

**Before the
National Telecommunications and Information Administration
Washington, DC 20230**

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In the Matter of)	
Development of)	
a National)	Docket Number: 230308–0068
Spectrum Strategy)	
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Comments of the American Consumer Institute

The American Consumer Institute Center for Citizen Research (ACI) is a nonprofit (501c3) educational and research institute with the mission to identify, analyze, and protect the interests of consumers in selected legislative and rulemaking proceedings in information technology, health care, insurance, energy, and other matters. Recognizing that consumers’ interests can be variously defined and measured, and that numerous parties purport to speak on behalf of consumers, the goal of ACI is to bring to bear the tools of economic and consumer welfare analyses as rigorously as available data will allow, while taking care to assure that the analyses reflect relevant and significant costs and benefits of alternative courses of government action.

In this proceeding, the National Telecommunications and Information Administration (NTIA) seeks input for the development and implementation of the National Spectrum Strategy. ACI is encouraged that the NTIA recognizes that access to spectrum must be managed responsibly and efficiently to achieve key economic, social, and national security goals and, in these comments, will weigh in on the three pillars outlined by NTIA in its Request for Comments, which will guide the agency’s development of the National Spectrum Strategy.

Pillar #1—A Spectrum Pipeline to Ensure U.S. Leadership in Spectrum-Based Technologies

Today’s 5G networks and tomorrow’s 6G networks will power America’s competitiveness in future technologies and meet our nation’s ever-growing, constantly evolving consumer demand for wireless services. What is the fuel for this 5G engine? Spectrum.

Networks built on licensed spectrum — airwaves bought through auction by wireless companies, which have the exclusive rights to use them — are the backbone of innovative 5G (and future 6G) applications, including precision agriculture, telehealth, advanced

manufacturing, smart cities, and climate response. Furthermore, consumer consumption of mobile data is at an all-time high and only continues to surge as demand grows for lightning-fast and responsive 5G products and services enabled by licensed spectrum.

Licensed spectrum is even helping to bridge the digital divide through 5G services like 5G Fixed Wireless Access in areas traditionally dominated by cable and in rural areas where fiber is not cost-effective to deploy. While unlicensed spectrum is an important ingredient, exclusive-use licensed spectrum is the bread and butter of wireless advancements and technological leadership.

Creating a balanced spectrum policy that addresses our nation's needs for both licensed and unlicensed spectrum is the right policy approach, but given current spectrum dynamics, the National Spectrum Strategy should prioritize identification of spectrum for exclusive, licensed use — a critical accompaniment to reauthorization of the Federal Communications Commission's (FCC) spectrum auction authority. Only high-power licensed spectrum can provide the performance necessary to support nationwide wireless with the scale, reliability, security, resiliency, and capabilities that consumers and enterprise customers expect.

Furthermore, allocating new spectrum bands for exclusive, licensed use would propel innovation, job creation, and economic growth. Downstream investments by those who support the development and deployment of wireless networks, like equipment companies, for example, would take off.

Mid-band spectrum is most valuable to 5G networks. In fact, this spectrum sweet spot has been called the "Goldilocks" of spectrum, because it provides an ideal mix of "the speed of high spectrum bands and the coverage of low bands."¹ Mid-band airwaves enable 5G networks to carry large amounts of data over vast distances and provide consumers with a better overall experience than previous generations of wireless networks, often at affordable prices.² Mid-band spectrum also holds tremendous promise for new and emerging services like online learning,³ telemedicine,⁴ transportation,⁵ and even smart cities⁶ through the remote monitoring of critical infrastructure.

¹ Slavko Djukic, "Goldilocks Spectrum," *ISE*, December 28, 2022, <https://www.isemag.com/5g-6g-and-fixed-wireless-access-mobile-evolution/article/14284403/goldilocks-spectrum>.

² Jason Shevik, "Broadband Pricing Changes: 2016 to 2022," *BroadbandNow*, October 13, 2022, <https://broadbandnow.com/internet/broadband-pricing-changes>.

³ Sheila Jagannathan, "How can 5G make a difference to education?" *World Bank Blogs*, July 8, 2021, <https://blogs.worldbank.org/digital-development/how-can-5g-make-difference-education>.

⁴ Brian William Hasselfeld, M.D., "Benefits of Telemedicine," *John Hopkins*, <https://www.hopkinsmedicine.org/health/treatment-tests-and-therapies/benefits-of-telemedicine>.

⁵ Karim Husami, "How is 5G Developed for Autonomous Vehicles?" *Inside Telecom*, April 13, 2022, <https://insidetelecom.com/how-is-5g-developed-for-autonomous-vehicles/>.

⁶ Craig Wigginton and Brian Greenberg, "Smart Cities And 5G: Taking It to the Next Level," *Forbes*, November 15, 2022, <https://www.forbes.com/sites/deloitte/2022/11/15/smart-cities-and-5g-taking-it-to-the-next-level/?sh=aac91971e495>.

Unfortunately, the U.S. is already trailing international competitors in licensed mid-band mobile spectrum, and it is predicted to fall even further behind in the years ahead. A recent CTIA report underscores the urgency of the situation. The report, *Comparison of total mobile spectrum in different markets*,⁷ found that the U.S. — with only 270 MHz of licensed mid-band spectrum available — trails three countries, most notably China, which are vying for spectrum leadership.

