



HAVASUPAI TRIBAL COUNCIL
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WRITTEN TESTIMONY
OF
OPHELIA WATAHOMIGIE-CORLISS
COUNCILWOMAN OF THE
HAVASUPAI TRIBE
BEFORE THE
COMMITTEE ON AGRICULTURE
SUBCOMMITTEE ON
COMMODITY EXCHANGES, ENERGY AND CREDIT

Chairman Scott and Ranking Member Scott:

Good morning. It is very exciting to be asked to come speak about the topic of *Broadband Opportunity in Rural America through Affordable, Reliable, and High-speed Broadband*. My name is Ophelia Watahomigie-Corliss, I am a member of the Havasupai Tribe, and I am currently serving my second term as a tribal councilwoman. I am here in my official capacity as an elected leader of the sovereign Havasupai Nation. I also serve as the telecommunications lead among my Tribal Council colleagues. Within this testimony I will tell you about my Tribes' inability to participate in online education opportunities until 2018 and how our children must leave their families and canyon

home in order to obtain a high school diploma at age fourteen. My community had been promised working telemedicine for the past fifteen years and yet agencies have failed every time to execute their promises. Finally, in partnership with MuralNet, we built our own Havasupai pilot network that was successful in bringing high-speed Internet to homes for students and teachers, which has pushed the Tribe to find ways to provide broadband to the rest of our community.

The Havasupai Reservation is the most isolated American Indian tribe in the lower 48 states. The village of Supai is located on the floor of the Grand Canyon where it supports a population of 398 residents, and when the children return home from boarding school the number increases to 423. Our home is surrounded by mile high red rock cliffs and mesa tops that surround Supai Village. This scene is very similar to what you see at the Grand Canyon National Park, which was our ancestral home. Our village and canyon are important links to our traditional way of life. The only way in or out of our canyon home is an 8-mile hike by foot, by horse, or our public transportation via helicopter which runs two to four times a week, depending on what time of year it is. All packages sent through the United States Postal Service are still delivered by mule trail mail to area code 86435. Even after you make it up and out of the canyon, the nearest two towns are 67 miles away by car. My home, I am sure, qualifies under the definition of rural.

Within the first 100 days of my first elected term, I responded to a letter from Northern Arizona University, and soon established a working relationship with the nonprofit organization MuralNet. This was the first project I ever presented to Tribal Council and it was not easy. MuralNet had promised to help the community bridge the Digital Divide. My fellow colleagues were somewhat apprehensive and proceeded to inform me of the many agencies that had already promised to bring telemedicine into the community, and failed. I seemed enthusiastic enough that they were eventually willing to give the project a chance.

Initially, around 2008/2009, the village received Internet access from Niles Radio Communications by microwave point-to-point radio links producing three Mbps connection speeds at our access point in the village. In 2010 the access point was upgraded to receive up to five Mbps, and lastly upgraded in 2013 to receive a total of twenty Mbps. Using a Subscriber Module (SM) system the twenty Mbps were available and were split down the middle to provide ten Mbps for tribal administration, and ten Mbps for a public network. The tribe runs twenty-four departments year-round, which means at least thirty-two computers were signed onto a ten Mbps system at all times, constantly competing for bandwidth. Our capabilities were far from high-speed usage. Using an email browser and submitting our grant reports online were the most successful use of our SM system but our tribal departments were still unable to sign onto and interact with webinars, which were becoming the expected norm.

The ten Mbps that are allocated for public use was available for portable devices such as phones and tablets. It catered to the community and the 35,000 tourists that come down to visit our world-famous waterfalls annually. The public network was only available within a 30-yard radius from the computer room that housed our network equipment and access point.

The current health clinic in Havasupai is run by the Indian Health Service, which is a federal agency who tried to establish their own Internet connection, but has only been successful thus far in obtaining 1.5 Mbps for the use of its electronic medical records system. I have reports from many contracted doctors who, after waiting forty-five minutes to get into a patient profile, will lose the connection and the file. They refuse to use the electronic system and many choose to stick with paper charts. There was not enough Internet speed to support an electronic medical records system, let alone have the ability to establish telemedicine in the canyon. Many organizations have donated telemedicine equipment, but the equipment is useless due to low Internet speeds.

Fast forward to 2015 when a local community college tried to partner with the Tribe to establish its first GED classes so that students could complete their work online and earn their diploma. The Tribe did not have the ability to get Internet to the homes of the GED students, so they would have to use the Internet in the village center. It was a very ambitious project, and many of the students already had jobs and wanted to work on their schooling at home, before or after work. The program had no graduates that year because it was nearly impossible to get their school work done in the allotted time when they had no access to the Internet at home.

