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# Tribal Spectrum and Broadband Access: Background and Considerations for Congress

Congress has recognized a need to expand broadband services on tribal lands (i.e., areas associated with federally recognized Tribes, or *Tribes*), as access to broadband can spur economic development and improve education, health care, and other services for these communities. While Congress has provided funding for this purpose, Tribes have requested access to spectrum to facilitate deployment of their own broadband networks.

Broadband (i.e., high-speed internet) services can be provided through wired (e.g., fiber, cable) and wireless (e.g., mobile, satellite) technologies. Deploying broadband infrastructure—especially fiber—in remote and rural regions, including on tribal lands, can be challenging. The potentially large area of coverage and other geographic barriers on tribal lands create physical challenges. It can be financially challenging because of the high cost of deployment and low rate of return; these regions typically have small populations (few customers) to support ongoing operations and network improvements.

As a result, deployments in rural regions, including tribal lands, have been limited. Some communities in these regions remain without access to broadband, creating what is called the *digital divide*. In 2024, the Federal Communications Commission (FCC) reported that approximately 23% of people living on tribal lands lacked access to fixed (e.g., fiber) broadband services.

One way to increase broadband access on tribal lands is with wireless technologies—using radio waves to transmit communications and internet signals where it is difficult to deploy fiber. The FCC has suggested that increasing tribal access to, and use of, spectrum would create additional opportunities to expand broadband service on tribal lands.

In 2020, the FCC made spectrum available to Tribes through a rural tribal window, allowing them to obtain spectrum licenses in the 2.5 gigahertz (GHz) band before the band was auctioned. This first-ever tribal window enabled Tribes to provide wireless broadband services on tribal lands. Some entities favor pre-auction tribal windows; others say offering pre-auction tribal windows may affect auction timelines and outcomes. Still others assert that while access to spectrum could spur broadband services on tribal lands, some Tribes may need resources for technical assistance and construction. Congress may consider the costs and benefits of creating a pre-auction tribal window for any or all future FCC spectrum auctions.

## Background on Spectrum

Radio waves (or radio frequencies) are used to transmit signals wirelessly from one facility or device to another. Radio frequencies have specific characteristics, making some better suited for certain communications (e.g., satellite services, mobile communications, AM or FM radio, maritime). Certain frequencies with similar characteristics are sometimes grouped into bands. For example, the 2.5 GHz band includes frequencies ranging from 2496 to 2690 megahertz (MHz). Different technologies are designed to use certain frequencies to enable wireless communications. For example, antennas on cell towers use frequencies in the 2.5 GHz band to enable mobile communications.

Entities must obtain permission to transmit on certain frequencies to avoid interfering with other users. In the United States, two federal agencies manage spectrum use: the National Telecommunications and Information Administration (NTIA) and the FCC. NTIA manages federal agency use of spectrum, while the FCC manages spectrum for nonfederal use, including commercial, state, and local use, and tribal licensing.

### 2.5 GHz Band

The FCC originally allocated the 2.5 GHz band for educational institutions to provide in-school educational television. In 2004, the FCC expanded the use of this band to include educational broadband service (EBS). In some areas, educational institutions used this spectrum for educational television and broadband; in other areas, the spectrum was unassigned and unused. Some entities that held the spectrum license built their own infrastructure and offered services to their students and communities. In other instances, schools leased their spectrum to private providers who would, in turn, build the broadband infrastructure in exchange for access to the schools' spectrum. In 2019, the FCC reported that there were 1,300 EBS licensees; most licensees relied on leasing partners to deploy and operate broadband networks.

Around 2019, as 5G technologies began emerging, the FCC found that the 2.5 GHz band was underutilized. Consequently, the FCC contemplated opening the band (in which application processing was previously frozen) for new and incumbent educational users and Tribes. While educational entities and Tribes argued for access to spectrum, commercial users (i.e., leasing partners) asserted that the past 2.5 GHz model resulted in a transfer of spectrum to commercial entities without an auction.

## 2.5 GHz Rural Tribal Window

In 2019, the FCC found it would be in the public interest to adopt a rural tribal window for 2.5 GHz spectrum. This pre-auction window gave Tribes priority to obtain unassigned licenses before making spectrum available to all entities

(e.g., commercial providers) through competitive bidding (i.e., auction). Upon acquiring an FCC license, Tribes had to abide by certain conditions. For example, within two years of receiving a license, Tribes are required to submit evidence to the FCC that they are providing broadband coverage to 50% of the population in their area. Five years after the license is granted, licensees must show that they are providing service coverage to 80% of the population.

Tribes could apply for this spectrum prior to the auction from February 2020 through September 2020. In September 2020, the FCC announced that it had received over 400 applications from Tribes to obtain licenses for unassigned 2.5 GHz band spectrum. The FCC granted licenses from October 2020 through July 2022.

