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Transcript

Moderator: Emy Tseng
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Coordinator: Welcome and thank you for standing by. I would like to inform all parties that today's call is being recorded. If you need any assistance throughout your call today, you may press Star 0. You all may begin at any time. Thank you.

Emy Tseng: Hello. Thank you for being patient throughout our technical difficulties. Thank you for joining us today for BroadbandUSA's monthly webinar. I'm Emy Tseng, Senior Program Specialist with NTIA's BroadbandUSA program.

Before we begin, I'd like to remind you that this webinar is being recorded and the presentation will be posted to the website at a later date.

Today's webinar focuses on digital inclusion and K through 12 education - the impact of COVID-19 on students and educators. You will learn how communities across the country are helping students get connected, assisting parents and caregivers gain the skills they need to help their children navigate online learning and transitioning educators to online teaching.

Our presenters today are Kimball Sekaquaptewa, Chief Technology Director from the Santa Fe Indian schools, Dr. Christine Diggs, Chief Technology Officer from Albemarle County Public Schools, Michael Culp, Director of Information Technology Department, Albemarle County, and Joshua Edmonds, the Director of Digital Inclusion City of Detroit.

I would like to review the logistics for today's webinar. We will have Q&A after all the presentations are done. As you hear from each presenter, please use the question box on the right-hand side of the screen to submit your questions or comments.

The presentation will be available on the BroadbandUSA website within seven days of this webinar. And please visit our BroadbandUSA website for more information about our technical assistance program including guides, publications and tools that can assist you with your broadband and digital inclusion projects.

We in fact have a new digital inclusion section of the website. You can also sign up for our monthly newsletter and other broadband news.

So, I'd like to welcome our first speaker Kimball Sekaquaptewa. Kimball is the Chief Technology Director at the Santa Fe Indian School. Since 2009, she has addressed broadband connectivity and digital opportunities in tribal areas throughout the Southwest.

She has worked to aggregate demand and leverage local expertise to build tribally owned networks, provide them opportunities for native youth, and connect communities to distance learning, including expanding native language classes and promoting language revitalization. I will now turn it over to Kimball.

Kimball Sekaquaptewa: Hi. Thank you, Emy, for that gracious introduction and greetings, everybody from New Mexico. I am Kimball from the Santa Fe Indian School and our story that I'd like to share has to do with remote learning in you know,

beautiful, rural state and for all the nature that we love poses challenges with connectivity.

And I know, remote learning has, you know, many different aspects to it from the devices to the professional development, but ours really has been a story about connectivity and addressing that for our - in our tribal lands.

You know, pre COVID we were making some gains, but we were really doing it by working hard. In New Mexico, I think we're the 48th or 49th least connected state in general. You know, in the tribal land, it's kind of hard to triangulate those numbers or get accurate statistics. But as many as 68% of us in rural tribal lands don't have access to high speed internet.

In our homes, we have, some people have computers, many don't, and the home connections are, you know, often rely on mobile internet, just because we don't have a lot of choices.

I've been living here in Cochiti Pueblo for 20 years and the incumbent provider hasn't provided one new choice. We can't, there's no DSL. None of the tribal lines have cable options, so really, you know, our choices are few for affordable high-speed internet.

And that impacts our institutions to because the schools and our clinics are in these same communities battling the same choices and even the tribal government. So, we're still seeing a lot T-1 connections, we've been really working hard to phase those out over the last couple of years, but it is what it is.

And then you know, and then came COVID in March, and we felt the digital divide before that, but now we're starting to perceive that as a digital chasm.

Because while we were narrowing the gap in some situations, the penalty that we're feeling for not being on the right side is extreme, and it's extreme for education and health and so many things that I know many of you out there, you know, are feeling as well. Next slide, please.

As far as the design of the Indian School, we're located in Santa Fe, New Mexico. We're an off-reservation boarding school that was established in 1890. We've been owned and operated by the 19. Pueblos, as opposed to the Federal Government since the late 70s.

We represent our students, there's about 702, this year, they're from the 19 pueblos, the Navajo Nation and the Apache Tribe. And why that's so important, because when we closed in March, we sent our kids home to 22 tribal nations, so it's not just like the school district, you know, around the school, where we're looking to see what the connectivity issues and opportunities might be. We're trying to solve it in 22 very unique situations and very rural.

And if they're rural, for New Mexico, they're probably some of the most rural places in the United States. So, providing remote learning to them, requires us to work through each and every one of those obstacles.

