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*VIA ELECTRONIC MAIL*

To: Jen Leasure, The Quilt

From: Jeff Mitchell

Re: **Monthly Broadband Policy Update – through June 30, 2021**

## Capitol Hill

Although the White House and the Democrat-controlled Congress appear committed to passing a party-line spending package through the budgetary reconciliation process, this has not prevented a fragile bi-partisan agreement on a separate almost $1 trillion infrastructure package with substantial funding for broadband. The White House has released a fact sheet on that bi-partisan framework which indicates it will have $65 billion for broadband with the goal to:

> Connect every American to reliable high-speed internet, just as the federal government made a historic effort to provide electricity to every American nearly one hundred years ago. The Framework will also drive down prices for internet service and close the digital divide.

Congress is expected to take up the bi-partisan package when it returns from the two-week July Fourth recess. We also recently saw the introduction of the bi-partisan BRIDGE Act, which would increase the definition of served to 100x100 – and would also preempt state prohibitions on municipal broadband networks. In addition, the Minds We Need plan was recently launched which would make Research & Education networks, training, and resources, ubiquitous for all higher educational institutions across the country. Efforts to have Minds We Need included as part of a broader infrastructure package are underway.

## Treasury Department

No rules or application process yet for the $10 billion Capital Projects Fund which will provide grants to states and localities to fund "critical" broadband connectivity infrastructure projects for the "unserved." With no updates since May 10, 2021 (when program rules were due), the webpage still simply indicates applications will be accepted during the "summer of 2021." Treasury is also administering a $350 billion program to aid states ($195.3 billion) and localities ($154.7 billion) recovering fiscally from COVID-19: Coronavirus State and Local Fiscal Recovery Funds. Treasury is now accepting applications for this program which also can be used to invest

in broadband infrastructure (see pages 7-8), and which gives a preview of how Treasury may address required broadband speeds in Capital Projects Fund:

> Treasury's Interim Final Rule [for the $350 billion fiscal recovery program] provides that investments in broadband be made in areas that are currently unserved or underserved—in other words, lacking a wireline connection that reliably delivers minimum speeds of 25 Mbps download and 3 Mbps upload. Recipients are also encouraged to prioritize projects that achieve last-mile connections to households and businesses.

Senator Wyden (D-OR) has sent a strongly-worded letter to Treasury Secretary Yellen asking, among other things, for "served" to be defined as a minimum of 100 Mbps in the final rule. (Coincidentally,[1] a broadband association called "BroadLand" has launched around this very issue. Led by former FCC Commissioner Clyburn, founding members include Google Fiber, Netflix, and various competitive carriers, among others.)

**National Telecommunications and Information Administration (NTIA)**

NTIA's $288 million Broadband Infrastructure Grants Program formally launched in May 2021. The program's web page has links to the Notice of Funding Opportunity (NOFO) (essential reading if you are considering applying), FAQs (second set released June 10, 2021), and links to past and future webinars. The two-part June webinar on the program is available for viewing while the next live webinar will be held July 13-14, 2021. (Benton Foundation has good analyses of the infrastructure grants program here and here). The Tribal Broadband Connectivity Grants Program ($1 billion) and the Connecting Minority Communities Pilot Program ($285 million) each now have webpages with links to their respective NOFOs, FAQs, and webinars.

On June 15, 2021, NTIA launched an updated guide to all federal funding for broadband (available in PDF or sortable Excel format). On June 17, NTIA released an interactive national broadband mapping tool intended to identify "Indicators of Broadband Need" in specific regions or localities. This tool is separate from NTIA's National Broadband Availability Map (NBAM) (scroll down), which reaches 36 states but is not public. For more formation about NBAM, email nbam@ntia.gov.

The monthly BroadbandUSA newsletter for June 2021 can be found here with a link to a Pew article reviewing state-driven broadband investments, and notable state news out of Maine (raising the definition of "served" for broadband grants), Ohio ($20 million broadband grant program established), and Vermont (possible $100 million broadband grant program), among

[1] Not really. There are no coincidences when it comes to Washington policy battles like this.

others. May's newsletter linked to a Congressional Research Service round-up of COVID-19-related federal funding opportunities for broadband for Tribes, Tribal Colleges and Universities, the Bureau of Indian Affairs, the Bureau of Indian Education, and the Indian Health Service.

