would the Earth station operators turn to?

Mr. Lieberman. It is not clear. And the CBA and satellite industry have had experience with repointing and installing filters, but never before has the satellite industry been involved in swapping out equipment of the scope that they are proposing today, and we think it is prone to failure and certainly delay.

Mr. McNerney. Thank you.

I recently introduced the Digital Equity Act, with Representatives Lujan and Clark. This legislation would establish two Federal grant programs to close the gap in broadband adoption and digital literacy.

We need to be proactive about closing these gaps. 5G has the risk of widening the digital divide. Combined, the two grant programs in my legislation would cost a little over \$1 billion over the 5 years.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Berenbroick, could this auction revenue be used to pay for funding authorization of the Digital Equity Act?

Mr. Berenbroick. Yes, Congressman, it could.

You know, I think the auction is projected to, you know, depending on what is made available, to raise upwards of, you know, up to about \$50 billion. So, yes, the Digital Equity Act, which I think is, you know, funded at \$1.25 billion, could easily be funded.

Mr. McNerney. Thank you.

Ms. Collier, I am going to ask about something you said, that licenses do not signify ownership. Could you expand on that a little bit?

Ms. Collier. It is more that authority to operate in a space does not constitute ownership. The C-band spec -- and this is very unique to the C-band spectrum. The C-band spectrum, by its very nature, is rather open access to those that are authorized to use it. Where it is full band, full arc, meaning that a satellite company and the Earth stations have access to the entire 500 megahertz of spectrum, so that they can point their dishes to the best satellite to get the best signals.

A license usually is a partitioned section of spectrum, and that is something that is bought and sold through these spectrum auctions, like the mobile broadband, or the mobile licenses that telecommunications providers purchase through the auctions. They bought these licenses, and then they can sell them on the secondary market. Because of the very nature of a full arc, full band, nobody has ownership of license to a particular portion of that spectrum.

Mr. McNerney. Right.

Ms. Collier. Everybody has equal access.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. McNerney. Thank you. My time is expired, Mr. Chairman --

Mr. Doyle. Yes.

Mr. McNerney. -- as you have noticed. I yield back.

Mr. Doyle. The gentleman yields back. The chair recognizes Mr. Walden.

Mr. Walden. The subtle hand on the gavel.

Thank you, Mr. Chairman, and I want to thank our witnesses.

Mr. Lieberman, I want to start with your proposal, which calls for a public auction of 370 megahertz of C-band spectrum. Under this proposal, all the parties will be compensated for their transition costs, including the cost to deploy 120,000 new miles of fiber. And as you know, I represent some pretty challenging geographical areas for deployment.

Do you believe that the auction will bring in the revenue necessary to cover the cost of deploying this additional fiber? And I worry about the timeline. That is a lot of miles.

Mr. Lieberman. The estimate for the fiber deployment is \$6- to \$7 billion. The auction proceeds are expected by, for instance, New Street Research, to raise \$50 billion. I don't think we are going to have a problem raising enough money.

Mr. Walden. And we never have a problem spending it. So how confident are you this new funding would be complementing to existing or proposed programs like CAF II, the World Digital Opportunity Fund, USDA's Reconnect Program and potentially others, and how do you envision tracking the money to ensure it is all being used efficiently?

Mr. Lieberman. Well, our plan, first of all, calls for no overbuilding.

Mr. Walden. Good.

Mr. Lieberman. So the total amount of fiber that would be necessary is 420,000

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

fiber route miles in order to transport the programming over it; 300,000 of that fiber route miles already exists in the ground. So we would be just leasing IOUs or doing -- you know, using that.

It is the 120,000 fiber route miles that are probably going to a few cable systems in your market that don't have that.

Mr. Walden. And I will hear from them, if we don't get it right. Mr. Frownfelter, I know you have held some senior positions with some of these satellite companies, and given your expertise on how satellites operate, how confident are you that satellite operator incumbents could transition 300 megahertz of spectrum in a timely manner in a private-auction approach?

Mr. Frownfelter. Thank you, sir. I am very confident. In fact, as Mr. Berenbroick just mentioned last night, the CBA issued a new ex parte filing and a new proposal to the FCC, where after careful discussion and consideration with the broadcasters and the U.S. teleports throughout the United States, they are now signing up for transitioning 300 megahertz of spectrum, using advanced compression technology.

The first 120 megahertz, particularly at urban population centers, would be done in 18 months, and the entire United States done in 36 months. The main difference between their proposal and ours is that they do not incentivize the Earth station operators, they don't incentivize these rural communities to implement the latest technology at each of their facilities which the SSOs have been advocating for from the very beginning of this process. And we believe that if you incentivize them, you could actually get this done in a much faster timeframe than even the CBA is projecting from last night.

Mr. Walden. Okay. Another question to you. Does the law permit this

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

private approach, specifically in referring to section 309J6E, which clarifies that the commission try other means besides auctions, like negotiations to make spectrum available?

Mr. Frownfelter. Well, sir, I am an executive, not a lawyer but --

Mr. Walden. That is two of us. I am not burdened with a law degree either, but --

Mr. Frownfelter. But from our perspective, we are not adamantly against a public auction, but we see two potential issues. I think one is speed of execution. We think based on past history, it is very difficult to argue that a private auction wouldn't be faster, potentially much faster than a public auction.

And second, as I indicated in my opening statements, you know, when we look at the proposals, including the bills that were submitted last Friday, what we don't see is any compensation for the incumbent licensees for modifications to the existing licenses, and we think that sets an awful precedent going forward that would impact future investment in wireless services.

So in our proposal we have put together what we think is a very fair and equitable compensation for all of the constituents, including those Hearst station operators, teleports, cable headends in rural communities, in order to effectuate 5G rollout as quickly as possible and minimize the potential for litigation.

Mr. Walden. All right. Thank you. Mr. Lieberman?

Mr. Lieberman. Yeah, it is bold for the satellite industry to be saying that it can be done quick when the majority of the work is going to be having to be done by smaller cable operators and having to do it in 3 years.

And I can tell you that their incentives to do it fast is not going to exist. Their

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

priority is providing broadband services to their customers, not switching out a whole bunch of equipment in order to be left with a C-band that is less reliable, less capable, and less affordable. So I think we need to take that into account, who is going to be doing the work.

Mr. Walden. Thank you, Mr. Chairman. Thank you all.

Mr. Doyle. The gentleman yields back.

The chair now recognizes Mr. Soto for 5 minutes.

Mr. Soto. Thank you, Mr. Chairman. At stake here is a lot -- 5G, nearly \$60 billion, and a whole host of different proposals on how to address this. I wanted to start by asking Mr. Lieberman, has there been any precedence for a private auction, as been proposed by some on the panel, in the past with regard to other spectrum?

Mr. Lieberman. None. Completely novel, subject to legal challenge.

Mr. Soto. Mr. Frownfelter, would you agree with that, or has there been precedence before?

Mr. Frownfelter. I would agree with that, sir.

Mr. Soto. Okay. It would be great to hear from each of you just a bit on what infrastructure is going to be required. Let's say we sell all this bandwidth and we are developing 5G across the Nation, what is the basic infrastructure we are going to need?

And we will start with you, Mr. Lieberman, and we will go across the panel.

Mr. Lieberman. For cable operators, it is going to essentially be replacing hundreds of pieces of equipment in their headends, because the CBA proposal is suggesting that they should use a higher compression.

In their headends today, they have equipment for the current compression. So they are going to have to replace that out, and it is not going to be able to be done all at

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

once. It is going to have to be done in sequences.

Mr. Soto. Thank you. My time is limited. Thank you.

Mr. Campbell, what needs to be done to deploy 5G, what type of infrastructure.

Mr. Campbell. For the 5G portion of this, we are looking at, you know, radio towers, replacing that. We are going to have a lot of small cells as well, which you can think of as similar to Wi-Fi type devices that will be in denser areas to get higher deployments. And then all those things need to be connected by high speed, you know, physical connections, whether it is -- probably fiber, but other methods in order to connect them back to the internet for them to work most effectively.