In March, we didn't know how many students weren't connected, we knew it was going to be a high number, but we didn't know how high. We went back and asked the families over the summer, so that we could solve each one of those students' solutions. We found out that 44% of them don't have home internet, so what do they do when they don't have it? Well, they're pretty crafty, they find a way.

The students use a lot of prepaid phones when the families have the disposable income. They'll go and use the public Wi-Fi. This could be in the community at the tribal libraries. The tribal libraries, where our homes don't have a lot of computers are just such critical community infrastructure for computing, for accessing the internet, for printing, for copying.

So, we really value our tribal libraries, especially when COVID closed and shut down with so many restrictions to protect our health. And then, I guess I'll just make a note on the cellular, although that can be handy, we don't have - we have a lot of spotty coverage areas across the state.

So, it's very difficult to find one solution and even within a community, depending on where the hills and the mesas and the geography are the cellular has been something we've had to go to, but it hasn't had the results that we were hoping for. Next slide, please.

So, when we closed in March, we closed with only a few hours' notice for our school, we thought it was just going to be a long weekend. I mean, people were traveling, and we had to make the decision if we wanted people to come back and we decided no.

So, what we did is we were fortunate we had enough Chromebooks that we could spend every student home with a Chromebook and that was not typical of many of the Bureaus' Indian Education School, our peer schools, there's 183 of them nationwide, and dozens of them in New Mexico.

So, we felt we were in pretty good shape, actually. We were like, okay, well we don't know about the connectivity, but if they've got the Chromebooks we can, you know, do the teaching? Well, what we found out was that they were

pretty much paperweights without the connectivity and we were still seeing students.

Like we have the senior honors project, capstone project and they were submitting through their phones, taping them on their phones and submitting them because the internet wasn't hot spotting over to the Chromebook.

We saw - when our borders closed, our governor, Pueblo's governor physically closed the borders, the entrances to the pueblos. You couldn't go in and you couldn't go out and because our cases were so high, in May, we represented over like 57% of the cases in New Mexico, and we're just 11% of the population.

And that's, you know, if you do the per population count that's higher than when New York you know, was at its highest in the newspapers, so our borders were closed, but that means that people had to stay in their homes.

And so, all those people that were traveling to public Wi Fi locations they couldn't get to them. Even the tribal library started to close. The parking lot outside became our friend. So, we spent all summer putting in hundreds of Wi Fi locations throughout the state and those have been good, but winter's coming. We've had stories of people, little kids getting sick, because they have to sit outside six hours next to a hot bus.

So, while that was an important midterm solution, now we're looking at what are we really going to do about the situation. Education, even though COVID will go black and we can return to on campus teaching, teaching and education has changed, so what is our long-term solution? And we're looking inward towards our tribal communities to be that solution. Next slide, please.

We are able, we are fortunate, we are very fortunate that we got in the broadband business, so to speak, you know, in the last maybe as long as eight years ago and had really been building momentum over the last four or five years. So, there's 19 pueblos in New Mexico, and about 11 of us have put in fiber optic backbones from carriers, you know, meet me points.

So, we're built tight integrator regional network and what this means is that when our carriers aren't building out infrastructure, we're not getting better, more choices and we're getting some wireless choices, some small ones, but what we're realizing is because we put in the fiber, we're our best - we're the best choice to put up that wireless network.

And it's not such a huge list, you might have spent, we spent the millions of dollars, you know, getting the fiber to the home. But now we're hundreds of thousands of dollars to stand up residential wireless service, so that's awesome.

Furthermore, it just happened that the FCC had a spectrum auction and unlike our other natural resources, like water, where we have sovereign control over them, we have no control over the airwaves that's been leased to slice and dice by the FCC and the tribes really haven't had access before.

Fortunately, Chairman Pi in the 2.5 band auctions coming up in advance of that he created a tribal priority window 475ish tribes are eligible and over 400 actually applied for their own spectrum. So, now there's the expectation to build out, so not just New Mexico, we're going to see nationally, just a flurry of tribes standing up their own wireless internet services to provide on their tribal lands.

The other thing that we're continuing to do is work with the New Mexico State efforts, broadband effort and with the carriers. So, we were able to establish good relationships with a number of them and help address some of our immediate needs by bringing in disaster recovery assets.

So, we were able to bring a cellular on wheels, to one of our communities that's really not that rural, it's between Albuquerque and Santa Fe, our biggest towns, cities in New Mexico. But it had just because of the geography and whatever reason this cellular companies didn't have infrastructure nearby, had absolutely no coverage.