**USDA – Rural Utilities Service**

The FY 2022 appropriations bill for the Dept. of Agriculture, if passed, would allocate $800 million in new funding to the USDA Reconnect program, $65 million for the Community Connect Program, and $60 million for the Distance Learning & Telemedicine Grant program (program links below). Proposed Reconnect projects can be viewed here (must create free log-in to access); 2019 awardees are identified here; 2020 awardees are here; proposed and funded projects are depicted on an interactive map here. The most recent RUS Community Connect Grant program annual application window is now closed; the Distance Learning & Telemedicine Grant Program annual application window has also now closed.

**Precision Agriculture**

The next meeting of the FCC's Precision Agriculture Connectivity Advisory Task Force will be July 8, 2021 – reports from working groups are on the agenda. Background and links to prior meetings are available here. The FCC's Office of Economics and Analytics on December 15, 2020, released a working paper on the impact of broadband availability on agriculture. Farms are already using private LTE networks with CBRS spectrum, including greenhouse monitoring in Missouri and supporting drone-mounted cameras to make real-time decisions on herbicide applications in North Dakota. NTIA's September 2020 webinar on precision agriculture is available here. The April 2019 USDA report on rural broadband infrastructure and next generation precision agriculture is available here. Purdue University announced in August 2020 that it was collaborating with the National Science Foundation-funded Engineering Research Center to develop the Internet of Things for Precision Agriculture.

**Federal Communications Commission**

Details on the June 17 20, 2021, FCC Open Meeting is available here; other than an order announcing program rules for the Connected Care Pilot program, no notable broadband items were on the agenda. The agenda for the July 13, 2021 Open meeting also does not have any notable broadband items either.

**Spectrum**

In this section of the monthly broadband policy update, we are maintaining short summaries of selected FCC spectrum proceedings that are active and which are expected to impact the public

availability of broadband. Because each of these items are often quite complex, we are focused on broad summaries and major developments only.[2]

L-Band (1.0GHz to 2.0GHz)

Although unanimously approved by the Commission, the April 2020 Ligado Networks (f.k.a. LightSquared) decision allowing use of a portion of the so-called L-band spectrum, the decision continues to draw opposition. Because Ligado's spectrum is close to spectrum reserved for GPS, the Department of Defense (DOD), Department of Transportation (DOT), and aviation and other interests strongly opposed the FCC's move. NTIA (on behalf of DOD and DOT) challenged the FCC's decision through a petition for reconsideration and a petition for stay, however the FCC in December 2020 denied NTIA's petition. A high-profile lobbying campaign is apparently underway to reverse the decision (April 2021) and it has borne fruit, with Sen. Inhofe successfully including provisions in the 2021 Defense Authorization Act requiring DOD to report on damage to DOD systems caused by Ligado and, more recently, introducing a bill with bi-partisan support that would require Ligado to compensate satellite users harmed by interference.

2.5 GHz (formerly EBS)

The FCC in 2019 decided to auction remaining unlicensed Educational Broadband Spectrum (EBS) (2.5 GHz band) to commercial users. This spectrum is suitable for mobile and fixed point-to-point wireless services. Prior to the auction, tribal entities in rural areas had a limited opportunity to apply for licenses for available 2.5 GHz spectrum in their areas through a "Rural Tribal Window." That window closed in September 2020 and the FCC is processing and accepting applications. (Once accepted, applications are subject to further review and a public comment period before they are finally approved.) Tribal license grants so far are listed here (click the "Releases" tab) – the most recent license grants occurred May 13, 2021. The Commission in January released a Public Notice seeking comment on proposed auction procedures, the first step toward conducting auction of the remaining spectrum, possibly in 4Q 2021 but more likely in 1Q 2022.

[2] Here is a short but helpful backgrounder on the relative importance of the different bands in the 5G era (courtesy Jeremy Horowitz at venturebeat.com):

> The . . . low band tier covers a lot of space, slowly, while the . . . mid band covers less space at faster speeds, and the . . . high band covers the least space at super-fast speeds. . . . One low band (600-700MHz) tower can cover hundreds of square miles with 5G service that ranges in speed from 30 to 250 megabits per second (Mbps). A mid band (2.5/3.5GHz) tower covers a several-mile radius with 5G that currently ranges from 100 to 900Mbps. Lastly, a high band (millimeter wave/24-39GHz) tower covers a one-mile or lower radius while delivering roughly 1-3Gbps speeds. Each of these tiers will improve in performance over time.