Mr. Soto. Ms. Collier, would you agree with that? What do we need to get to 5G?

Ms. Collier. Yeah. I am not an engineer, so I am not sure the --

Mr. Soto. Just generally.

Ms. Collier. But in general, as I noted in my testimony, there are going to be costs associated with transitioning to help the companies that are involved do more efficient encoding. They are going to need compression and modulation technology changes. They need to add in more advanced computing technology just to deploy into the new regions that they are being pushed into.

Mr. Soto. Thank you.

Mr. Frownfelter, what is going to be required of us to get to 5G should all the auction be done already.

Mr. Frownfelter. I agree with Mr. Campbell's statements, but I do disagree with what Mr. Lieberman had to say. Having been the President of PanAmSat, and I think more relevant than privatizing the satellite industry, we were the company that built and

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

rolled out the current C-band service in the United States from scratch.

And in 2001, we had to dramatically expand that service because of the imminent rollout of HD. And to do so, we had to package complete antenna systems, required new foundations to be laid at all of these teleports and Earth stations. We had to ship them, and each of these teleports, and even in the rural areas, had to install each of these antennas in order to expand the system significantly. That effort is extensively more complicated than what we are talking about here in terms of upgrading equipment to the latest compression technology.

And even back then when we didn't have the communication capability of web pages and the internet, we were able to complete that entire process across much more Earth stations than we have today in the United States. We were able to complete it in 3 years.

Mr. Soto. Thank you, Mr. Frownfelter. My time is limited. Thank you.

Mr. Berenbroick.

Mr. Berenbroick. Briefly, you know, Mr. Campbell is absolutely right. You need -- for 5G deployments, not only do you need the licensed spectrum, but you also need significant, fast, fixed broadband networks for backhaul in the low-income communities and urban areas. And in rural and ex-urban communities, we don't have that fix to backhaul that is available that can support 5G speeds.

Secondly -- Mr. Campbell alluded to this earlier too -- you need significant swaths of unlicensed spectrum. You need unlicensed spectrum channels that are wide enough to support offload from 5G networks. We don't have that right now.

Mr. Soto. Well, thank you all for enlightening us. You know, it is going to be complicated. It is going to take all of your help. It doesn't look like one particular area



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

of this industry is going to be doing this on its own.

And so that is very helpful as we are looking to have a collaborative way to get to 5G, and thank you all for your testimony.

Mr. Doyle. The gentleman yields back. The chair now recognizes Mr. Kinzinger for 5 minutes.

Mr. Kinzinger. Thank you, Mr. Chairman. I will add to the missing Greg stuff. However, we all get to move up one, so --

Mr. Walden. Yeah, everybody to my left is happier about this, because they move up in seniority, so.

Mr. Kinzinger. We will miss you, though.

Mr. Walden. What was that guy's name again, from Oregon?

Mr. Kinzinger. Waldsman? I forget. But thank you.

We have a difficult issue before us in c-bands, obviously pretty much the only game in town in terms of ensuring ample mid-band spectrum available for the deployment of 5G. It is highly valuable, and there is a multitude of stakeholders that need accommodating, not the least of which are the American taxpayers. So we will get right to it.

Mr. Campbell, you have stated that repurposing the spectrum is in our national security and economic interests. I have a real focus on security policy, international affairs, and I actually think this committee intersects quite well with that, so I can appreciate that point. Can you expand a bit more on the importance of moving quickly? And where does the U.S. stand in comparison to Europe and China?

Mr. Campbell. Well, I think it is very important to recognize that technology is as important to national security as many of the traditional things we think of when we think

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

of our defense. And we need to have the most advanced technology, both in the information world, but in every other part for a very strong and secure national defense. That means maintaining world-class networks. That means being at the forefront of all new technologies as we develop them. We have been pretty good at that for quite some period of time.

But we look at a situation like this, where we are looking at mid-band spectrum for 5G, and the Europeans are moving swiftly on this, the Chinese are moving on this, other east Asian nations as well. If we don't make spectrum available in this space, we are not going to be operating in the optimal space as quickly as others.

Mr. Kinzinger. Well, let me add to that, and then I will let you continue with that, but I also have a follow-on to that, because I think we take for granted a lot of the times that we are technology leaders. And so we can slow things down here, because we forget that there is really good competition out there.

So if other Nations leap ahead, doesn't that mean that foreign equipment manufacturers can also find themselves well ahead, and further, for instance, if Chinese manufacturers are among those surging and gaining outsized market share, what does that mean for the national security posture of the U.S. and our allies?

Mr. Campbell. Well, that can be very challenging for our country, and we have to make sure that we are at the forefront of all the technologies on this front. A 1-year or a 2-year delay in this process, you know, sometimes people think, oh, it is just a year. In the technology world, a year is a generation. And we really have to be up there as quickly as we can, which is why when we look at this question of what to do with this spectrum, we are very concerned about the speed at which we bring things to market as being much more important than worrying about the immediate Treasury impact.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Because the economic impact is so much larger than the Treasury impact --

Mr. Kinzinger. So I remember when I was 18, I had visited Germany, and everybody had these cell phones that I guess the cool thing was texting at the time. It was new to me. And Europe was really leading in kind of cell technology, and then we have caught up obviously and are in the position we are in because of that ability for our companies to breathe and move quickly.

Let me also ask you, you obviously know the C-band Alliance has proposed the private auction, which we have been talking about, as the mechanism to facilitate the sale. While your company, Cisco, is not part of the C-band Alliance, you have stated that your top priority is getting it started and finish as quickly as possible, and you support the CBA's plan because you feel it is the fastest mechanism.

But let's hypothesize that the FCC determines that the best mechanism is something that more closely resembles a public auction but they incorporate a lot of the provisions to streamline compliance with the Administrative Procedures Act, expediting the procurement of auction software and generally cut red tape away.

Setting aside that this is a hypothetical and that Congress would likely need to approve most or all of these, would you then support this type of a modified public auction, and do you feel it adequately expedites proceedings while appropriately balancing public interest?

Mr. Campbell. We would support any process that would move towards a faster resolution of transitioning the spectrum, and if that is the fastest -- that is why we are not ideological about this. We think moving the spectrum is more important than anything here, and therefore, if through congressional action we can speed this process, that would be great. If the FCC can speed this process, that would be great.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

One aspect that ought to be considered, too, in looking at this question of a private auction or not, is that it does send signals to other current licensees that in other bands that are going to need to be transitioned for other uses in the future, that there might be some incentives for them to work cooperatively to want the transitions to happen. I mean, this worked in the TV band very effectively in the past, and I think we want to make sure that we make sure there are both carrots and sticks in this process.

Mr. Kinzinger. So I think to close I will just say this. I think, you know, obviously this hasn't been done before, and we don't know what this ends up looking like in finality, but I think it is really important for us, Mr. Chairman, to discover these kind of different options as we rethink government and how we do things.

So with that, I will yield back.

Mr. Doyle. The gentleman yields back. The chair now recognizes Ms. Matsui for 5 minutes.

Ms. Matsui. Thank you very much, Mr. Chairman. Now, as Congress moves toward a solution for the C-band, I believe we need a comprehensive approach that advances 5G while also making investments that will strengthen rural broadband. My Win 5G Act would establish a new rural broadband deployment fund to be used by the commission to expand rural broadband access with proceeds generated by the auction.

Mr. Lieberman, moving forward, do you support the inclusion of a rural broadband deployment fund to support investments in rural broadband infrastructure? And that could be a yes or a no.

Mr. Lieberman. Yes.

Ms. Matsui. Ms. Collier, my Win 5G Act also includes a provision to explore reallocating the 3.4 to 3.5 megahertz band. Do you support efforts like this to make

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

additional federally-held spectrum available for commercial use?

Ms. Collier. We do support reallocating spectrum for 5G deployment. We are still looking at your proposal, the Win 5G Act. But we haven't determined how --

Ms. Matsui. Certainly.

Ms. Collier. -- what our position is.

Ms. Matsui. You are looking at it. That is fine.