MuralNet had promised to help the Tribe bridge the homework gap the GED students were experiencing. It was 2017 when the project was given permission with a tribal resolution to move forward to bring in high-speed Internet via a private LTE network for the entire village. MuralNet and the Tribe filed a request with the Federal Communications Commission (FCC) for a special temporary authorization (STA) permit to use Educational Broadband Service (EBS) spectrum over the village of Supai under its educational burden of proof guidelines. We were ready to deploy the network by November of 2017, but it took the FCC until February 2018 to approve our request. Within five days of the license approval we received the plug-in customer premises equipment (CPEs) for homes and established our first end-to-end high-speed Internet connection in the village with thirty Mbps of backhaul. There was internet signal throughout Supai and homes in the center of town with direct line-of-site to the antenna tower had broadband speeds.

During this time, the Tribe was working with its Early Head Start and Head Start programs to begin implementing new regulations that had been set by the Office of Head Start (OHS) in 2016. OHS was requiring all employees to have early childhood learning certificates, associate's, or bachelor's degrees depending on their job position, and our program had to prove their employees were enrolled in classes and on their way to receiving these certificates. This was proving troublesome for the Tribe. Although the OHS grants we had funded the classes, we did not have enough to pay for

the employee's living expenses. The closest college to take the required classes would mean a hike, saddle ride, or helicopter ride out of the canyon and a 168-mile drive on top of that. If we sent them out of the canyon to attend school, we would also lose the employee at the Head Start. There are online classes, but the old network didn't have the capability to stream the videos, and the OHS deadline was getting close.

Within ten days of receiving the STA from the FCC, I had developed a check out program for the MuralNet CPEs for online educational use. Anyone in the community could present to me a printed approval letter of any type of online educational classes they would be taking, and I would check them out a CPE to connect them to Internet at home. Immediately twelve CPEs were checked out to Early Head Start and Head Start teachers who began enrolling in GED classes, and community college classes. By the summer semesters, students were able to enroll into classes towards their bachelor's degrees. This put both of our Head Start programs in compliance with new OHS standards! The teachers at our local Bureau of Indian Education (BIE) school were next on the list to be provided CPEs for use in their apartments. The teachers used the MuralNet CPEs for lesson planning, research for instructional activities, continuing education classes, news and email access. These first groups of students and teachers were able to confirm how our pilot LTE network enabled them to complete their tasks online. They no longer needed to stay at the office until 8pm to use the Internet at the school to get their work done. They could now work from home.

The initial six-month STA license was so successful that the FCC granted us an extension in May 2018. The second group to receive the CPEs were a group of seven students who were trying to complete the second round of GED courses provided by Coconino Community College located in Flagstaff, Arizona. The College had developed an interactive online class that students had to sign into twice a week and complete forty hours of work through online courses in order to earn their diploma. Although the CPEs were distributed in the middle of their GED course year, we made every effort to accommodate these students so could take these classes at home. The

first time a class of our students was able to sign into the live class was August/September 2018. Julie Baumgartner from Coconino Community College was teaching a math class in Flagstaff Arizona, 168 miles from the GED students. Once we successfully signed on, we could see Julie on our computer screens, we could hear her asking questions, and she even introduced her students in Flagstaff to us. Our Supai students watched her working out the problems on the board, and they could interact with the teacher. Some of the students were giving her answers to the solved problem on the board in real time. This was a historical moment for Supai because it was the first online, live, interactive class that had happened in the village.

While we have had successes, we also have more needs. The Tribe's current BIE school only goes to the 8th grade, and for our children to receive a high school diploma they are expected to up root from their families at fourteen years old and attend a boarding school out of state. A significant percentage of these children are unable to adjust to living life with a family of strangers or in a dorm, and return to the village, never going back to their studies. A credit recovery program needs to be initiated for these children and a type of online high school programming needs to be investigated and initiated to keep educational progress sustained.

There are also health and emergency service needs. For over fifteen years, the tribe has been promised telemedicine services. This means over those years many agencies had supplied us with telemedicine equipment, all of which has been collecting dust because we lacked the high-speed Internet capabilities to run fluid programming. Telemedicine is so important because our community members have to stay out of the canyon and pay for hotel costs that can sometimes be over one thousand dollars a week when the helicopter only flies on Sunday and Friday in the winter. Our community is also suffering from a suicide cluster and sometimes we are left with no in person professional services for up to three weeks a month.

The Havasupai Reservation is also home to world famous waterfalls, and 35,000 tourists visit the Reservation each year. We do not have good emergency communication

capabilities to the furthest gorge that tourists like to visit, and their safety is our responsibility. Navigating the canyon can sometimes be a life or death situation if someone gets lost. During July 2017 the Tribe had to evacuate around 200 people because of flash flooding, which kept the campground closed for months. These are some of the reasons the Havasupai Tribe must move forward with upgrading the network.