3.45-3.55 GHz

The DOD in August 2020 agreed to vacate a 100 MHz band from 3.45 to 3.55 GHz to allow for 5G use, clearing the way for an auction of this valuable spectrum for 5G deployment. The FCC in March 2021 established rules for the new band and proposed auction procedures for an auction by the end of 2021. The 3.1-3.55 GHz band is currently used by DOD for fixed and mobile radar as well as secondary non-federal amateur and experimental users. WISPA, the Wireless Internet Service Providers Association, in March 2021 announced an innovative proposal to the FCC to obtain 200 MHz between 3.1 and 3.55 GHz "for coordinated, non-auctioned, high-powered, point-to-multipoint use, on either a shared or licensed-by-rule basis."

Citizens Broadband Radio Service (CBRS) (3.55-3.65 GHz)

The FCC's CBRS auction of Priority Access Licenses (PALs) closed in 2020 netting over $4.5 billion, with all three major wireless carriers bidding. General Authorized Access (GAA) allow unlicensed access to available channels managed by a frequency coordinator called a Spectrum Access System (SAS). Information about SAS functionality – which is critical to all future spectrum sharing applications – is available here and here. A good general non-legal web resource for CBRS is available here. Rural carriers in April 2021 began an effort to get the FCC to modify the power rules for CBRS – a modification that could impact lower power users. A good article about CBRS networks helping K-12 schools bridge the homework gap is here.

C-Band (3.7-4.2 GHz)

The C-Band auction ("Auction 107") commenced December 20 and wrapped up January 15. Up for grabs was 280 megahertz of spectrum in the 3.7–3.98 GHz well-suited for 5G. All 5,685 available spectrum blocks were auctioned with gross proceeds exceeding $80.9 billion – far in excess of the $60 billion estimated. Complete auction results are available here and here.

4.9 GHz Band

In September 2020, the Commission on a party-line vote approved an order eliminating the exclusive public safety use requirement for the 4.9 GHz, permitting "one statewide 4.9 GHz band licensee per state (the State Lessor) to lease some or all of its spectrum rights to third parties, including commercial, critical infrastructure, and other users, thus making up to 50 megahertz of mid-band spectrum available for more intensive use." Public safety interests were upset with the item and circulated a petition to have the spectrum allocated instead to FirstNet. Acting Chair Rosenworcel is reportedly circulating an order that would pause the current plan.

5.9 GHz Band

The Commission at the November 2020 open meeting approved rules to reorganize spectrum previously reserved for the transportation sector ("Dedicated Short-Range Communications" or DSRC) in order to support development of next generation "Cellular Vehicle to Everything" (C-V2X) technology in the upper band, while freeing up the lower 45 MHz of the 5850-5925 MHz band. The reorganization increases spectrum available for unlicensed Wi-Fi utilization – strongly supported by Qualcomm and silicon valley interests – but continues to be staunchly opposed on safety grounds by transportation interests including state departments of transportation for all 50 states. The Biden Department of Transportation is apparently open to reexamining these concerns and, in early June 2021, transportation interests filed suit in the D.C. Circuit.

6 GHz Band

In April 2020 the FCC authorized 1200 MHz of spectrum to be available for two kinds of unlicensed use of the 6 GHz band: low power indoor usage and standard power usage anywhere. By expanding Wi-Fi and increasing opportunities for innovation, the FCC's action is widely expected to create billions in value for the economy. Some claim this is the most important decision the FCC has made on unlicensed spectrum use in 25 years. In October 2020, the DC Circuit denied emergency requests to stop the 6 GHz order from taking effect – however the cases continue. Interests opposed to the FCC's 6 GHz order included AT&T, the National Association of Broadcasters (NAB), public safety groups, and incumbent utilities. Generally, opposing interests fear interference with incumbent operators with AT&T, for example, expressing concern that existing microwave links used for network backhaul will be disrupted.

12 GHz

This October 2020 article from Fierce Wireless and an April 2021 article from the American Enterprise Institute provide a good overview of the issues around 12 GHz, which is a band currently licensed exclusively to satellite providers (and used by SpaceX among others), but is also suitable for 5G. The NPRM adopted in January 2021 seeks comment on whether it is possible for mobile service to share use with the current satellite users.