Ensuring that the maximum amount of spectrum in the C-band is made available for 5G, while respecting the needs of incumbent users, should be a shared principle in our approach to this issue.

My Win 5G Act includes incentives to maximize the amount of C-band spectrum, thus ultimately made available. A commission-led public auction as required by the C-band act will help ensure that the market, not private actors will dictate the amount of spectrum made available.

Mr. Berenbroick, do you have concerns that the operators of a private sale may not have an incentive to maximize the amount of spectrum that is ultimately made available for 5G?

Mr. Berenbroick. Thank you for the question. Yes. I think there are some concerns that the overriding incentive of satellite providers seeking to have a private auction is maximization of revenue that they would intend to told onto, rather than the broader public --

Ms. Matsui. Well, what do you believe is a minimum amount of C-band spectrum that will need to be made available in order to have a meaningful impact on the deployment of 5G?

Mr. Berenbroick. So, Congresswoman, we have not taken a position on the

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

amount that needs to be made available, but what we have taken a position on is that what is made available should optimally, it would be auctioned in a single tranche and that there would be auction rules in place that promote competition and access to that spectrum by a diverse range of bidders and small businesses.

Ms. Matsui. Okay. In the recent testimony before the Senate Appropriations Committee, Chairman Pai reiterated that the C-band spectrum in question is ultimately a public resource as owned by the American people. It is my belief that above all, we should be striving to provide the benefits of this taxpayer-owned resource of the American public. I have significant concerns that the commission may be pursuing alternatives to public auctions that could divert proceeds from American taxpayers to private corporations.

Ms. Collier, are there any guarantees under a private sale model that would ensure that operators return the maximum amount possible to the U.S. Treasury? That could be yes or no.

Ms. Collier. No.

Ms. Matsui. Okay. Do you believe that the FCC has the necessary authority to establish safeguards under a private sale regime?

Ms. Collier. A private sale is unprecedented.

Ms. Matsui. Okay.

Ms. Collier. You know, the entire idea that the FCC is going to abdicate its authority to a private entity to sell a public resource is mind-boggling.

Ms. Matsui. Okay. All right. While we are discussing the deployment of 5G here today, we must not forget that there are still millions of Americans caught on the wrong side of the digital divide. Our focus on 5G cannot come at the expense of real

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

students, businesses, doctors, and farmers that still need reliable, high-speed broadband. As I mentioned, my Win 5G Act would establish clear guarantees that auction proceeds are used to help support the deployment of rural broadband infrastructure.

Mr. Berenbroick, in addition to the C-band proceeds, what role could a rural deployment fund play in expanding and strengthening broadband networks in rural areas in future auctions?

Mr. Berenbroick. Thank you for the question. So, you know, in addition to the C-band revenue, a rural fund could ensure that there are fixed broadband capabilities in rural communities that can serve as the fixed backhaul that is necessary for next generation 5G and future generations of wireless networks.

Ms. Matsui. Okay, fine. Well, I have run out of time, so I yield back. Thank you very much.

Mr. Doyle. The gentlewoman yields back. The chair now recognizes the gentleman from Ohio, Mr. Johnson, for 5 minutes.

Mr. Johnson. Thank you, Mr. Chairman, and again, this is a critically important hearing. You know, here are the facts. One, we have a public asset -- wireless spectrum. And two, we have spectrum licenses which under the Communications Act does not confer a property right.

And the issue is how best to transfer those licenses. It should not come as a surprise that my focus is on how to leverage a valuable asset to deliver broadband to unserved rural communities like the ones I represent in eastern and southeastern Ohio.

Last week, I saw a CNBC report, suggesting half of the United States could have 5G coverage by sometime next year. This is good news, and it is critically important that America leads the world in 5G deployment. I am an IT guy with nearly 40 years in the

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

industry. I know how important it is that we capture the high ground on 5G, so that the Chinese and the Russians and others that might think that they can beat us there don't do that. So I am all behind 5G deployment.

However, I am focused on the other half right now who probably won't have 5G after next year and many of whom do not have basic broadband access even today. The lack of broadband is hollowing out communities throughout rural America. Communities like -- again, I represent in eastern and southeastern Ohio.

If we don't solve that problem over the next 20 years, there is not going to be a rural broadband problem to solve, because people aren't going to live there. They are going to leave. You know, I have grown tired and weary of the talk. I have been dealing with this now for 9 years. It is time for some action, and I am committed to fighting to solve this basic infrastructure need in rural communities, to keep them alive, and to bridge the digital divide. There is ingenuity and creativitiness -- and creativeness that exists in the people of rural America. There is intellectual capital there that is untapped. It is alive in these small communities, and it comes from self-sufficiency, family, and knowing your neighbors.

This uniquely American way of life is at risk if we do not connect these rural communities to broadband, high-speed access very soon. So Ms. Collier, of the two plans before the FCC, which makes the most impact and commitment to investing in rural broadband? And explain your answer, please.

Ms. Collier. There is actually more than just two plans before the FCC. However, it is our view that in order for --

Mr. Johnson. Well, public auction versus private sale.

Ms. Collier. Oh, public auction -- clearly the public auction is going to provide the



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

most revenue for the taxpayers, and that can be assigned by Congress to bridge that digital divide.

I am from rural Ohio, near the very region you represent, sir, and I know firsthand the difficulty for those communities to access broadband. So getting money into the tax -- into the Treasury and Congress allocating funding to help bridge those communities that don't have service, and there are a lot out there that do not have service at all. Some people are still on dial-up in rural Ohio. And so --

Mr. Johnson. And some don't even have that?

Ms. Collier. And some don't even have that, right. So getting that, the funding available, I think the public transparent auction process that the FCC has time and again proven worthwhile is the best option.

Mr. Johnson. Okay. Mr. Berenbroick, do you have any suggestions on what additional tools or resources Congress can provide the FCC to ensure a faster process for releasing this C-band spectrum?

Mr. Berenbroick. That is a good question. I think the C-Band Act is a good step in that direction. You know, the C-Band Act specifies to the FCC to stop dithering and to move forward with a public auction process. This is what the commission should have done more than a year ago. The FCC has clear and straightforward authority to modify licenses and to auction those licenses under section 309J. It should do that, and it should do it now.

Mr. Johnson. Okay. All right. Thank you, Mr. Chairman, I yield back.

Mr. Doyle. The gentleman yields back. The chair now recognizes Mr. O'Halleran for 5 minutes.

Mr. O'Halleran. Thank you, Mr. Chairman. First of all, I want to follow-up on

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Johnson's statements and say I agree with each and every one of those. My frustration has only been for about 3 years versus his 9, but it is the same exact frustration for rural America. And we are going to lose a lot of people out of there. We are losing our children from rural America as we speak, because they don't have access to this type of technology.

For holding today's -- I thanked the chairman for that already. I am committed to helping rural communities maximize their potential in order to achieve the goal. Access to fixed and wireless broadband is necessary. And a potential spectrum union of this magnitude, auction of this magnitude, has the potential to help bridge the digital divide. I strongly believe in accountability and transparency, to the public.

I am concerned that proposals regarding the C-band auction would allow for a privately run sale. Spectrum auction authority is a responsibility delegated to the FCC under section 309 of the Communications Act. And any deviation from the current law would invite litigation and could limit transparency to the public.

There is no doubt this auction is complicated. However, the FCC should lead the charge towards 5G innovation, rural broadband development, and ensuring users of the C-band are protected, not by private satellite companies.

Mr. Lieberman, my district is one of the most rural and underserved in the country. In the FCC's 2019 broadband and deployment report, only 39 percent of rural Arizona has standard internet access. Most of that's in my district. One of the CSPAN proposals submitted to the FCC, could you comment on how these plans offer an accountability and promote the public interest? And you had mentioned earlier that it is only three pages long.

You know, I get -- I have to answer questions sometimes with more than that on a

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

minor issue. So I can't imagine how this is representative of what good government should be doing.