The Havasupai submitted an application for a permanent license of the EBS spectrum A channels in May 2018. However, the FCC had frozen all EBS spectrum permanent license applications since 1995. But now the FCC is rewriting the rules. After all our initial successes, Tribal Council fully supported the MuralNet pilot project and I was sent to Washington D.C. to get the Havasupai Tribe the needed spectrum for our future network expansion. With Mariel Triggs, the CEO of MuralNet, I met with members of Congress, their representatives and all of the FCC Commissioners' offices, advocating for the need of a permanent license for the Havasupai Tribe and for other tribal nations to be able to claim unused and unlicensed EBS spectrum over their lands.

The success of our pilot project with MuralNet has motivated the Tribe to devote a part of its energy to upgrading the LTE Internet network. Currently only seven homes in the center of the village with direct line of site to the tower have had broadband speeds and homes on the outskirts have some connection issues. More and faster Internet connections means our network needs more bandwidth, equipment and backhaul. The initial investment for MuralNet to complete the pilot program was \$15,000 in equipment costs and over \$20,000 in lawyer fees, which is a very low cost to start a network. The planned network expansion would bring broadband coverage to the whole village, increase backhaul from fifty Mbps to one Gbps, provide emergency communications throughout the Canyon, connect an online charter high school, and allow for telemedicine in the new clinic, which will be beginning construction next year. To make our community network financially sustainable, high-speed Internet access can be sold to tourists in the campgrounds. The capital and network operator training

costs are around \$250k-\$300k. These actions are being initiated because the Tribe has decided its people deserve the opportunities that are afforded by broadband. And we will have to do it for ourselves. The ruralness and population size of our community means there is no return on investment for outside Internet service providers or major telecoms to consider building the infrastructure.

The benefits we have seen from this project are benefits we have not been able to realize in the canyon before. There is renewed hope in the community and among Tribal Council that online educational opportunities can become a reality on the canyon floor. Community members can better their lives and their education through future broadband expansion in Supai village. The telemedicine that has been promised to the community can finally work and begin to help the community's spiritual, mental, and physical health at the new clinic. These services that ordinary Americans have been using for the past 20 years are still not a reality for my entire community, but this is the first glimmer of hope we have seen for decades.

The disparities felt by my community may be of the most extreme examples felt by rural tribal nations, but the disparities of the Digital Divide are being felt all across Indian country. It is extremely important to allocate funding to rural America, and tribal rural America, to build reliable broadband. If my community has had its first opportunities to participate in online education in 2018, then there are other communities out there who don't have the capabilities. Extremely isolated areas are in desperate need of telemedicine services and we still don't have those capabilities. That is an opportunity with the monies you allocate to provide us that ability. The Havasupai would use the funds to establish the community's first charter school and credit recovery programs, which are desperately needed to increase the morale of families to earn a better living and give them the opportunity to live their best life.

I support monies allocated specifically to rural American Indian Nations within the funds being negotiated to support *Building opportunity in rural America through affordable, reliable and high-speed broadband*. I can only speak to what is my expertise and that is my

community, the most isolated and rural tribe in the lower 48 states, which is the story of American Indian Country. If my story and expertise can also expand into other parts of rural America and help your decision making to support building opportunity for all rural America, well then, I am also honored. I ask you to never to forget about us again, living at the bottom of the canyon, having had no access to online education or telemedicine services. We have felt left out and forgotten for decades. Now you have the ability to help communities like us, and I know that you will.

I will be honored to address any questions the Committee might have of me. Thank you for your time.



United States Department of the Interior

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June 25, 2018

Ophelia Watahomigie-Corliss
Havasupai Tribal Council
P.O. Box 10, Supai, AZ 86435

Dear Council Member Watahomigie-Corliss,

This letter serves as an assurance for the use of wi-fi routers provided by the Havasupai Tribe. First, Havasupai Elementary School administration and staff thank the tribe for the use of the wi-fi routers located in some of the staff apartments. Second, school staff members, including teachers, are able to connect to the wi-fi internet for professional and personal access. Staff members use the internet connectivity for the following:

- Lesson planning (i.e., Persons, NWEA, NASIS, etc.)
- Research for instructional activities
- On-line classes for professional development
- Personal entertainment (i.e., Netflix, Hulu, news, email, etc.)

We appreciate the Havasupai Tribe's support in helping make internet access available to our staff. In addition, the access helps make living in teacher housing more enjoyable. If you have any questions or concerns, please do not hesitate to contact me.

Regards,

Dr. Maxine Roanhorse-Dineyazhe
Acting Principal
Havasupai Elementary School