

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC 20554**

*Wireless Telecommunications Bureau Seeks* )  
*Comment on Ways to Facilitate Access to* ) WT Docket No. 24-72  
*Currently Unassigned Auction Inventory Spectrum* )  
*For Wireless Radio Services in Light of the Ongoing* )  
*Lapse of Auction Authority* )  
)

To: Chief, Wireless Telecommunications Bureau

**COMMENTS OF  
OPEN TECHNOLOGY INSTITUTE AT NEW AMERICA  
AND PUBLIC KNOWLEDGE**

The Open Technology Institute at New America and Public Knowledge file these comments in response to the *Public Notice*, captioned above, released by the Wireless Telecommunications Bureau on March 7, 2024.

Our groups agree the Commission should put its inventory of unassigned spectrum to work, particularly the substantial blocks of mid-band spectrum useful for wireless broadband. We suggest that in light of the need to resolve potentially conflicting demands for access without resort to an auction, a framework premised on coordinated sharing, licensing by rule, relatively lower power limits and automated database coordination can be implemented quickly and will best serve the public interest.

***Background***

The Bureau “seeks comment on how the Commission, if necessary, could use its current statutory authority to provide the public with access to its inventory of currently unassigned spectrum in bands previously licensed for wireless services through auctions (hereafter,

Inventory Spectrum).”<sup>1</sup> This is, in all likelihood, a temporary challenge since legislation to renew and extend the Commission’s auction authority is pending in Congress. However, we believe the Bureau is wise to seek this input for two reasons: First, because the current stalemate in Congress seems likely to extend beyond this year and well into the next Congress. Second, because this inquiry is a forward-looking opportunity to get input on a variety of other options for authorizing access to unused spectrum that are more and more relevant as fewer and fewer valuable bands will be available for the sort of traditional auctions of very wide-area and high-power exclusive licenses that the *Public Notice* describes.

Indeed, while auctions have proven to be a successful industrial policy that has facilitated mobile phone and mobile broadband data networks that cover most populated areas across the nation, with a few low-dollar exceptions all of the FCC’s auctions have been designed specifically to parcel out spectrum configured for a small handful of big companies for basically one single service. In contrast, the vast majority of frequency bands and spectrum assignments across the spectrum – and the overwhelming majority of the wireless data and communication carried over the public airwaves (certainly more than 90 percent) – occurs on spectrum that is either shared or, in a few cases (e.g., broadcasting channels), assigned before the advent of auctions. In fact, unlicensed spectrum bands at 2.4 GHz and in portions of 5 GHz by themselves have been carrying more than four times as much data traffic to and from *mobile devices* as all the spectrum bands ever auctioned by the FCC.<sup>2</sup> The share of data traffic offloaded via Wi-Fi is

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<sup>1</sup> Public Notice, *Wireless Telecommunications Bureau Seeks Comment on Ways to Facilitate Access to Currently Unassigned Auction Inventory Spectrum for Wireless Radio Services in Light of the Ongoing Lapse of Auction Authority*, WT Docket No. 24-72, at 1 (rel. March 7, 2024) (“Public Notice” or “PN”).

<sup>2</sup> See, e.g., Eric Peter et al., *Uncovering Real Mobile Data Usage and the Drivers of Customer Satisfaction*, Boston Consulting Group (Nov. 16, 2015), <https://www.bcg.com/publications/2015/telecommunications-customer-insight-uncovering-real->

likely to increase further as new high-bandwidth applications, such as augmented and virtual reality (AR/VR) are used most frequently at home, work and other indoor locations.<sup>3</sup>

The distinction between spectrum for coverage (which fits the traditional cellular licensing model) and spectrum for capacity in localized areas (which is the rationale for unlicensed and lightly-licensed, shared spectrum) is even more relevant for 5G in light of the fact that an increasing share of mobile device data traffic (more than 80 percent) is consumed indoors, on a nomadic and not mobile basis. America’s “5G” and future “6G” wireless ecosystems, like the current 4G wireless ecosystem, will rely on a combination of big national or regional carrier networks for truly “mobile” coverage (connections for use ‘on the go’) and a far larger number of complementary, high-capacity and customized networks deployed by individual enterprises, households and community anchor institutions to supply high capacity indoors and to meet their particular needs at a lower cost.