Mr. Lieberman. Well, first, let me say that I appreciate your comments about rural America and the lack of broadband connectivity and the problem that it is causing for it and as well Congressman Johnson. I mean, my members live and work in these areas. They are providing service there. They are taking their limited money and plowing it right back in there to provide service to these customers as best they can, and there are challenges to doing so.

And that is why when we looked at this proposal for clearing spectrum, we said, is there a way that we can clear as much spectrum as possible and as well provide fiber to the -- do fiber deployments to the areas where these cable operators would need to have an alternative source for the C-band.

And that is where we came up with the 5G Plus Plan. It would -- because you don't have -- people have to understand, 5G isn't just the spectrum. You need the fiber backhaul to go with it, and that is the real deficiency when it comes to the CBA plan. It is just the spectrum. Rural America will be still left behind the times having this capacity, having this spectrum without having the fiber backhaul, and our plan would provide that.

Mr. O'Halleran. Well, actually, it will increase the gap?

Mr. Lieberman. Oh, absolutely.

Mr. O'Halleran. Tremendously, I think.

Mr. Lieberman. I mean, I will just say it. This CBA plan is going to result in a major loss of investment from rural areas to urban areas, from small businesses to large businesses, and from U.S. taxpayers to --

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. O'Halleran. I need to move on to my next question.

Mr. Lieberman. Yep.

Mr. O'Halleran. Ms. Collier, in your testimony, you highlight the potential 5G technology that could be realized with more mid-band spectrum made available to the industry, while also highlighting the FCC's recent track record. How would a privately run sale be inclusive of small carriers, seeking to bid for licensees to serve rural communities?

Ms. Collier. This is a huge concern about the CBA plan, is that it is not transparent. We don't know who is going to be providing the bids into their sealed-bid auction. We don't know if small carriers are going to be able to compete for this spectrum.

Mr. O'Halleran. My time is running short. You have said enough.

Mr. Chairman, I would like to enter into the record a letter to the FCC signed by eight members of this committee, dated October 28th, 2019.

Mr. Doyle. Without objection, so ordered.

[The information follows:]

\*\*\*\*\* COMMITTEE INSERT \*\*\*\*\*

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Doyle. The gentleman yields back. The chair now recognizes Mr. Long for 5 minutes.

Mr. Long. Thank you, Mr. Chairman, and I think that everyone realizes the goal here today of the hearing is to get 5G done and get it done right, and get it done as soon as possible.

That is kind of -- you know, I was a professional auctioneer for over 30 years before I came to Congress, and auctioneers are used to doing things fast. And, you know, I think to cut to the chase, that is kind of, you know, we all should acknowledge that that is what we are here for today.

And, Mr. Campbell, what could the impact be to the American economy and the American taxpayers the longer it takes for wireless carriers to acquire spectrum and use it to deploy 5G?

Mr. Campbell. Well, it is, you know, it is hard to quantify in actual numbers, but it is enormously significant that we are talking about a generational shift here in mobile technology, from 4G to 5G, that is incredibly important to the competitiveness of all of our economy, because everyone's going to be using this.

And we shouldn't just think about it as, you know, consumers watching videos on their phones, which of course they will do, but it is also going to affect the efficiency of manufacturing, of mining, and energy industries, of agriculture, all across the whole economy here.

And so if we are slow to get this, it is going to impact our GDP growth over time, and that hits the Treasury in actually a much more significant way over time than one single auction.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Long. There are 435 Congressmen, when we have a full complement of Congressmen, so let's say 435. And with the opioid crisis, 435 of the Congressmen will swear to you that their congressional district has the worst opioid problem in the country.

And I think that about 95 percent of those folks would swear to you that their rural areas suffer the most from not having 5G. And I am glad that you brought up agriculture, because that is something that people don't realize how much the farmers depend on good access, and 5G would, you know, greatly augment that situation.

Not to mention the kids in rural communities being able to do their homework and being able to not have to drive out to McDonald's or Starbucks or wherever, 20, 30, 40 miles away just to be able to do their homework like kids that live in the urban areas.

Mr. Campbell, staying with you here. The United States is in, as we have heard several times today, a global race to 5G with other industrialized nations, China among them, of course. And we all want to make sure we put our country in the best possible position to win this race. Are there other countries already utilizing the three gigahertz band?

Mr. Campbell. Yes. In Europe, China, other parts of Asia, all in this band, which is a reason why we need to act expeditiously here.

Mr. Long. So there are several currently?

Mr. Campbell. Yes.

Mr. Long. Okay. And with that, Mr. Chairman, I yield back.

Mr. Doyle. The gentleman yields back. The chair now recognizes Mr. Welch for 5 minutes.

Mr. Welch. Thank you very much, Mr. Chairman, and I thank you and my colleague, Ms. Matsui, and my Republican colleagues who are sponsoring your legislation.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Frownfelter, I want to talk to a little bit. Faster is better than slower, right?

That is what --

Mr. Frownfelter. Yes.

Mr. Welch. Okay. So I am going to go back to you, Mr. Campbell. You were just talking about faster versus slower, I mean, there is no reason, if there is agreement and consensus, that we can't have a public auction faster rather than slower, right?

Mr. Campbell?

Mr. Campbell. Oh, yeah, in theory.

Mr. Welch. Well --

Mr. Campbell. But as of today, you know, we are talking about a public auction in 2022, and, you know, look, I am not here to say that the CBA proposal is the best plan or anything like that.

Mr. Welch. No, I want to --

Mr. Campbell. -- considered when they said that think that in 2020.

Mr. Welch. Let me go back. All right. Cisco is, you know, a fantastic company, and you are going to be a big part of this obviously, and you have been indicating faster is better than slower. I think we all agree with that. But having the money from a public asset go to private gain, do you have any argument that that makes any sense?

Mr. Campbell. Well, look, we think that obviously there needs to be significant money that goes to the Treasury from any transition like this.

Mr. Welch. Yeah, but we have got to -- let's get real here. All right? When "significant" is undefined, what do you think the outcome's going to be? That is a serious question? So this is not la la land here.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Campbell. The FCC, if they go down this path, is going to have to make those determinations, and we think that they can and will --

Mr. Welch. Well, the CBA proposal is vague, right? They do the selling, and they get the money, and then they decide how much they want to give to rural America through the Treasury.

Am I wrong on that, Mr. Chairman?

Mr. Campbell. As I said, look, we are not defending specifically that plan, but we think that we should consider all the options including those that would provide fast --

Mr. Welch. All right. Here is what would be terrific. It would be for you to give concrete recommendations how we could proceed faster rather than slower. Because I think all of us here would want to do that.

What we want, like Mr. Gianforte, in his State, incredibly rural, that is the truth here. And as the chairman said in the beginning, we have got some money that may finally allow us to get rural America out. And by the way, I just ask a question for anybody.

At a lot of these private auctions, the companies bid and they have some minimal obligation through the FCC to start spreading it out to all the customers in the bidding area. But it is a big area, so they essentially slice off the rural areas and they make their big money in the urban areas. We are getting hammered constantly.

So what is the position people have about having these auctions be smaller so that the companies that bid on them actually are going to implement the build-out in those rural areas?

Mr. Lieberman?

Mr. Lieberman. Well, there is no plan right now for how that auction is going to



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

occur. The CBA has put together something that has been widely panned and there has been nothing further in the record to describe how its public auction would occur, and it would likely result in some of -- the concerns that you are raising are real risks without knowing what it would be.

Mr. Welch. Well, you know, I think we should start as a committee with Ms. Collier, who says, why waste this money that belongs to the public? I mean, thank you for your work in saying the obvious.

And second, we have got a consensus here, we want to build out in rural America, that affects us, red state, blue state, red district, blue district.

And three, we have got to have this on the level and learn from experience, where the winner of the auction is actually going to serve all of the people in the auction area that the bidder won.

Does anyone disagree with that?

Sir?

Mr. Berenbroick. Yeah, I think that is exactly right. I think one issue, you know, especially with mid-band spectrum, the propagation of that spectrum is going to be such that smaller license sizes are actually optimal which would actually go toward solving the problem you are alluding to. Licensees could acquire licenses and then serve almost all of their license area, rather than, you know, having a very large license area, in which they only serve population centers.

