

Testimony of
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My name is Deborah Collier, and I am the Technology and Telecommunications Policy Director for Citizens Against Government Waste (CAGW). CAGW was founded in 1984 by the late industrialist J. Peter Grace and nationally-syndicated columnist Jack Anderson to build support for implementation of President Ronald Reagan's Grace Commission recommendations and other waste-cutting proposals. Since its inception, CAGW has been at the forefront of the fight for efficiency and accountability in government. CAGW has more than one million members and supporters nationwide, and, over the past 35 years, the organization has helped save taxpayers \$1.3 trillion through the implementation of Grace Commission findings and other recommendations.

CAGW does not accept government funds. The organization's mission reflects the interests of taxpayers and covers a wide variety of issues, including technology and telecommunications. The sale of federal assets, including spectrum, has been part of CAGW's agenda for many years.

The October 25, 2018 Presidential Memorandum on Developing a Sustainable Spectrum Strategy for America's Future made it clear that access to spectrum is a critical component to maintaining America's lead in next generation technologies, particularly

5G network deployment.¹ The widespread use of wireless 5G will dramatically change mobile communications across the nation and lay the groundwork to support an increasing number of Internet of Things applications and devices. While 5G networks are currently being deployed using high-band millimeter wave and low-band spectrum, deployment of 5G using mid-band spectrum is essential. CAGW appreciates the Subcommittee on Communications and Technology for its leadership in ensuring that taxpayers are protected throughout the process of determining how to make as much mid-band spectrum as possible available for this purpose.

Mid-band is considered the sweet spot of spectrum, with unique properties that make it especially effective for 5G infrastructure deployment. According to an August 2, 2017 Intel blog, “Mid-Band spectrum is especially well suited for mobile broadband due to its wide coverage, and potential for low latency, and high reliability.”² Mid-band spectrum is critical for 5G deployment because data signals can travel through a larger range within the spectrum, and its wide channels provide for high-speed data transfers.

The economic impact of mid-band spectrum utilization was examined in a February 2019 Analysis Group study, which found that reallocating 400 MHz of spectrum in the 3.45 to 4.2 GHz range for licensed mid-band spectrum would lead to

¹ The White House, “Presidential Memorandum on Developing a Sustainable Spectrum Strategy for America’s Future,” October 25, 2018, <https://www.whitehouse.gov/presidential-actions/presidential-memorandum-developing-sustainable-spectrum-strategy-americas-future/>.

² Peter Pitsch, “5 Reason Why We Need Mid-Band Spectrum for 5G,” Intel, August 2, 2017, <https://blogs.intel.com/policy/2017/08/02/5-reasons-need-mid-band-spectrum-5g/#gs.9d7mdu>.

\$154 billion in capital expenditures by wireless providers for 5G networks over seven years, add \$274 billion to U.S. GDP, and create 1.3 million new direct and indirect jobs.³

On July 12, 2018, the Federal Communications Commission (FCC) adopted an Order and Notice of Proposed Rulemaking on Expanding Flexible Use of the 3.7 to 4.2 GHz Band (GN Docket No. 18-122) to review the potential for using this mid-band spectrum range, also known as the c-band, for 5G deployment.⁴ This 500 MHz swath of prime mid-band spectrum is currently used by satellite and video content providers for content distribution across the country, and satellite phone service for those areas where existing landline or cellular capabilities are non-existent or unreliable.

An auction of c-band spectrum has a potential sale value of between \$11 billion to \$60 billion, depending on the amount of spectrum made available for sale and the amount of net proceeds available following reimbursement for the cost of vacating and reallocating the spectrum.⁵ Proceeds from the sale of portions of c-band could be used for deploying broadband throughout rural America if Congress provides the authorization for such use, and auction revenues are deposited into the Treasury.

The underlying legal authority for an FCC auction of spectrum is found in section 309(j) of the Communications Act of 1934, which provides the authorization for the FCC

³ David W. Sosa, Ph.D., and Greg Rafert, Ph.D., “The Economic Impacts of Reallocating Mid-Band Spectrum to 5G in the United States,” Analysis Group, <https://api.ctia.org/wp-content/uploads/2019/02/The-Economic-Impacts-of-Reallocating-Mid-Band-Spectrum-to-5G-1.pdf>.

⁴ Federal Communications Commission, “In the Matter of Expanding Flexible Use of the 3.7 to 4.2 GHz Band,” GN Docket No. 18-122, Order and Notice of Proposed Rulemaking, Adopted July 12, 2018, <https://docs.fcc.gov/public/attachments/FCC-18-91A1.pdf>.