It is true that the low- and mid-band spectrum most valuable for wide-area mobile services has become more and more difficult to clear and repurpose for exclusive licensing. However, contrary to assumptions of scarcity, innovative and forward-looking spectrum policies can unlock an abundance of wireless bandwidth in a larger number of underutilized bands—and for an increasingly diverse range of users and use cases—through dynamic spectrum sharing.

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[mobile-data-usage-drivers-customer-satisfaction](#); Linda Hardesty, “Charter, Comcast Share Their Wi-Fi Networks for MVNO Services,” *Fierce Wireless* (May 10, 2023) (reporting 85% Wi-Fi offload on MVNO mobile networks), <https://www.fiercewireless.com/wireless/charter-talks-spectrum-connectx>.

<sup>3</sup> See, e.g., Cisco Annual Internet Report (2018-2023) White Paper, Cisco (Mar. 9, 2020) (stating Wi-Fi is expected to continue to handle the majority of all Internet traffic for the foreseeable future), <https://www.cisco.com/c/en/us/solutions/collateral/executive-perspectives/annual-internet-report/white-paper-c11-741490.html>.

### ***Open the Broadband Inventory for General Authorized Access***

The *Public Notice* seeks comment on the option of using “dynamic spectrum sharing.”<sup>4</sup> The distinctions mentioned just above are relevant in this context because our groups believe they highlight an opportunity for the Commission to make most of its Inventory Spectrum available quickly on a shared, coordinated, local and lower-power basis for flexible use. The unassigned spectrum bands the Bureau lists as “supporting broadband services” (e.g., 600 MHz, 700 MHz, 800 MHz, Cellular, AWS-3, PCS, BRS) are licensed for flexible use and could be made available quickly for General Authorized Access (GAA) use *at least* until such time as the Commission has the authority and makes a future decision to auction it. One or more of the existing frequency coordination systems already certified to manage spectrum sharing in the CBRS and/or 6 GHz bands can be authorized to both register and optimize shared access. Even if users cannot rely long term on opportunistic access to this spectrum to support a commercial service, it can augment capacity short term. And even making it available for a defined period of time could provide practical input to help guide a future decision about whether a PAL-type auction (viz., lower-power, smaller licensing areas), or continued use for GAA, best serves the public interest in any or all of these bands.

The most notable exception to the pattern of the FCC designing auctions to meet the business model of a small number of companies for a very wide area mobile service has been the relatively recent auction of lower-power, county-sized priority access licenses in the Citizen Broadband Radio Service (CBRS) band at 3.5 GHz. CBRS is itself a hybrid band and licensed by rule. CBRS has been among the FCC’s most successful spectrum policy innovations, one being replicated by regulators in the United Kingdom, Germany, Sweden and more than a dozen other

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<sup>4</sup> *Public Notice* at 3.

nations (albeit with manual coordination to date).<sup>5</sup> Incumbent military operations have been fully protected and, in less than four years of commercial operations, the scale of deployment and innovation in the band has far exceeded expectations. The OnGo Alliance, an association of more than 200 companies making commercial use of CBRS, reported in September that deployments already include more than 36,000 base stations (CBSDs) deployed by more than 1,000 entities (e.g., WISPs, enterprises, mobile carriers, schools), most of which are leveraging the opportunistic GAA tier.<sup>6</sup>

By using the GAA tier of CBRS as a model, the Commission can not only move quickly, but also preserve the option to auction Priority Access Licenses (PALs) for some or all of this Inventory Spectrum at a later date when the agency's authority is fully restored. An advantage here is optionality: With General Authority Access conditional, the Commission can later assess – based on actual deployments and other factors – whether and where to have auctions, as well as whether and where to continue allowing, as it does in the CBRS band, the GAA users to continue operating in PAL spectrum on a non-interfering basis.