Mr. Welch. Well, I want to thank all of the witnesses.

Mr. Chairman, our colleagues, we have an opportunity finally to do something good for all of our communities, because they all need it. And they will figure out how best to use it.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

So anything, Mr. Campbell, you can suggest to help us move along with the FCC and get it done sooner rather than later, I think every one of us wants that, but I think we also want the public to get the benefit, and we want rural areas to get the service.

I yield back.

Mr. Doyle. The gentleman yields back. The chair recognizes Mr. Flores for 5 minutes.

Mr. Flores. So thank you, Chairman. I want to thank the FCC and Chairman Pai for their work and the administration to close the digital divide to cut bureaucratic red tape and to continue bringing more spectrum to the market.

It is my hope that as the commission moves forward with plans to repurpose the C-band, that they will do so in a way that represents taxpayer interest, that they ensure adequate levels of oversight and transparency in the auction process, that they protect incumbent broadcaster programming customers, and that they secure sufficient commitments to the U.S. Treasury.

And now for my questions, this follows up on a line of questioning from Chairman Doyle with respect to satellite companies suing the FCC. I would like to ask each of you witnesses if they or their stakeholders would likely pursue litigation if the FCC undertook an approach arbitrary to the position,

Starting with Mr. Lieberman, would your organization pursue litigation if the FCC went opposite of your position?

Mr. Lieberman. We are going to see what the FCC does, and we will decide on what the best approach is.

Mr. Flores. Okay. Mr. Campbell?

Mr. Campbell. No.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Flores. Okay. Mr. Frownfelter?

Mr. Frownfelter. We would look to see what the FCC would come up with and then make a determination.

Mr. Flores. Okay. And I guess for the sake of fairness, I need to ask Ms. Collier. I am assuming you would but --

Ms. Collier. No. No, we don't typically engage in litigation.

Mr. Flores. Okay. Mr. Berenbroick?

Mr. Berenbroick. I think we would look at whatever the FCC comes up with to determine whether the commission operated appropriately within its legal authority and then make a decision.

Mr. Flores. Okay. But so there could be a possibility for your organization. Okay.

Mr. Frownfelter, having spent a considerable amount of time in the satellite industry, I am sure that you are well versed in logistical operational challenges that follow potential repurposing of spectrum. As you know, Congress had to step in to correct a few logistical issues during the TV broadcast incentive auction repack. One of those changes involved a provision that I had authored as part of Ray Baulms act, to ensure that stations received compensation for the cost of the repack.

Since we are shifting into a different technological space, what sort of logistical or operational challenges might arise from satellite operators' perspective when moving to a different frequency?

Mr. Frownfelter. Sir, are you asking if you moved out of C-band into a different frequency?

Mr. Flores. Correct, yeah.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Frownfelter. I think that it would be a very long process. We had talked about changes would have to be made at all of the Earth-station operators with teleports and rural facilities and so forth. So you would be looking at changing out all of the antennas and potentially a significant amount of the equipment, depending on what frequency band you were shifting to.

Today we do provide KU band services over the United States as well, and there is available spectrum there where some of the services could be transitioned over a significant amount of time. They could be transitioned to those frequencies.

But in terms of providing services that are consistent with what is provided today in C-band, I don't believe there would be enough spectrum in KU band to fulfill all of that and the existing services. You would have to look at a new band that is currently not utilized by commercial satellite operators in the United States in order to meet all of the demand.

Mr. Flores. Okay. And what steps would satellite operators need to take in order to mitigate interference for your customers?

Mr. Frownfelter. Interference from other satellite operators? I am sorry, can you clarify the question, sir.

Mr. Flores. Well, if the C-band is repurposed to other uses, what sort of logistical challenges would your -- what would your -- what would satellite operators need to do in order to mitigate interference for your customers?

Mr. Frownfelter. I see. So from our perspective, you would be looking at, you know, expansion of additional satellites, billions of dollars of investment in order to transition those services over from C to KU band. And you would also be looking at, you know, significant amounts of investment throughout all of these terrestrial facilities.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Flores. Okay. Ms. Collier, I appreciate the great work that your organization does. You have done a great analysis of this particular issue. Have you all stepped back from the forest to look at if there was any sort of a hybrid, public approach -- you know, a hybrid between a public auction and a privately facilitated transaction? Is there anything that we need to be doing in terms of thinking out of the box like that?

Ms. Collier. We haven't really looked at a hybrid approach, per se. One thing that we do need -- that Congress and the FCC needs to be coherent on, is that there are currently incumbent users, both are stations and satellites, that are not all part of the CBA Alliance that need to be ensured that their interests are protected even through the transition.

So there is going to be costs associated with the transition, and there needs to be a way for them to pay for those transition costs.

Mr. Flores. Okay. All right. I have another question --

Mr. Doyle. The gentleman's time is expired.

Mr. Flores. -- for the record. Thank you.

Mr. Doyle. I thank the gentleman. You want to enter something into the record?

Mr. Flores. I have a question for the record, but I will do that later.

Mr. Doyle. Okay. I thank the gentleman. The chair recognizes Mr. Veasey for 5 minutes.

Mr. Veasey. Mr. Chairman, thank you very much. I wanted to specifically ask about the auction format, and maybe, you know, Mr. Berenbroick or Mr. Lieberman or Ms. Collier could answer the questions that I have for me.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

I wanted to sort of talk about the framework of putting together an objective private auction, because I know that there has been a lot of discussion about that, whether we should have one that is public or private. And is it possible to put together something that is fair and transparent as far as a private auction is concerned when there are already alliances that have sort of been formed with the foreign investors, with the foreign satellite operators, with some of the players that are involved in this?

Because I think that the most important thing is, we want to make sure that we are yielding everything that we can from the taxpayers' standpoint. You want it to be able to be deployed as quickly as possible. And just wanted to just maybe sort of get one of your opinions on that.

Ms. Collier. First off, this is a public resource. It is a public asset. Even FCC Chairman Ajit Pai said a couple weeks ago, this is a public asset. You cannot have a secondary private entity taking on the role of the FCC in selling a private asset -- or a public asset. It is just not something that I believe can legally be done.

You know, section 309J is very clear on this. It is the FCC's responsibility and the FCC's role to conduct auction of a public asset, namely spectrum.

Mr. Veasey. The C-Band Alliance is saying that they could deploy this technology as quickly as, I want to say maybe 18 months, if they were to be able to go through the framework of a private auction. And what sort of time frame are we talking about, if it were to be a public auction?

Ms. Collier. You know, I am not even sure that they can deploy that in 18 months, because if it is a private auction that is finally determined by the FCC, we have heard from the other witnesses here today that there are going to be some legal ramifications to that and delays caused by court cases.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

So, you know, I don't see a private auction taking any less time than a publicly held, transparent, Federal Communications Commission-held auction.

Mr. Veasey. Mr. Berenbroick?

Mr. Berenbroick. Thank you. You know, the C-Band Alliance's proposal, you know, and I think the claim that they can, you know, make some of the spectrum available within 18 months, that is sheer conjecture. You know, those are claims based on an unprecedented auction proposal, an untested model, an entity that has never run a spectrum auction before. So I think we take those claims with a grain of salt.

Additionally, you know, there are significant public interest, oversight responsibilities the FCC has when it runs an auction -- transparency, accountability, promoting competition, ensuring that small businesses and diverse bidders are able to participate. Those benefits are all compromised by taking the FCC out of the process.

This is an entirely unprecedented proposal, and there is no -- there is no track record for this working. There is no track record for this serving the public interest.

Mr. Veasey. Yeah. So in your opinion, there is really no possible path to put together the framework possible to make it transparent and fair for the public the way that you are talking about if it were done under the structure of a private auction?

Mr. Berenbroick. Yeah. I think in order -- the benefits of speed that CBA has claimed, the best way to get those benefits with the public interest benefits we usually see from a public auction, is for this committee and for the Congress to weigh in and push the FCC to move quickly in a public auction.

