

Statement of Christina Mason
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House of Representatives Committee on Energy and Commerce
Subcommittee on Communications and Technology
Hearing on “Connecting America: Broadband Solutions to Pandemic Problems”
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We thank the Members and staff of the House Energy and Commerce Committee and the Subcommittee on Communications and Technology for the opportunity to submit this statement for the record on behalf of the Wireless Internet Service Providers Association (WISPA.) WISPA represents the interests of the evolving wireless internet service provider (WISP) ecosystem: small innovative entrepreneurs who provide fixed wireless and other broadband solutions to consumers, businesses, first responders and community anchor institutions. The nation’s approximately 2,800 WISPs bring critical internet access to more than six million Americans in unserved and underserved rural, suburban and urban areas of the country, quickly and affordably, offering cost-effective, competitive and innovative service options where they did not previously exist.

WISPA’s members have been on the frontlines of combatting COVID-19, helping individuals and companies in the toughest to serve communities across America stay safe and connected through the pandemic. In the early days of the pandemic, they were the first ISPs on the ground, connecting unserved communities to high-speed internet virtually overnight. And since then, they have been working overtime to help students learn virtually, parents work from home, and grandparents access telehealth services. They are proud to serve on the frontlines of this pandemic because one thing remains clear: Americans without access need broadband connectivity and they need it now, not a decade from now.

Here's their story.

With most of us locked down during the pandemic, Americans used the fullest extent of their internet access to teach our kids at home, telework, communicate with loved ones and friends, and generally keep their heads above the water during these trying times. Needless to say, all networks were pushed to their capacity, including those operated by WISPs.

As with others in the broadband ecosystem, WISP networks got hit hard by the new use dynamics brought about by the lockdown orders. They saw an average change of download traffic at peak from pre to present COVID of 43%; and an average change of upload traffic at peak from pre to present COVID of 70%, causing nearly 82% of WISPs to quickly upgrade their delivery networks to meet those challenges.

Not surprisingly for WISPs, the top five uses during COVID were (in order): virtual meetings/webinars; distance learning; HD movie streaming; telemedicine; and web browsing. To accommodate these uses, the top five “speed” packages chosen by consumers during COVID were (in order): 25/3mbps; 10/1; 50/5; 100/20; and 100/100. Interestingly, though “Zoom” meetings became its own verb, networks remained highly asymmetric in use – e.g., 7-to-1, download to upload – even in light of increased upload demands via telehealth, distance learning and telework use dynamics.

As WISPs worked to accommodate the new traffic patterns, they also went into their communities to ensure that those who did not have, or could not afford, internet access had it. A significant majority of WISPA’s members provided some sort of free connectivity or publicly available Wi-Fi to their communities at their own cost, averaging about \$4,500 apiece. Many also signed the FCC’s Keep

Americans Connected pledge, which kept those most affected by the pandemic – such as individuals who lost jobs or saw lower wages – connected and safe.

The 5.9 GHz band – an underutilized slice of spectrum dedicated to the auto industry for the past twenty years – was a critical asset that helped WISPs meet the dramatic surge in demand during COVID, too.

WISPA has long advocated that the FCC put the 75-megahertz in this band to better use by allocating a portion of it for unlicensed uses. When the pandemic hit, the Commission found new impetus to see this through. In March 2020, in order to help WISPs satisfy surging network demand, the FCC began granting applications from WISPA members for Special Temporary Authority (STA) for unlicensed use of 45-megahertz of spectrum in the lower portion of the band.

Some examples of this were:

MetaLINK Technologies, Inc. in Defiance, OH, used the additional frequency to complement its unlicensed offerings, making it able to provide a better internet experience to its customers by expanding the throughput, reducing latency, and providing better modulation.

Nextlink, based in Hudson Oaks, TX, found tremendous success moving a portion of its gear to the 5.9 GHz band where it could operate with less interference. As a result of the higher signal-to-noise floor utilizing the 5.9 GHz band, over 2,000 of Nextlink's subscribers were able to upgrade their speed plans to higher levels than possible before. The change had interesting ancillary benefits, too. Nextlink notes that its departure from the usual unlicensed frequencies in the lower portion of the 5 GHz band provided a similar boost for other WISPs in the marketplace by allowing them to operate with less frequency congestion and interference.

ZIRKEL Wireless, operating in Steamboat Springs, CO, says that when the state's stay-at-home orders were imposed, many of its access points (APs) were suddenly saturated at 100% utilization since everyone was now at home working and schooling, among other uses. With the new 5.9 GHz spectrum, ZIRKEL was able to mitigate that strain, bringing utilization back down to the 80% range by increasing capacity and thus helping all of its customers remain connected with fast speeds. The STA also enabled the company to give other adjacent APs larger channel sizes, alleviating pressure network-wide.

The success of the STA grants demonstrated how critical it was for the FCC to proceed with its proposal to allocate more unlicensed spectrum in the 5.9 GHz band. Subsequent to these events, late in 2020 the FCC opened up the lower 45-megahertz of the band to indoor unlicensed use; and is in the process to determine the permanent rules for full power outdoor use akin to what was achieved by WISPs with the STAs.

WISPs that received an FCC STA certainly made the effects of COVID-19 on their networks less devastating for their communities. This provides a vital lesson to policymakers – the rapid application of the new spectrum to help combat the effects of COVID also showed off the strengths of the WISP model of deployment, revealing important implications for bridging the digital divide.