White Spaces

The unused spectrum between TV station channels or in places where channels are vacant are called "white spaces." This vacant broadcast spectrum represents a resource for mobile broadband, particularly in rural areas. In March 2020 the FCC proposed updated rules to facilitate increased innovation in the white spaces area. The FCC approved proposed rules in October 2020

that are expected to protect broadcasters while allowing innovative 5G and broadband deployment in the unused channels. These rules were essentially the product of a negotiated industry consensus between broadcasters and groups such as Microsoft who have helped perfect the technology necessary to make spectrum sharing in these spaces work.

Low-Earth Orbit (LEO) Satellite

Elon Musk's SpaceX in October 2020 launched its "Better Than Nothing Beta" test of its Starlink LEO satellite internet service. The beta has a $499 set up fee associated with the equipment needed to connect, and a $99 monthly fee. A Starlink spokesperson explained: "Expect to see data speeds vary from 50Mb/s to 150Mb/s and latency from 20ms to 40ms over the next several months as we enhance the Starlink system. There will also be brief periods of no connectivity at all." Amazon is also launching a massive LEO project, called "Kuiper." Starlink ended up being a controversial big winner in the Rural Digital Opportunity Fund (RDOF) reverse auction, winning $885.5 million of the $9.2 billion available.[3] Competitor Viasat is challenging certain of Starlink's service claims that qualified it for RDOF funding. Separately, early June 2021 saw three court challenges of FCC decisions regarding Starlink (courtesy Law360 [subscription required]):

> Dish Network filed its federal court challenge . . . in the D.C. Circuit, asserting that the FCC wrongfully gave SpaceX's so-called satellite constellation permission to flout usage rules in the 12 GHz band, which "would cause unacceptable interference" with Dish's satellite TV transmissions.
>
> A day earlier, Viasat told the D.C. Circuit that it faces "a risk of collisions with debris attributable to SpaceX's satellite constellation; the expenditure of time and resources to avoid collisions with or interference from SpaceX's satellites or associated debris; and competitive injury from SpaceX's use of its environmentally irresponsible constellation to compete directly with Viasat in the market for satellite broadband services."
>
> A third challenger, consulting firm the Balance Group, asserted Thursday that the FCC skipped important environmental review steps before approving SpaceX's constellation changes.

[3] AT&T has a useful overview of the complete RDOF auction results that, of course, also provides the big ISP perspective. A more skeptical perspective on the RDOF results can be found here. In May 2021, RDOF came under new attack from the Center for Individual Freedom and other groups based on a just-released study from the Competitive Carriers Association (CCA) showing that "286,000 locations with almost 403,000 people that are poised to receive [RDOF] subsidies already have robust connectivity" – even though RDOF was intended for areas "wholly unserved" by broadband. More on RDOF problems in this Benton Foundation analysis.

**Universal Service/Digital Divide**

Deloitte in April 2021 released an interesting report providing a good summary overview of the current digital divide. The Verge also has an updated (May 2021) look at the broadband gap using Microsoft cloud services data. For a comprehensive look at the problem along with specific policy recommendations, the National Urban League in April 2021 released the "The Lewis Latimer Plan for Digital Equity and Inclusion" – essentially a privately commissioned reboot of the National Broadband Plan of 2011 (with Blair Levin among other influential authors). The FCC's 2020 Universal Service Monitoring Report contains summary data for all universal service programs (data through September 2020). USAC's 2020 Annual Report (released March 31, 2021) also provides a useful overview of universal service fund ("USF") data.

The current USF construct, which is over 25 years old, is straining to address the equitable distribution of limited resources for broadband – partly reflected in a universal service fund contribution factor that is now over 33%. Even USTelecom (the largest carrier trade group) is now publicly supporting some type of USF contributions reform. On May 24, 2021, FCC Commissioner Carr through an opinion piece in Newsweek called for USF contributions reform – either through Congress or the FCC – to end the current phone-bill based assessment mechanism and tap "Big Tech" revenues instead. While Carr certainly grabbed attention with his piece – it is far from clear whether his stunt will become a serious Republican policy proposal. Carr notably opposed relying on congressional appropriations to fund the USF.

Emergency Broadband Benefit Program

Because it is primarily consumer-facing, we have not been closely tracking the $3.2 billion Emergency Broadband Benefit (EBB) FCC program recently created by Congress. While the EBB is a COVID-19 initiative, it is clearly a pre-cursor to a permanent Lifeline program that supports broadband. EBB launched May 12 – a program overview with links to more information is available here and within the public notice.

**New Telehealth Programs**

The American Hospital Association in May 2021 released a report from its Future of Rural Health Care Task Force that is quite thorough.