The availability of certified SAS and AFC coordination mechanisms should also be an important consideration for this initiative. Dynamic spectrum coordination systems have capabilities that can optimize the number of users sharing the band in a given location and more efficiently enforce any needed protection for adjacent band incumbents. The current SASs are well-established and proven; and it is likely that one or more of the certified 6 GHz AFC systems

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<sup>5</sup> See, e.g., Ofcom, “Shared Access Licenses,” <https://www.ofcom.org.uk/consultations-and-statements/category-1/enabling-opportunities-for-innovation>; “CBRS Leading a Global Trend of Private LTE/5G: HP,” *Communications Daily* (April 13, 2023).

<sup>6</sup> “OnGo Alliance Meeting Highlights CBRS Momentum and 5G SA Plugfest, Addressing Industry Connectivity Needs,” Press Release (Nov. 14, 2023), <https://ongoalliance.org/news/ongo-alliance-meeting-highlights-cbrs-momentum-and-5g-sa-plugfest-addressing-industry-connectivity-needs/>.

also could be adapted quickly to manage access and minimize interference in these bands, avoiding years of delay.

***Coordinated Site-Based Licensing Could Provide Both Access and Certainty in Some Bands***

The *Public Notice* also seeks comment on the use of “non-exclusive site-based licensing.”<sup>7</sup> While the coordinated but open access GAA approach we propose above would presumably, like CBRS, be characterized by flexible use and lower power, in some Inventory Spectrum the Commission could consider resolving potentially competing demand through coordination and first-in-time rights, as it has done in most fixed link bands for decades. Part 101 coordination among tens of thousands of fixed links and fixed satellite earth stations pre-dates auctions and can be streamlined using certified geolocation database coordination.<sup>8</sup> The database coordination mechanism that has long coordinated shared use of the 70/80/90 GHz bands for fixed point-to-point links is a good model. The Commission could adopt a nationwide, non-exclusive shared licensing framework that takes advantage of the proven capabilities of automated frequency coordination systems to optimize coexistence among as many users and use cases as feasible in a location or local area.

Conversely, traditional manual Part 101 coordination should be avoided, since it is slow, expensive and unnecessary. Similar to the process for the 70/80/90 GHz band, operators should first apply to the Commission for a nationwide, non-exclusive license. This would ensure that all users can be identified by the Commission and allow the AFCs to verify their eligibility to request and receive frequency assignments. Once approved and registered with the Commission,

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<sup>7</sup> *Public Notice* at 4.

<sup>8</sup> For example, the Commission has been allotting microwave spectrum for coordinated and shared fixed use for most of its history. See “Allocation of Frequencies in the Bands Above 890 Mc.,” Report and Order, Docket No. 11866, 27 FCC 359 (1959).

licensees would be eligible to register fixed link paths, or individual access points (preferably by sector), directly through the AFC.<sup>9</sup> As WISPA explained in its 42 GHz comments last August, a “strict site-based licensing structure is particularly unsuitable for PtMP [point-to-multi-point].”<sup>10</sup> We also suggest coordination of point-to-multi-point use by sector, allowing the use of an AFC-type mechanism has the capability to coordinate in more users. More generally, manual site-based licensing is burdensome on all parties (including Commission staff), slow and very costly in comparison to near-real-time, fine-grained, consistent and low-cost coordination by a dynamic spectrum management system.<sup>11</sup>

If the Commission seeks to offer the certainty of first-in-time rights in some bands, an automated frequency coordination mechanism can serve this purpose particularly well (in addition to potentially managing GAA use of other Spectrum Inventory bands). The registration of a local link path or sector – whether for point-to-multipoint (PtMP) or for small cell mobile coverage – should serve as a “reservation” for certain channels for a relatively short period of time (such as two or three months). The registration (reservation) should put a hold on a specific set of frequencies that will be immediately placed in operation at that location (e.g., 20 megahertz) and should expire if the licensee does not commence service within that time frame. While providing certainty that the operator has an assignment, expiration after a relatively short

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<sup>9</sup> See Comments of Comsearch, *Shared Use of the 42-42.5 GHz Band and Use of Spectrum Bands Above 24 GHz For Mobile Radio Services*, Notice of Proposed Rulemaking, WT Docket No. 23-158, at 3 (Aug. 30, 2023) (“A non-exclusive nationwide license is a required prerequisite for registering individual links in the 70-90 GHz bands”).