WISPs, through their flexible network architecture, are meeting the needs of the markets they serve. Sometimes that means using primarily unlicensed spectrum to reach customers. Other times, it may mean rolling fiber to the home. The market – its geography, terrain, access to infrastructure, etc. – is the primary factor that determines network design, not a preference for any given technology. Such flexibility has greatly fostered WISP deployment into the digital divide.

This technologically agnostic approach makes sense. Yet, many today are calling for billions in federal and private support for primarily wired/fiber connectivity to close the divide. Indeed, a significant number of WISPs operate these fiber facilities. The speeds are fast. The service is robust. The pipes are capacious. But building fiber networks is fraught with a number of practical challenges that do not make it an automatic choice to bridge the digital divide.

The first of which is time. Through wireless technology, WISPs can extend robust and evolving broadband networks in a matter of days, not months or years. Deployment is not hampered by time-consuming placement of fiber, permitting for rights-of-way, utility poles or aerials, or the sheer physical complexity of establishing a working fiber network. Consequently, fiber-only networks are inapt to meet the immediate challenges presented by COVID. Expansive geography, tough terrain and low population densities, among other matters, also mean that even beyond COVID, it could take years before internet access could be extended through fiber to all unserved Americans.

Cost is another challenge to fiber deployment. WISP networks can bring broadband to customers at about 15% of that of fiber. Running or trenching fiber can cost up to \$30,000 per mile to install. In contrast, unlicensed spectrum – such as the 5.9 GHz band, and licensed-by-rule spectrum, such as Citizens Broadband Radio Service spectrum in the 3.55 to 3.70 GHz band – offers dramatically lower-cost ways to provide internet service. On the equipment side, too, fixed wireless hardware is relatively inexpensive compared to wired/fiber solutions, the latter of which can incur extensive capital costs for installation, maintenance, and repairs.

Finally, the investment might be overkill- sort of like buying a Ferrari to drive on your neighborhood streets when a Ford will do. Yes, consumers are perennially sold the notion that they need more speed/capacity for their data-hungry activities. But for the foreseeable future, they'll likely never be able to use all that fiber has to offer, if at all. Current adoption statistics underscore this. During the height of the COVID lockdowns, WISP customers primarily chose or modified their access packages to 25/3 Mbps services, even where they could purchase broadband service with Gigabit per second download speeds. Recent FCC analysis seemingly confirms similar adoption preferences, too, showing that in an era with Netflix HD streaming, gaming and telework being popular uses of network technology, only 9% of Americans chose packages of 250/25 Mbps, a speed which is significantly less than what can be achieved by Gigabit fiber.

Marketers are wont to inflate the need for speed to justify their pricey packages, but actual use statistics suggest most of America is doing fine with what they have right now. That may change. But, fixed wireless networks have proven that they can be deployed faster, at lower costs, and can evolve more rapidly. These characteristics should obviate policies such as “fiber favoritism” which distort broad investment and lock in an expensive technological “solution” that is not universally warranted.

Avoiding this “favoritism” via policies which are more ecumenical and technologically neutral in focus is a more effective way to serve those who do not have broadband in this time of crisis.

Focusing on user affordability is another way to get and keep Americans online. Late last Congress, the \$3.2 billion Emergency Broadband Benefit Program (EBB) was signed into law. This program, which the FCC is currently developing, will provide reimbursement to participating broadband providers for qualifying individuals and families and Tribal entities for internet access, as well as the IT needed to hook up to the internet if offered by a participating provider.

Optimizing broad participation will be key for the EBB. Because it is a reimbursement program – not a subsidy program – it is important that the FCC structure the rules and implement procedures which invite

the widest array of participants, especially small providers. In considering Congressional intent and the record, WISPA asked the FCC to keep the following principles top of mind:

- Keep the application and reimbursement processes simple and straightforward;
- Ensure prompt processing and payment of reimbursement requests;
- Make sure the Program does not favor eligible telecommunications carriers over other participating providers; and
- Compliance and accountability must be safeguarded through FCC and USAC audit and enforcement authority.

If the FCC's rules reflect these objectives, WISPA believes the Program will be successful in encouraging wide participation from broadband providers for the benefit of consumers affected by the pandemic.

Conclusion

The WISP model of deployment has been proven to bring broadband home to unserved and underserved communities by focusing on employing the right tools for the right job. Though WISPs predominantly utilize unlicensed spectrum to connect their customers to broadband, a growing array of WISPs, have employed all tools at their disposal, including fiber. Just as the communities in which WISPs operate are diverse, so too are the terrain and deployment strategies needed to connect them. Operators need to remain nimble and be allowed the flexibility to pick the right tool for the job - a hallmark of any technologically neutral broadband policy that Congress may consider. COVID-19 certainly has caused a global calamity and greatly altered the way many of us use technology, but as STA access to the 5.9 GHz band reveals, WISP deployments can be exceedingly responsive, cost-effective, flexible, and evolutionary. And for these reasons, this technology should remain a tool in the connectivity toolbox. This quick and affordable access, coupled with key programs like the EBB, can ensure all Americans, regardless of income or location, get connected to high-speed internet today- not ten years from now. We appreciate Congressional attention to these matters and WISPs across the country stand ready to not only continue to meet the challenges of this pandemic but play a critical role in the nation's longstanding efforts to eradicate the digital divide once and for all.