COVID-19 Telehealth Program: Although Round 2 application window closed (USAC handling the process this time), the FCC on June 29, 2021, extended the window for the certain applicants that "(1) began and saved a draft application in the COVID-19 Telehealth application filing system before the close of the application filing window at 12:00 PM ET on May 6, 2021; and (2) contacted, in writing, the Universal Service Administrative Company (USAC) or the Commission

within two weeks of the filing deadline, that is, by 12:00 PM ET on May 20, 2021, to request additional time to submit their applications." Congress in December 2020 authorized $249.95 million for Round 2 of COVID-19 Telehealth Program awards. The FCC released Round 2 program rules in March 2021.

Connected Care Pilot Program (application window closed): On June 21, 2021, the Commission released additional rules and guidance governing the Connected pilot program. On June 17, 2021 the Commission selected an additional 36 projects, including awards to the University of Florida, University of Hawaii, Johns Hopkins University, and University of Kentucky. The first group of 14 projects, included awards to University of Virginia, University of Mississippi, Duke University, and Temple University. About $57 million of the $100 million in funding has now been awarded. The FCC's Connected Care Pilot webpage has full background on the program.

**Emergency Connectivity Fund**

The FCC held an Emergency Connectivity Fund (ECF) webinar on June 25, 2021 – viewable here. There is an initial 45-day application window open from June 29 to August 13 – this first window covers eligible equipment/services purchased between July 1, 2021 to June 30, 2022. If funding remains after the first window, a window for "retroactive" support will be opened to reimburse prior eligible purchases (made between March 1, 2020 and June 30, 2021). Application information is available here.

Final ECF rules were released in May 2021 (Erratum #1; Erratum #2). Funding for new network construction is available in very limited circumstances. The subsidy is 100% and there is no separate competitive bidding requirement – although state and local procurement rules apply. The Pennsylvania Department of Education has prepared a helpful summary of the order here; American Library Association's summary is here.

**E-rate**

The FCC on June 21, 2021 granted SHLB's request for a further extension of the deadline to complete special construction projects until June 30, 2022. In March 2020 the Commission provided a one-year extension for special projects that had a June 30, 2020, deadline – mostly funding year 2019 projects but apparently including some older projects that had already received extensions. SHLB had argued that COVID-19 continues to impact service providers' and applicants' ability to complete projects, affecting up to 90 currently pending projects.

**Rural Health Care**

On March 12, 2021, the FCC announced that the inflation-adjusted RHC program caps for funding year 2021 (July 1, 2021, through June 30, 2022) would be $612 million for the overall program and $154.5 million for upfront payments and multi-year commitments under the Healthcare Connect Fund Program.

On June 23, 2021, the FCC announced the rollover of $380 million of unused funding from prior years. Once funding year 2021 gross demand is known, the Commission will consider whether to make some of this rolled over funding available for 2021 applications (through a limited cap waiver). While it is good news that money is available in 2021 if a needed to avoid *pro rata* cuts, that there is so much unused funding from prior years is a continuing sign of poor program administration.

**Net Neutrality**

Lawfare has a good overview of net neutrality issues arising post-pandemic. But, for now, federal litigation continues to be the main arena in the ongoing battle. Recall the DC Circuit in upholding the FCC's repeal of net neutrality rules reversed the FCC claim of blanket preemption of state-specific rules – meaning preemption claims must proceed case-by-case. Other than California and Vermont, four other states have enacted some form of net neutrality law: Colorado, Maine, Oregon, and Washington; none of which have yet been challenged by industry or the federal government. Potential litigants are likely waiting for the outcome in the California case.

The following Amicus briefs were filed in May 2021 regarding the appeal from the court's denial of an injunction against the California law: Access Now, et al.; Professors of Communications Law and Media Democracy Fund; Electronic Frontier Foundation, et al.; state of New York, et al.; Santa Clara County, California, et al.; and Internet Law Professors. California's answer is here. The Vermont case has been stayed pending outcome of the California case. (Links courtesy NECA Washington Watch.) Meanwhile, litigation over a New York state law requiring ISPs to offer $15 broadband plans for some state residents was recently stayed by a federal court, creating new precedent on the FCC's preemptive authority over broadband internet service that may have implications for the California case.

States

The National Conference of State Legislators (NCSL) features a summary of net neutrality efforts by state for 2021 here (updated January 20, 2021). *Note this list does not identify current laws, only current efforts to pass new laws*.