⁵ Deborah Collier and Thomas Schatz, “The Race to 5G: Protecting Taxpayers through Spectrum Auctions,” Citizens Against Government Waste, April 2019, <https://www.cagw.org/reporting/race-to-5g>.

to conduct a competitive bidding process for any initial license or construction permit that involves the use of the electromagnetic spectrum. Section 309(j)(C) also provides for 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.”⁶

Since 1994, the FCC has conducted 102 spectrum auctions, generating more than \$122 billion for taxpayers.⁷ It has been suggested by the C-Band Alliance (CBA) that FCC spectrum auctions take on average around 13 years. This figure relies on a July 20, 2015 CTIA report entitled, “From Proposal to Deployment: The History of Spectrum Allocation Timelines.” However, if one averages the amount of time all the spectrum auctions and allocations took since 1994, it would probably come out to an average of about 13 years, but using this timeframe is disingenuous since successive spectrum auction for the past five to six years has taken less than this amount of time to complete, and each auction is different depending on its complexity.

Since the CTIA report was released, the FCC has conducted five spectrum auctions, including the Advanced Wireless Services - 3 (AWS-3) Auction #97 and the Incentive Auction #1000, as mandated by the Middle Class Tax Relief and Job Creation Act of 2012 (Jobs Act of 2012).⁸ In the AWS-3 auction, the FCC sought comment on the auction process in May 2014, and completed the auction on January 29, 2015, generating

⁶ The Communications Act of 1934, as amended, Section 309(j), page 151.

⁷ Federal Communications Commission, “Auctions Summary: Completed Auctions,” July 17, 2019, <https://www.fcc.gov/auctions-summary>.

⁸ Ibid.

almost \$45 billion in gross bids and providing funding for the nation's FirstNet first responder communications network.⁹

The Broadcast Incentive Auction was a much more complicated process that required both a reverse auction (#1001) where the broadcasters sold their spectrum rights back to the government, a spectrum repack of the licenses, and a forward auction (#1002) selling the repacked spectrum licenses to mobile providers.¹⁰ Bidding in the auction began on March 29, 2016 and ended on March 30, 2017, repurposing 84 MHz of spectrum; 70 MHz for licensed use, and 14 MHz for wireless microphones and unlicensed use. The auction yielded \$19.8 billion in revenue, including \$10.05 billion for the winning broadcast bidders and netting more than \$7 billion for the U.S. Treasury. The allocation of this spectrum for mobile use is already well underway. Given this track record of success, it is difficult to see why any entity other than the FCC should be permitted to conduct the c-band spectrum auction.

Repurposing the c-band spectrum from satellite use to terrestrial flexible use will be similar to the Broadcast Incentive Auction. Primarily, satellite operators conduct operations over this band to deliver data to and from earth stations. These earth station operators could be cable operators, broadcasters, streaming video service providers, and remote telephone service operators. There have been 688 comments, ex parte letters, reply comments, and technical reviews filed in this proceeding.

⁹ Federal Communications Commission, Auction 97: Advanced Wireless Services (AWS-3), August 18, 2015, <https://www.fcc.gov/auction/97>.

¹⁰ Federal Communications Commission, Broadcast Incentive Auction and Post-Auction Transition, May 9, 2017, <https://www.fcc.gov/about-fcc/fcc-initiatives/incentive-auctions>.

Several solutions have been offered to reallocate the c-band spectrum and get it into the hands of mobile broadband providers to move forward with 5G deployment, including by some of the witnesses at today's hearing.

Because the c-band spectrum has been set aside by the government for terrestrial to satellite use as a full band/full arc access, it cannot be licensed for 5G communications until the FCC reallocates and re-ports the band for licensed flexible terrestrial use. Every earth station and satellite using this band obtains authorization from the FCC to use this spectrum, including those owned by the three foreign satellite companies who make up the C-Band Alliance (CBA). But authorization to use the spectrum does not constitute ownership. The c-band spectrum is unique, because the only clear ownership within the band is by the federal government.

One proposal for the c-band is to use the incentive auction authorization provided by the Jobs Act of 2012, which included provisions to increase the amount of spectrum available for mobile use by allocating additional federally held unused spectrum to be auctioned by the FCC.¹¹ This law also provides authorization for the FCC to conduct reverse incentive auctions to make additional spectrum available to mobile providers.

If this process was used for c-band, satellite owners and their customers would be reimbursed for vacating a certain amount of spectrum through a reverse auction, and then the FCC would repackage the vacated spectrum and sell it in a forward auction to mobile

¹¹ "H.R. 3630 (112th): Middle Class Tax Relief and Job Creation Act of 2012," govtrack.us, February 22, 2012, <https://www.govtrack.us/congress/bills/112/hr3630>.

carriers. Another proposal recommends increasing the amount of available c-band spectrum to at least 370 MHz of spectrum by suggesting that the net proceeds from an FCC conducted c-band auction be used to bring the content carried over satellite back to earth by building out fiber across the country to deliver the data between the broadcast stations. Both options likely need authorization by Congress to permit the use of funds to reimburse incumbents within the spectrum for the costs associated with vacating the portions and using the proceeds to provide funding for additional fiber build-out to deliver content terrestrially instead of through satellite transmissions.

Regardless of which path is eventually chosen, CAGW believes only the FCC may legally conduct any auction of publicly-held spectrum, including spectrum repurposed from the c-band.