Tribes plan to use or are using their 2.5 GHz spectrum to deploy networks and services, with some Tribes using federal funding from the Tribal Broadband Connectivity Program for this purpose. For instance, Alaska Tribal Spectrum is beginning to provide wireless service using cell towers to work in tandem with low Earth orbit (LEO) satellites to provide connectivity over several tribal areas. In another example, the Tlingit and Haida Indian Tribes of Alaska are erecting new and using existing cell towers with broadband equipment to connect 3,448 Native American households to 2.5 GHz fixed wireless.

## Considerations for Congress

Tribes have faced challenges in obtaining spectrum. According to the Institute for Local Self-Reliance,

> Native Nations [i.e., Tribes] have little opportunity to participate in this system because the system tends to be optimized for large communication corporations and the geographic units do not often align with the boundaries of Native Nations. This approach makes it difficult for Native Nations to operate radio stations or develop wireless [i]nternet service.

Congress could encourage or direct the FCC to promote tribal access to spectrum in future auctions, using such mechanisms as a pre-auction tribal window, or defer to the FCC on tribal spectrum matters. In the Spectrum and Secure Technology and Innovation Act (P.L. 118-159, Title LIV), Congress directed the FCC to commence an auction of unassigned spectrum in the Advanced Wireless Services (AWS-3) band by June 23, 2026. In February 2025, the FCC sought comment on the potential impact of creating a tribal licensing window for this spectrum. Comment responses varied; Tribes and public interest groups supported a tribal licensing window, and some wireless industry associations opposed it. If the FCC declines to create a tribal licensing window, Congress could direct the FCC to create or prohibit a tribal licensing window in spectrum-related legislation or allow the FCC, as an independent agency, to make the decision.

Some stakeholders have argued against pre-auction tribal windows. These groups assert that common norms, rules, and laws implemented and enforced by the FCC have enabled the United States to maximize use of spectrum, spur innovation, expand services, and manage multiple uses of spectrum by many entities at once while also avoiding interference between those users. Some interested parties argue that a pre-auction tribal window may affect auction timelines and reduce any auction proceeds that the U.S. government could receive.

By allowing Tribes to access spectrum, such as through a pre-auction tribal window, Congress could encourage more opportunities for tribally owned and intertribal broadband networks. Expanding tribal access to spectrum may enable Tribes to better capitalize federal broadband funding. For instance, the Navajo Nation Telecommunications Regulatory Commission states,

> granting spectrum directly to Tribes aligns with broader federal policy initiatives to close the digital divide. The Commission's Tribal Broadband Connectivity Program, the NTIA grants, and Treasury's Capital Projects Fund are injecting resources into [t]ribal broadband projects. But without access to spectrum, Tribes like Navajo often cannot fully leverage these funds to deploy wireless 5G networks.

Tribal access to spectrum in itself may not bridge the digital divide. Tribes may also need resources for technical assistance and construction of broadband networks. Access to spectrum coupled with adequate funding for build-out could help to ensure utilization of spectrum and provide broadband services to tribal lands. Tribes could enter into leasing agreements with private entities to effectuate a build-out, as previous 2.5 GHz licensees have done. Tribes could also finance the projects themselves. Given limited tribal capacity, this may be challenging. Dedicated federal funding to develop tribal broadband (e.g., Tribal Broadband Connectivity Program, Capital Projects Fund) has ended. Tribes are eligible for broadband funding through other programs (e.g., Broadband Equity, Access, and Deployment Program) but must compete against a number of other entities. Congress may consider reestablishing a dedicated federal funding stream to provide financial and technical assistance to help Tribes deploy broadband once they obtain spectrum licenses. Similar ideas, although not specific to Tribes, have been proposed in H.R. 3125 and H.R. 3280 (119th Congress). Alternatively, some Members have proposed streamlining existing federal broadband programs.

Congress may also debate whether Tribes should have control over spectrum on their lands (*spectrum sovereignty*) instead of the FCC. For example, in the 117th Congress, the Deploying the Internet by Guaranteeing Indian Tribes Autonomy over Licensing on Reservations Act (DIGITAL Reservations Act; S. 5321) would have granted Tribes and Native Hawaiian organizations exclusive rights to all available or unlicensed spectrum over their lands. The bill also would have required the FCC to establish a fund to support tribal access to broadband, create an office within the FCC to help Tribes meet technical standards, and provide an annual report to Congress on tribal broadband access and connectivity efforts.

**Colby Leigh Pechtol**, Specialist in Telecommunications Policy

IF13014

**Jill C. Gallagher**, Specialist in Telecommunications Policy

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