So, by virtue of putting in that cellular on wheels, we were able to provide that one reliable source of internet and we've seen that the whole community has gravitated towards that and that's really been a life a lifeline for them.

So, if anybody else is struggling, I would encourage you to reach out to your carriers and build those relationships. Next slide, please.

And just kind of looking back on the bigger topic of, you know, equity and digital inclusion during these times of COVID. You know, the connectivity fault line wasn't the only one that's been has been revealed. It really reveals how not only people are disadvantaged and households are disadvantaged, but how low-income minority serving schools are also disadvantaged.

So, our BIE schools, you know, we - these schools, you know, a year ago, had just very few T1 lines again, they didn't have a lot of devices. The internet was so slow they weren't even taking tests online yet. They didn't have - they might have had a computer, a computer lab, and then COVID happens. Well, how do you expect that school to transition to remote work like a school?

Excuse me - that already hadn't established technology pedagogy where they teachers could use the tools didn't carry them around. So, we're seeing that - excuse me - we're seeing the first equity goes is that in addressing these technology issues, we need to take into consideration that these low serving schools were way behind.

We're trying to take leaps and bounds to catch up to then be performing at the level we want to. So as a learning community, there's a lot of attention it's got to be focused on the schools, the teachers and the professional development.

I guess I'm going to leave those thoughts there, because I bet, I ran over my minutes a little bit, but I welcome any questions and thank you for having me today.

Emy Tseng: Thank you, Kimball. As a reminder, we'll have hopefully, time for questions - for the presenters to answer questions at the end of the session. And again, use the question box to submit questions or comments.

Okay, so our next speakers are Dr. Christine Diggs and Michael Culp. Christine serves as the Chief Technology Officer for Albemarle County Public Schools. She has over 25 years' experience working in technology and utilizes her background in business and education to improve teaching, learning and school operation through the effective delivery and use of technology.

Michael Culp is the Director of Information for the Albemarle County Chief Administrative Office. Michael manages IT services for county office locations, agencies and community partners. He supports the county board of supervisors to achieve the technology initiative and helped establish the Albemarle broadband authority.

Please, please welcome Christine and Michael.

Christine Diggs: Thank you, Emy. Hello, everyone. I'm happy to be here. Well together, we're happy to be here today to talk about digital inclusion. It's an important topic and one that's important to our school district as well as our county technology department.

In Albemarle County Public Schools our vision for student learning - next slide, please, Emy, please. Our vision for student learning is that all learners believe in their power to embrace learning to excel and own their future. We serve about 13,500 students and we have a mix of rural, urban, and suburban type schools.

So, when you think about our vision for student learning, internet connectivity for students at home is a critical component for meeting their learning needs. Therefore, connecting our students at home has been a priority for us all along. We embarked on our current plan that we call ACPS At Home last December. Next slide please.

Our ACPS At Home plan is really to take a multi-prong approach to connecting our students using a combination of solutions to connect them while at the same time partnering with our county government IT to support their efforts to improve internet connectivity throughout our large and physically diverse county.

Specifically, we're utilizing private and public partnerships to expand connectivity and working with Shentel, Kajeet, and Comcast. We reassigned some staff in our department to be able to establish a digital equity position that's dedicated to these efforts, specifically. We've issued hotspots to students.

We're serving as a financial sponsor for providing broadband connectivity, and that's with Comcast to their internet essentials program and we've partnered with Shentel by leasing our educational broadband spectrum that we own, it's also known as EBS. We've leased that out and feel very fortunate that that provided a funding source for our project. Next slide, please.

While we had this project underway, however, the connectivity needs for our students this school year greatly accelerated the project. Our original goal was to have 90% of our 6th through 12th grade students connected by December 2021 and we actually met that in August of 2020 and we far exceeded it because we now have over 95% of all of our students in grades K 12 connected.

It did result though in our overspending our revenue source by over a million dollars, between purchasing iPads for our kindergarten and first grade students, and then hotspots with unlimited data plans. We're very appreciative of the CARES Act funds that will help reimburse some of these expenses.

The upside is that virtual learning resulted in the opportunity for our schools to be motivated to gather much better data about which of their students has either no or low internet access. And it's enabled us to be able to share valuable data with Mike Culp and his team and the county IT department and also our district stakeholders.

You can see an example of our dashboard on this slide. It shows our internet data by grade level, by school, race and ethnicity, and also, as you can see plotted on a map there. Next slide, please.