In reviewing the proposals being filed at the FCC, the CBA's second-price, sealed bid auction proposal is exceptionally complex and lacks transparency in how winning bids would be determined, creating uncertainty for mobile providers. The novelty of the CBA proposal would also require additional time as bid evaluation metrics are developed and auditing and transparency protocols are created to ensure a fair bidding process. Potential bidders must also be educated on how such a sale would be conducted. Yet, the CBA claims its process would be more efficient and faster than an FCC auction because its members could quickly move their customers to the higher portions of the spectrum.

There has been a lot of discussion about the CBA's "voluntary contribution" to the Treasury following the private sale of the spectrum under their plan. It is unclear if that

will be a dollar, a hundred dollars, a billion dollars, or some other amount. But if the FCC conducts the auction, the agency cannot retain any of the money as “profit” for the sale, and a larger portion of the potential \$60 billion in proceeds will go to the taxpayers than under the CBA plan. There have also been some concerns raised about speed versus return to the taxpayers. At the October 17, 2019 hearing before the Senate Financial Services and General Government Appropriations Subcommittee hearing, FCC Chairman Ajit Pai and Chairman John Kennedy (R-La.), agreed that an FCC-run auction would take no more than three years, responding at that time to CBA’s comments it would take seven years. Chairman Kennedy also alluded to the potential for litigation delaying any private sale of the spectrum.¹²

CAGW agrees that in its race with China and other countries to deploy 5G, any delay in the sale of the spectrum is a luxury the U.S. government does not have. The FCC-conducted public auction process is well-documented and administratively simple, encouraging a broad spectrum of bidders from a variety of incumbents and new entrants.

During the July 12, 2018 FCC meeting, Commissioner Michael O’Rielly said, “any reallocation must fully protect the incumbent users that currently use the c-band to bring many services to consumers. ... That does not mean they all must be

¹² U.S. Senate, Subcommittee on Financial Services and General Government, Senate Appropriations Committee, “Sen. Kennedy Chairs FSGG Subcommittee Hearing on C-Band Spectrum Auction, October 17, 2019, <https://www.appropriations.senate.gov/hearings/oversight-of-the-fcc-spectrum-auctions-program>.

accommodated on remaining c-band spectrum, but their ability to offer services cannot be disrupted.”¹³

Due to the questions about property rights associated with this spectrum and the broad experience of the FCC in conducting public auctions, CAGW believes that only an FCC-led public auction can provide the best and most objective outcome for all interested parties, including satellite operators, cable operators, broadcasters, and programmers. As FCC Commissioner Brendan Carr noted during the FCC’s April 12, 2019 meeting, the agency’s auction proceedings are “a model for the world.”¹⁴

Report language has been included in the fiscal year 2020 Senate Financial Services Appropriations Act that suggests only the FCC should conduct a public auction of the c-band spectrum: “The Committee encourages the FCC to prioritize resources toward exploring opportunities for spectrum to help accelerate the deployment of 5G to rural communities. The mid-band spectrum, specifically the C-band, is particularly well-suited for 5G services. However, the Committee remains concerned by proposals that entail limited FCC oversight and public input, and contain no guarantee that taxpayers and the U.S. Treasury benefit from revenues generated by the sale of 5G licenses. The airwaves are a public resource, and the Federal Government has a responsibility to

¹³ Federal Communications Commission, “Statement of Commissioner Michael O’Reilly, Re: Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket No. 18-122; Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz, GN Docket No. 17-183; Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission’s Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband Service in the 3.7-4.2 GHz Band, RM-11791; Fixed Wireless Communications Coalition, Inc., Request for Modified Coordination Procedures in Band Shared Between the Fixed Service and the Fixed Satellite Service, RM-11778, July 13, 2018, <https://docs.fcc.gov/public/attachments/DOC-352520A3.pdf>.

¹⁴ Federal Communications Commission, “Statement of Commissioner Brendan Carr, Re: Incentive Auction of Upper Microwave Flexible-Use Service Licenses in the Upper 37 GHz, 39 GHz, and 47 GHz for Next-Generation Wireless Services, AU Docket No. 19-59,” April 12, 2019, <https://docs.fcc.gov/public/attachments/DOC-356984A3.pdf>.

exercise appropriate oversight of its allocation. Therefore, the Committee encourages the FCC to conduct a public auction of the c-band spectrum that is fair, open, and transparent.”¹⁵

CAGW agrees with the Senate’s report language, which sends a strong message to the FCC that the airwaves are a public resource and any sale of c-band spectrum should be conducted through an FCC public auction to protect the taxpayers’ interests.

I would like to thank the Chairman Doyle and Ranking Member Latta for your strong leadership in ensuring that as much spectrum as possible is made available for 5G and other mobile and Wi-Fi uses, and the proceeds from the sale of any publicly-held spectrum benefits taxpayers, the economy, and U.S. global technological leadership. I appreciate your invitation to testify and I am prepared to answer any questions you may have.

¹⁵ Senate Committee on Appropriations, “Financial Services and General Government Appropriations Bill, 2020,” September 19, 2019, <https://www.appropriations.senate.gov/imo/media/doc/FY2020%20FSGG%20Appropriations%20Act.%20Report%20116-111.pdf>.