Mr. Veasey. Okay. Mr. Campbell, I know that you have been sort of objective and haven't had a lot on this. I was just curious, do you have any opinions on it whatsoever, as far as my question is concerned, about just a private auction being able to

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

have the substance of having something fair and transparent?

Mr. Campbell. Well, I think that, you know, any private auction that would occur would be under the auspices of FCC rules and controls, because you are going to have to change the licenses and issue licenses. So it is not like it is going off, you know, on the side.

It is going to be more akin to transferring existing licenses and, you know, if you are a radio station or something. You know, people have private transactions. They must be approved by the regulator to transfer the license and there are things that are overseen in that. And I think we could see the same thing in this situation if there were a private auction.

I am not sure that one or the other is the perfect way to do this. I just think that we need to focus on which is going to provide the spectrum and make it available for use the fastest.

Mr. Veasey. All right.

Mr. Doyle. The gentleman's time is expired. The chair recognizes the gentleman from Florida, Mr. Bilirakis, for 5 minutes.



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

RPTR JOHNSON

EDTR HUMKE

[11:59 a.m.]

Mr. Bilirakis. Thank you, Mr. Chairman. I appreciate it.

And I will follow up on Mr. Kinzinger's questions with regard to South Korea and China. The last time we had a hearing involving mid-band spectrum, I brought up an issue recently published -- an article published about the South Korea -- about South Korea making moves to serve 90 percent of its population with 5G by the end the of the year.

Now another recent article shows the progress our competitors are making. The Korea Herald published an article last week entitled "South Korean mobile carriers attack global market with 5G tech." unquote.

This article references the international partnerships South Korea is making in 5G. And last Friday, a Bloomberg article reveals that China is going to begin offering 5G services in Beijing starting November 1st, with a goal of reaching 340 cities by 2020. We are on the path where Asia will set the global standards on 5G networks.

Mr. Lieberman and Mr. Frownfelter, if the plan you endorse was approved by the FCC, how would that get us back on a path to beating our international competition?

You can start first.

Mr. Lieberman. The 5G Plus Plan that we have proposed calls for a market-by-market clearing of 370 megahertz, far more than the CBA plan, and does it on a market-by-market basis. So in urban areas, we can clear -- where fiber is already available, we can do it in 18 months. For the rest of the country, where only a modest

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

amount of fiber would be needed, would be done in three years. And in the rural areas that are harder to reach, where 5G is going to take longer to get to anyway, it would be five years. We think it is very much consistent with the rollout that is going to happen with 5G, and you get the added benefits of 370 megahertz.

Mr. Bilirakis. All right.

Sir, would you like to respond to -- yeah, just give me your position on this.

Where do you --

Mr. Frownfelter. Yeah, so our position is that we need to --

Mr. Bilirakis. Yes, the mike, please.

Mr. Frownfelter. Sorry.

We need to incentivize your station operators to integrate the latest compression technology in order to maximize the amount of spectrum that can be repurposed in the fastest amount of time.

And by putting together a framework for a plan that equally compensates, or appropriately compensates on an equitable and fair basis all of the constituents, we believe that we can roll out the plan in 18 to 36 months and to do so in a way that minimizes litigation and gets us to 5G rollout as quickly as possible and reestablishes the United States as the leader in wireless technology in the world.

Mr. Bilirakis. All right. Very good.

Mr. Lieberman, whatever proposal the FCC releases this year, public, private, or a hybrid of the two, what is the best way to ensure that small, rural, and regional providers can complementarily -- oh, actually competitively bid on spectrum?

Mr. Lieberman. Well, the rules have to be fair. It has to be smaller blocks that can be bid upon so that smaller entities can have a chance at bidding on licenses in their

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

areas. If it is just a -- if it is just three blocks of a hundred nationwide, it is just going to go to the largest wireless providers.

Mr. Bilirakis. Okay. Mr. Frownfelter, do you have anything else to add with regard to that?

Mr. Frownfelter. No, sir, I don't.

Mr. Bilirakis. Okay. Thank you very much.

I yield back, Mr. Chair.

Mr. Doyle. The gentleman yields back.

The chair now recognizes Ms. Eshoo for 5 minutes.

Ms. Eshoo. Thank you, Mr. Chairman.

And thank you to the witnesses. I apologize for not being here for a good part of the hearing. There is another one taking place downstairs.

But this is a -- this is a big issue. I was here to hear the chairman make his opening statement about what this spectrum represents, that the airwaves are an asset that are owned by the American people. Maybe we should say that ten times, you know, louder and louder each time to make the point. And that it is really through us representing the people that we provide various entities, you know, the right to use these airwaves.

I think that -- and I don't know if this has already been covered, but maybe Mr. Berenbroick, can you give us just a little bit of history about how the current users of the C-band got the rights to use the C-band? Did they pay for the rights to use the C-band, you know, through an auction? Did they buy these rights from others?

I think that we need to get to the heart of how -- I don't really find it defensible that this -- these belong to the American people and that we are having a debate about

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

whether we just hand it over to someone or that we have a public process because we represent the people of our country. I mean, it is really kind of a 101 in democracy.

But can you give us just a little history on it?

Mr. Berenbroick. Sure, Congressman. Thank you.

Ms. Eshoo. Excuse me. I understand once someone uses something, has something, and they are in that lane, they are going to fight like hell to keep it. But I think that we need to get back to the basics, what is fundamental here.

So go ahead.

Mr. Berenbroick. Sure. So in previous generations, the FCC often allocated spectrum for broad use for a specific purpose. So think of, for instance, fixed satellite service in the C-band or DSRC in the 5.9 gigahertz band.

You know, here, the existing operators don't have individual licenses. They have access to the entire 500 megahertz of the C-band. And I think, you know, if you -- if you project forward and you think about spectrum policy going forward in the future, you know, whether it is, you know, using spectrum more efficiently for sharing, for unlicensed use, or for clearing and auctioning, the precedent set here by allowing users that were essentially given, you know, spectrum for free, to demand windfall payments, to give up some of the rights in the spectrum, when they admittedly could be using it more efficiently, is going to make it difficult for the FCC.

Ms. Eshoo. Did they pay for the rights to use the C-band?

Mr. Berenbroick. No, they did not.

Ms. Eshoo. Okay. We could have just -- just said yes or no.

To Ms. Collier, who is going to put our -- has already prepared the chairman's first brochure for his reelection on this, some comment that the FCC -- I mean, some people

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

say that the FCC auctions are going to take -- they take an average of 13 years. And your written testimony cites more recent examples.

What -- what do you think is -- is the fair number in this?

Ms. Collier. You know --

Ms. Eshoo. There is always such exaggeration at both ends, right?

Ms. Collier. Right.

Ms. Eshoo. What is it, do you think?

Ms. Collier. It varies by auction, the type of auction, the complexity of the auction. And I think that gets forgotten in the whole dialogue.

Ms. Eshoo. So would this be complex?

Ms. Collier. This is going to be a little bit more complex.

Ms. Eshoo. Uh-huh. So what does that mean in terms of time?

Ms. Collier. In terms of time --

Ms. Eshoo. A little bit more time?

Ms. Collier. A little bit more time.

Ms. Eshoo. A little bit more time for a little bit more complex, yeah.

Ms. Collier. Well, you know, I mean --

Ms. Eshoo. I mean, like how --

Ms. Collier. It was interesting listening to the hearing a couple of weeks ago at the Senate, where this same dialogue happened with Senator Kennedy and Chairman Pai. And it came down to a period of three years that could conceivably be a doable auction for the C-band.

Ms. Eshoo. Well, I think, given that answer, Mr. Chairman, three years with a potential of 60 billion bucks, we are talking real money here, even though we are Federal

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

representatives, really this is -- this is a lot of money.

And I don't think anyone should forget that as we have talked and wrung our hands over for years and years about rural broadband, E-911, all of the PSAPs, what the price tags are for those, with less than that full amount that is projected, we could pay for all of that and have money left over. So I hope with it we are going to be really very smart here and do the right thing.

Thank you all for your testimony, what you do. I didn't get to all of you, to argue with some, congratulate others. You are wonderful to come and be instructive to us.