This school year, we have about 97% of our students learning virtually from home. Professional development for our teachers this summer was vital and the need for our technology integrators and our school techs, and our service desk has never been greater. We're seeing unprecedented support levels and our family technology nights are being attended in higher numbers than ever before.

Ninety percent of our families report knowing how to get tech support and that was an important goal for us, because we learned last spring when we first closed down, that that figure was really around 70%. So, we opened up multiple avenues for them to be able to reach tech support and we're really encouraged by that figure of 90%, because we wanted to make sure that they didn't feel alone as they were supporting their children learning from home.

I'd also like to highlight on this slide that there are several links that others may find helpful, and we're happy to share. There's a link to see some of the professional development topics that we've offered, as well as to our vetted digital resources library, which is searchable by subject area, grade level and category. And all of those resources have been vetted for instructional application and data privacy and security.

I've also included some links to policies and to our family Field Guide, keeping our kids safe and healthy in the digital world. It's also available in a Spanish version. Next slide, please.

In terms of where we are right now, we have over 1,700 hotspots active each day and we're using on average eight gigabytes of data per day per device. Our Comcast Internet Essentials program when this slide was prepared a little over a week ago, there were - it was serving 47 households, which is actually impacting 95 students, but we're now up to over 60 households.

And we continue to have our school Wi Fi signals spilling out over into our partial parking lot for community access. Our multiple solutions…

Emy Tseng: Will everybody please mute. Thank you.

Christine Diggs: Our multiple solutions are filling a need, but we still have about 100 students coming into our schools each day to participate in the virtual learning because we could not improve their internet access. So, in partnership with our county IT department we'll be continuing to address needs as they arise until a long-term sustainable goal are reached.

We work with our county IT department we have shared data with them, we've shared staff for like staff resources together, our superintendent of schools has written letters and supportive grants and we've collaborated on grants with them.

Our goal is the same as the county IT and that is broadband to every citizen and business in Albemarle County and that's really the goal of our partnership together.

So now I'm going to turn it over to Mike Culp, who will talk a little bit more about the work he and his department are doing to improve internet access throughout Albemarle County. Thank you.

Mike Culp: Now you can probably hear me, right? Thumbs up. Everybody hear me.

Emy Tseng: I hear you, thank you.

Mike Culp: So, it's an honor to be part of the BroadbandUSA series and great to have Dr. Diggs on board. What a great story with the Albemarle County Public Schools, the effort that has been going on to serve the school aged children here in Albemarle county is commendable, a great effort there and it's a tough time for everybody.

And I just want to say one thing that I hope everyone remembers going out of this webinar, and that is, we need to be better as a country with providing fiber connectivity to all of our public schools, no matter how small, where it's located, how many children are being served, we definitely need to do a better job with getting fiber in.

And if we can pull electricity into a rural school, there's no reason why working together we can't get fiber connectivity to the internet to that same school. We are lagging behind by not having that simple equation put into place. Now that's me talking hopefully everyone else resonates with you.

But I know there's not a whole lot of time. I just wanted to let everyone know my thoughts on this. We've been working on this for a long time here in Central Virginia. We're fortunate that the Board of Supervisors for Albemarle County authorized the creation of the Albemarle Broadband Authority. We're challenged because of our, our region, but we're doing well.

One of the great things that we have outside of NTIA and the BroadbandUSA organization is all about partnerships. We've partnered and learned from one another across the years. The biggest thing that's helped us is a partnership with the school division that allowed the county to submit what I would call joint applications for state funding.

The state has been a wonderful partner with us with the Virginia Telecommunications Initiative and so, that is our key funding mechanism. This year, there's been over $105 million worth of requests that have come into the state for the (unintelligible) program. And we're working toward as you can see, the 2021 is our next big event will be fiber.

All of the all of the grants that we've received, with a partnership with (Feed A Firefly), which is an electrical coop going back to my - if you can put electricity into a building, why not fiber? You know, we're going toward a fiber infrastructure because we feel it's very important.

And bringing up CARES, the Commonwealth of Virginia released $30 million worth of CARES funds that need to be spent on our Pacific timeframe to 1225.

The other thing I think is important to advocate for is an extension of those deadlines. It's very difficult to build fiber in such a short period of time, so it really helps to get us all together, thinking about infrastructure is important. We need more time to serve more citizens, so it's definitely something that we need to work toward as a group. Next slide.

And I think I'm close. So, the county has done a great thing. We've had four values for as long as I've been here - 17 years - and over the last couple of years, we've built a fifth value called community and it is about equity and inclusion.