<sup>10</sup> Comments of WISPA, WT Docket No. 23-158, at 8.

<sup>11</sup> See Michael Calabrese, *Solving the Spectrum Crunch: Dynamic Spectrum Management Systems*, Dynamic Spectrum Alliance report, at 14-16 (Oct. 2023) (describing the advantages of automated compared to manual or even database-assisted spectrum frequency coordination).

period will also deter warehousing and encourage operators not to register links or APs until they are ready, or nearly ready, to deploy.

The AFC should be authorized to accept or reject subsequent reservations in that general location based on an algorithm that avoids conflicting assignments. Ideally the AFC should be authorized or required to provide alternative configurations that would successfully coordinate (e.g., more separation, less power, different channel). the AFC should process requests for frequencies and power levels and determine the assignment (or options for assignments) that best optimize coexistence with other operators that have already commenced service or registered for an assignment in that area.

### ***Leasing the Spectrum Inventory Could be Problematic***

Finally, the Bureau asks for comment on the option of leasing spectrum inventory licenses. This may be particularly useful for exclusive geographic area licenses that offer relatively narrow channels and low-band propagation capability (e.g., 600 MHz, 700 MHz, 800 MHz), inasmuch as they may offer an incumbent carrier an opportunity to expand its capacity (albeit on a temporary or contingent basis). A major obstacle would be designing a lease offer (e.g., a reserve price) that is likely to avoid conflicting applications. Presumably it would not work to raise the price if more than one operator accepted the price offered, since that would be tantamount to conducting an auction. We believe this exacerbates the more general problem that leasing Inventory Spectrum – particularly over relatively large geographic licensing areas – will exclude all but the largest incumbent operators, especially in rural and less populated areas. This would create barriers to entry for small and rural operators compared to the GAA model we recommend above. Leasing exclusive licenses over large geographic areas could also result in spectrum warehousing in the absence of build-out requirements.



### *Assign Spectrum To Tribes*

To the extent unassigned spectrum covers Tribal lands, the Commission should adopt a Tribal Priority Window to assign the spectrum to Tribal governments. The Commission has adequate authority to create licenses covering tribal lands and to assign them through its traditional Section 307 and 309 authority.<sup>12</sup> Creating a TPW would further the Commission's goals of equity and inclusion by enhancing Tribal connectivity. A TPW would also further the goals of the MoU between the Commission, the NTIA and the Department of Interior.<sup>13</sup>

### *Conclusion*

The Commission should put its inventory of unassigned spectrum to work, particularly the substantial blocks of mid-band spectrum useful for wireless broadband. We suggest that in light of the need to resolve potentially competing demands for access without resort to an auction, a framework premised on coordinated sharing, licensing by rule, lower power, and automated database coordination can be implemented quickly and will best serve the public interest.

Respectfully submitted,

/s/ Michael Calabrese  
Director, Wireless Future Program  
New America's Open Technology Institute  
740 15th Street, NW Suite 900  
Washington, DC 20005

/s/ Harold Feld  
Senior Vice President  
Public Knowledge  
1818 N Street NW, Suite 410  
Washington, DC 20036

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<sup>12</sup> 47 U.S.C. §§ 307(a), 309(a).

<sup>13</sup> Memorandum of Understanding Among the Department of the Interior, Federal Communications Commission, and the Department of Commerce National Telecommunications Information Administration (November 22, 2022).