Mr. Doyle. The gentlelady's time has expired.

Ms. Eshoo. Thank you, Mr. Chair.

Mr. Doyle. The chair recognizes Mrs. Brooks for 5 minutes.

Mrs. Brooks. Thank you, Mr. Chairman, and thank you very much for holding this very important hearing.

I am one of the cofounders of the 5G caucus, along with Representative Debbie Dingell from Michigan. But I also represent Indianapolis, and it is the home of actually Indiana 5G zone, which is a hub -- it is led by Purdue University, and it is focused on testing and developing 5G-enabled technologies. It is an R&D center.

But as I have talked to them about what they need, they have stressed with me the importance of the C-band. And so this argument -- the hearing today is critically important, and the speed in which we move I think everyone agrees is critically important.

I am curious, Mr. Campbell, how does the U.S. compare with particularly the European countries in how they made mid-band spectrum available? I don't think comparing with China is necessarily very fair in how they make mid-band, but how about,

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

you know, countries -- democracies? How have they made mid-band available for 5G? Because, as we have heard, they are ahead of us right now, I believe.

Mr. Campbell. Right, right. I think, you know, we do have to recognize that we have in the U.S. a more intensive set of licenses and uses, including Government uses, of spectrum than probably any other country on Earth. So we are going to run into these challenges more and more as we look into new bands to do things, including this band, where we have incumbent users that have to be -- whose problems must be addressed before we can repurpose the spectrum.

But Europe has definitely focused on this band, and they are moving forward, and they are going to have it available. And I think, you know, rather than wringing our hands on the fact that we have a challenge in making ours available, we just need to focus on how we are going to get there as quickly as we can. Because it is a competitive issue in terms of our ability to compete with --

Mrs. Brooks. Absolutely agreed. How did they make it available?

Mr. Campbell. They didn't have --

Mrs. Brooks. How did the EU --

Mr. Campbell. They didn't have the same incumbent users we have in the space.

Mrs. Brooks. Okay. So they just made it available?

Mr. Campbell. I think they had some users they had to deal with. I am not fully knowledgeable on that topic, but they had an easier time in the transition on this.

And we are going to face this in other bands in the future, and we had better utilize as many tools as we can get in our toolbox to repurpose spectrum when we can.

Mrs. Brooks. So we have heard so much about rural issues, and actually a large part -- and a huge part of Indiana is rural. But given the need to encourage rural

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

broadband, are there some encouragements, Mr. Campbell, that the FCC could incorporate into its order to make a private sale, if the private sale is the option that moves forward, much more rural friendly?

Mr. Campbell. Yes. The FCC could put the same obligations on the private sale that they could put on the public auction. So you could end up with the same result on that front, vis-à-vis build out requirements and issues like that.

Mrs. Brooks. Mr. Frownfelter, as far as making sure that the license sizes -- we have heard about this -- are the appropriate size both the megahertz available and the geographic licensing areas, what incentives do satellite operators have in that private approach to ensure everyone has a fair chance, as well as what is the FCC's role in making sure it is carried out? I don't think anyone ever answered the enforcement question.

Mr. Frownfelter. I am not sure I am the right person to answer that question, but I think it --

Mrs. Brooks. Why not?

Mr. Frownfelter. Because from -- it is part of the auction process. And from the satellite operators' perspective, depending on what percentage of the proceeds they get, they are going to be looking to optimize those proceeds, as would any of the processes, you know, resulting from the auction.

So as was mentioned earlier, I think in order to incentivize and make sure that we have appropriate spectrum available in our world communities, we need to make sure that we have small amounts of spectrum that are auctioned.

Mrs. Brooks. Any further comment on that question from anyone else?

With that, I yield back.

Mr. Doyle. Gentlewoman yields back.



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

The chair recognizes Mr. Cardenas for 5 minutes.

Mr. Cardenas. Thank you very much, Chairman Doyle and Ranking Member Latta.

One of my colleagues just said about us making smart decisions here. I hope we are capable of that. And when I was just listening to my friend, Congresswoman Brooks, I was thinking, yep, she is one of the smart ones. I really enjoy working with you, and I am going to miss you as a colleague.

I think that everyone in this room today does want to see the U.S. succeed in its deployment of 5G technology, but as usual, everyone has their own priorities.

However, I think that overall I am glad to see that a lot of consensus is that the best way to make sure that that happens is with the transparent auction of this critical spectrum. Fair and open and transparent process is what everybody deserves.

In addition to that, I believe that the FCC-led process to reallocate mid-band spectrum would maximize the amount of mid-band spectrum that will ultimately be made available, all the while maximizing the amount of revenue generated to help fund key priorities, to make sure Americans get the connectivity they need and deserve.

Mr. Lieberman, in your written testimony, you note how important it is that a public auction of the C-band protect and make whole the C-band-dependent users. I understand most of those users provide television programming, which I can tell you is important in my household and my district to my constituents. Can you elaborate on why keeping the C-band-dependent users whole is so important?

Mr. Lieberman. Well, these are small businesses that have spent a lot of money in order -- on their businesses in order to provide a good service to their customers, particularly in smaller markets in rural areas, and it seems to me like if the resource that

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

they were relying on is going to be made less reliable, less capable, and less affordable, then they should be made whole.

And so as part of reimbursements, instead of forcing them onto this lesser C-band, what our proposal is, is that they get fiber so they can transport it that way. And that would actually provide a benefit for rural America in terms of not only for just getting video deployment, but it would also be available for 5G, it would be available for schools, hospitals, libraries, businesses. I mean, it is -- really creates the win-win that I think Congress and the FCC should want.

Mr. Cardenas. You just mentioned schools, libraries, hospitals, businesses.

Mr. Lieberman. Yep.

Mr. Cardenas. So suffice it to say that this is a very important matter to the future activity, knowledge, health care of all of America.

Mr. Lieberman. I mean, there is a lot of places in America that doesn't have fiber connectivity of the -- of the size and capacity that can support institutions. And so by providing a reimbursement for like 10-gigabyte pipes to these cable operators so they can transport video over it, that could also be used to provide additional services in those communities.

Mr. Cardenas. Although this may seem like gobbledygook to most Americans, talking about fiber and C-band and spectrum and things of that nature, but at the end of the day, is this something that Americans have already become accustomed to when it comes to these kinds of technologies in their day-to-day life?

Mr. Lieberman. Which technologies are we talking about?

Mr. Cardenas. Just in general. Do people use phones in their day-to-day life? Small businesses, do they depend on the internet for their success, et cetera?

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Lieberman. Yeah, most definitely.

Mr. Cardenas. And all that we are talking about today does, in fact, effect the future of all of that kind of activity?

Mr. Lieberman. Oh, absolutely, absolutely. I mean, we have to find a way to provide all areas of the country with the same kind of connectivity, and that is where we think the CBA proposal is short in that regard.

Mr. Cardenas. So at the end of the day, the issue that we are talking about today, is it important that we do it well versus just maybe -- I feel it in a way where let's just see what happens.

Mr. Lieberman. Well, look, speed is very important. I can understand that. I am sympathetic. But there is other factors that need to be considered in terms of that, is how much money is going to be raised from it, what other purposes could that money be used for, and what is the difference in time between public and private versus the amount of money that would be raised. We think that a public is in the best interest of the American public.

Mr. Cardenas. So somebody mentioned a few minutes ago that public and private use and purposes in America is a bit dynamic. But that dynamic environment, it is kind of good, right, that we do have that dynamic, give and take between public and private use of these kinds of resources?

Mr. Lieberman. Yeah, certainly, absolutely.

Mr. Cardenas. Thank you, Mr. Chair. My time has expired. I yield back.

Mr. Doyle. The gentleman's time has expired.

The chair recognizes Mr. Walberg for 5 minutes.

Mr. Walberg. Thanks, Mr. Chairman.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

And thanks to the panel for being here today.

It is important that a public or private auction be designed and run openly and fairly, one that maximizes the involvement of entities in 5G deployment utilizing spectrum and benefiting more consumers.