In five years, the U.S. will have 450 MHz of licensed mid-band spectrum available — but China has already surpassed that amount with 460 MHz of licensed mid-band spectrum already assigned. The U.S. will continue to lag behind China in licensed mid-band spectrum by 1,210 MHz and the other leaders by 340 MHz to 650 Mhz. Mid-band spectrum should be identified for auction as licensed spectrum. NTIA, in partnership with the FCC, can repaint this picture of the future.

Because China currently leads the U.S. in developing plans for licensed spectrum allocations, other countries are poised to lead the international spectrum conversation. The National Spectrum Strategy can be a springboard for reasserting U.S. leadership on the global stage and helping to set technical standards for spectrum management and use.

In short, commercial providers need licensed mid-band spectrum to expand 5G networks and eventually build 6G networks, too. Last year alone, the number of 5G-connected smartphones and other 5G devices grew by 513 percent to 85 million.⁸ Making more licensed spectrum available to mobile carriers is part of meeting America’s exploding wireless wants and needs.

Pillar #2—Long-Term Spectrum Planning

Developing a coherent National Spectrum Strategy is critical to domestic tech innovation, international economic competition, national security, and global tech leadership. As NTIA hammers out the National Spectrum Strategy, it must think big and create a robust spectrum pipeline that will meet America’s needs over the long term.

NTIA’s stated goal of identifying at least 1,500 megahertz of spectrum to study for potential repurposing is a good initial target,⁹ but assessing U.S. demand and making sure enough spectrum will be repurposed to meet it is the optimal approach. NTIA should aim high to identify significant amounts of spectrum for its pipeline to quench our nation’s thirst for next-

⁷ Janette Stewart, Chris Nickerson and Juliette Welham, “Comparison of total mobile spectrum in different markets,” *Analysis Mason*, September 2022, <https://api.ctia.org/wp-content/uploads/2022/09/Comparison-of-total-mobile-spectrum-28-09-22.pdf>.

⁸ “2022 Annual Survey Highlights,” *CTIA*, September 13, 2022, <https://www.ctia.org/news/2022-annual-survey-highlights>.

⁹ “National Spectrum Strategy Request for Comment,” *National Telecommunications and Information Administration*, March 15, 2023, <https://ntia.gov/federal-register-notice/2023/national-spectrum-strategy-request-comment>.

generation wireless technologies. Once this potential licensed spectrum is identified and later targeted for auction, policymakers need to, once again, continue opening up future spectrum — including needed unlicensed spectrum — to spur new applications and uses for consumers.

As NTIA maps out its pipeline, the agency must also ensure that its plans are responsive to the spectrum needs of various sectors, which calls for careful consideration of how each spectrum band can be used according to its characteristics. Not all spectrum is created equal.

Hand in hand with the FCC, NTIA should reassert its role in reaching final determinations on spectrum decisions, because confusion regarding spectrum allocations helps no one. Development and implementation of the National Spectrum Strategy offers NTIA the chance to establish a more reliable process for making federal spectrum available for commercial use, which would be a win for consumers and businesses alike.

In addition to being the moment for NTIA to develop a better, more consistent process for allocating spectrum, the National Spectrum Strategy can also untangle the means for dispute resolution concerning our nation's airwaves. America's national strategy should explore mechanisms to get federal agencies and their industry sectors to raise concerns about spectrum allocation decisions early in the repurposing process, rather than at the last minute.

Pillar #3—Unprecedented Spectrum Access and Management Through Technology Development

NTIA is pursuing a time-based spectrum sharing solution to support spectrum sharing between federal and non-federal users, but neither shared spectrum nor unlicensed spectrum provide the unique benefits only available from exclusive-use, licensed spectrum. For the reasons outlined above, licensed spectrum under shared access frameworks by Citizens Broadband Radio Service (CBRS) is unsuited for serving as the foundation for nationwide mobile wireless networks. CBRS is a complex spectrum-sharing framework that, to date, has limited use cases, and cannot serve as the primary means of communication over wireless networks. Furthermore, unlicensed spectrum — while important — is not suitable for all types of applications, because it offers no guarantees of service quality, security, or protection from network congestion due to overuse.

The United States does not need a new top-down, government-driven industrial policy to manage America's mobile networks, as some special interests continue to advocate. Instead, our nation needs better collaboration between its government agencies, with clear authority over spectrum asserted by NTIA and the FCC. A central planning model would be harmful to our nation, limiting innovation and private sector dynamism, at a time when the U.S. cannot afford to fall further behind in the race to 5G.

This is the moment for the NTIA to help America leapfrog our competitors and reclaim its top spot as the global leader in wireless.

In summary, it is crucial to recognize that access to spectrum must be managed very responsibly and efficiently to achieve key economic, social, and national security goals, as well as providing consumer welfare-enhancing services that consumers demand. We hope our comments on the NTIA's three pillars will help provide some guidance to the strategically important development of the National Spectrum Strategy.

Respectfully,

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