I am particularly focused on would-be bidders and purchasers and their confidence that auction design, bidding rules, and license sizes have not been set to favor any one entity. Safeguarding competition and transparency is essential to ensuring a competitive process and fully optimizing our spectrum resources.

Mr. Frownfelter and Mr. Lieberman, if Congress isn't satisfied with any authority to modify or transfer licenses, couldn't Congress authorize a version of the private sale and impose whatever conditions it would like on the process regarding transparency, donations to the Treasury, or any other condition?

Mr. Frownfelter. Yes, sir, that is my understanding, that Congress has the ability to make sure that the FCC process, if it moves forward in private sale, is transparent and meets the guidelines and expectations of this subcommittee and the Congress in general.

Mr. Walberg. So it has that power and ability.

Mr. Lieberman, would you agree?

Mr. Lieberman. Congress has that authority. I would say, though, that one of the benefits of Congress actually authorizing a private auction would be that they can then use that money that would be raised to -- to meet their objectives that Congress seeks.

Mr. Walberg. Okay. Mr. Frownfelter, speed to market is essential in discussing repurposing C-band. In a private auction, how do you foresee the FCC's role, and do you believe it is important that they are involved throughout the process of transitioning

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

C-band?

Mr. Frownfelter. Yes, sir, absolutely. I think it is absolutely critical that the FCC establishes the appropriate guidelines and supervision over the entire auction process, even in a private sale. And it is important that that process is done in a transparent way so that we mitigate any potential litigation and it is conducted in a fair manner.

Mr. Walberg. Mr. Lieberman, your plan calls for no overbuilding in the construction of the 120,000 miles of new fiber. Hopefully some of that will come to my house.

Can you talk about exactly how it will prevent overbuilding in relation to the Federal programs?

Mr. Lieberman. Sure. The criteria on the -- on receiving the funds would be that if you have fiber available to you of sufficient capacity, that you wouldn't be eligible for support. You would still get money, because you would still need to lease what's available, but this isn't about overbuilding.

My members have the same -- I have members without fiber connectivity, I have members with fiber connectivity, which is their own -- they don't want overbuilding any more than anybody else. This is not to waste money. This is to actually provide a -- an alternative to using the C-band, which is to deliver the programming over fiber.

Mr. Walberg. Okay. To follow that up, how do you foresee our efforts to improve our Nation's mapping capabilities, working alongside with this new fiber buildout?

Mr. Lieberman. Well, the fiber that we are talking about is not fiber to the home.

Mr. Walberg. Right.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Lieberman. This is going to be the backbone fiber that goes from major data centers to cable operator headends. So there is not really any programs today that it is providing that level of connect -- that is funding that. There have been in the past, as part of the BTOP program under the ARRA, but not today. It would actually work well with the USF programs and the RUS programs, because it would go to funding of connectivity that no funding is going to.

Mr. Walberg. Okay. Thank you.

I yield back.

Mr. Doyle. The gentleman yields back.

And last, but certainly not least, one of the original cosponsors the H.R. 4855, Mr. Gianforte, you are recognized for 5 minutes.

Mr. Gianforte. Thank you, Mr. Chairman. Thank you for holding this important hearing.

I represent Montana. Getting broadband into rural Montana is critically important for all of the reasons we have discussed here today.

5G will come to rural America when different bands of frequencies are put to good use. The C-band provides the right mix of capacity and coverage that will enable network operators to deploy in rural America. Reallocating C-band is complex, as we talked about, because the spectrum has many current users and many others interested in acquiring it.

That is why I joined with Chairman Doyle, Representative Johnson, and Representative Matsui in introducing the C-band Act. Our bipartisan bill requires the FCC to hold a public auction promoting a transparent and open process while preventing a private spectrum sale that could benefit foreign entities.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

The proceeds from the public auction can be used for critical priorities, including expanding reliable broadband coverage to close our digital divide.

For the past quarter century, the FCC has successfully designed and run spectrum auctions that have brought more than \$122 billion in revenues for the American taxpayer.

I believe only a public auction designed and led by the FCC guarantees that the taxpayers will get the benefit of these sales. Only a public auction provides the guarantees of fairness and transparency that ensure bidder confidence in the auction procedures and outcomes. And only a public auction ensures that smaller carriers, including the rural entities in my district and new entrants, have a fair shot at bidding. Ensuring this public confidence is necessary to maximize participation in the auction and maximize taxpayer benefits.

As we have discussed today, we also have to make sure that the districts that are auctioned off are small enough to ensure buildout in these areas, a problem we face in our State, with population centers being covered and many farms and ranches not being covered, which prevents them from using newer agricultural technology.

Ms. Collier, given the track record of success and the obviously taxpayer benefits of an FCC-led auction, we have talked about this today, but just comment on why the FCC should be leading this process.

Ms. Collier. The FCC is the only entity with the legal authority to conduct a spectrum auction. If they wanted to abdicate that, they would have to ask Congress for permission to abdicate that authority for a private sale. So legally they are the only entity who can do this, and they have proven through the last -- since 1994 that they have the ability and the teamwork to conduct these spectrum auctions. You know, they are well experienced at this.

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

Mr. Gianforte. Okay. While I normally believe the private sector can do things more quickly and more efficiently than Government, in this instance a private sale could end up delaying the rollout of this spectrum. Could you just comment on how that would occur and why?

Ms. Collier. Well, first off, there could be legal challenges to a private sale. It just is one of those things that is so unprecedented that so many interested parties that are currently incumbents in the spectrum may say, hey, wait a minute, we are getting shut out, we are being forced out without any recompense by these satellite operators.

Mr. Gianforte. Okay. And I would like -- and the last question I have -- I have just over a minute. I am particularly interested in rural buildout. As we craft this legislation, forget about public/private here for a second.

What provisions can we put in the legislation that would ensure that we get better buildout in rural America? And that is open to anybody on the panel.

Mr. Lieberman. I will start with that.

I think you should -- I think that those that are using the C-band that are going to be impacted by the clearing should have the option to get that -- the same content via fiber. If we would do that, that would provide the fiber connectivity that Montana is lacking.

Mr. Gianforte. Good.

Yes?

Mr. Berenbroick. Thank you, Congressman.

One of the -- one of the barriers to deployment of 5G technologies in rural America is the lack of sufficient fixed network infrastructure. So what you could do -- and this is similar to, I think, what Mr. Lieberman and the ACA are proposing -- is



**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**

that funds repurposed -- or revenues from the C-band auction could then go towards deployment of fixed networks in areas that are unserved and underserved.

Mr. Gianforte. And I have seven seconds. Anybody have a quick comment?

Good.

Well, with that, I yield back, Mr. Chairman.

Mr. Doyle. The gentleman yields back.

The chair requests unanimous consent to enter the following into the record: A letter from the Aerospace Industries Association, a letter from Americans for Tax Reform, a letter from the C-band Alliance, a report from Citizens Against Government Waste, a blog post by the American Action Forum on behalf of Mr. Latta, a statement from AT&T Public Policy on behalf of Mr. Latta, a press release from the C-band Alliance on behalf of Mr. Latta, and ex parte letter from the C-band Alliance on behalf of Mr. Latta -- got a lot here -- a fact sheet from the C-band Alliance on behalf of Mr. Latta, and a letter to Reps Walden and Latta from the American Consumer Institute, American Enterprise Institute, Competitive Enterprise Institute Heritage Action for America, Lincoln Network and R Street Institute on behalf of Mr. Latta.

Without objection, so ordered.

I want to thank all of the witnesses for their participation in today's hearing.

I remind members that pursuant to committee rules, they have 10 business days to submit additional questions for the record to be answered by the witnesses who have appeared. I would ask each witness to respond promptly to any such questions that you may receive.

At this time the subcommittee is adjourned.

[Whereupon, at 12:30 p.m., the subcommittee was adjourned.]

**This is a preliminary, unedited transcript. The statements within may be inaccurate, incomplete, or misattributed to the speaker. A link to the final, official transcript will be posted on the Committee's website as soon as it is available.**