And so, as we work through all the partnerships that we're working toward, that equity and inclusion (unintelligible) is included and as a high priority. So, looking at affordability, making sure that everyone has the same method of

being able to access knowledge and participate in the new normal is one of our high priorities.

So, we when we send applications into the state for funding, we work with a public school system and make sure we're addressing the needs that the students have, so that we're prioritizing areas where there's a high population of students and that's an important thing and one of the reasons why we think we've been successful the last four years.

The other thing that we've done that's interesting, and we'd love to share with other communities is that we've built a countywide survey that does automated speed test. So, not only are we getting information back from people who are willing to provide it, we also do automatic speed test that allows us to analyze that data and get further information.

So that'll be included in the slides and I hope that that helps other orc organizations, counties, cities, municipalities get a better idea of where the weak spots are and so, we can fix them together. Next slide.

And that was it. I really appreciate the time. Thanks. Thanks for listening in today and I'll be available for questions at the end, so thank you. Back to Emy.

Emy Tseng: Thank you, Christine and Michael. I've been so impressed from the time I've known you really how the county and the school district are addressing a variety of needs from very urban to very rural, so it's really amazing, the work you've been doing.

Okay, so our final speaker today is Joshua Edmonds. Joshua is the City of Detroit's, first Director of Digital Inclusion and a poverty solutions fellow at

the University of Michigan. Joshua is responsible for developing a sustainable strategy to bridge Detroit digital divide.

In this role, Joshua has testified at a congressional hearing about digital equity, hosted Detroit's first digital inclusion summit and most recently helped raise $23 million to provide every Detroit Public School student with broadband and computers. Please welcome Joshua.

Joshua Edmonds: Thank you, Amy and the panelists as well as the audience. I am going to go through this pretty quickly. As Emy mentioned, we had raised $23 million earlier this year to connecting our public school students.

And that is actually within our connected futures initiative and connector N3, what you're also seeing is the larger initiative around digital inclusion broadly throughout our ecosystem in Southeast Michigan. Next slide.

When we're looking at our major wins timeline, realistically, I'm not going to go through every single one of these, I'm more so just highlighting the fact that we had a timeline of events, all the way from Q1 of 2019, when I assumed this role to Q2 of this year, where we were able to actually use the momentum established last year, and really establish the foundation for us to be able to do the work that we're doing now.

So, this wasn't something where we just took a whole bunch of funders and private sector folks and said, "Hey, there's a pandemic going on, we really need to be bridging this digital divide." The groundwork was already laid, where we had the mayor identify this as a priority, and we're able to actually get some pretty impactful wins, if you will, at the onset in 2019, which then helps set the stage for us to be able to move very quickly in 2020.

So, if there's any takeaway that I'm going to establish right now, it's definitely establishing the groundwork and necessary infrastructure so that whether it's pandemic 2.0, or whatever it is that we're going to be facing, we have the necessary community infrastructure to build initiatives addressing the digital divide, it's today's kids, tomorrow it could be whomever and so we just really wanted to establish that infrastructure. Next slide.

So, the data framing, obviously, we know there's a disparity, these numbers come from the American Community Survey, but the last one is the last row that you're seeing is the most important that's specifically looking at the Detroit public school community district, where we were able to determine the state of being under connected.

And that was realistically a survey that the district did as well as providing some wraparound engagement to ascertain what level of need were, we to fundraise for. And it came out that 90% of the students attending a public school and that's 51,000 students, but to do a 90% of them had either difficulty with maintaining an internet connection, or they didn't have the computer.

So, realistically we just did it for 100% because like, if we're already at 90%, what the heck, what happens is the 10% that might be connected or might have the computer what happens if there's breaks. And so, we just honestly said it doesn't make any sense, if we're already at 90, we might as well go for 100% deployment. Next slide.

So, with our core partners in this initiative, obviously the city of Detroit, (CMIT), the Los Angeles social enterprise, they actually have been able to open up an operation in Detroit, and they're responsible for providing the tech

support to families, as well as facilitating home internet connectivity through Comcast Internet essentials.

DTE is our local energy company, so for those of you who have not been able to, in your respective community, build a relationship with your energy company, I will say that ours has been fantastic. Not only are they a funder in this work, they've also were doing our primary project management functions, making sure that the devices were being distributed in time as well as doing user testing.

Obviously, the school district, they were a great advocate and ally, so that's a no brainer, Comcast, Microsoft, where we actually got the tablets from Microsoft, and T-Mobile was actually the entity who – how our program is set up, every single student got a tablet, and they all got LTE enabled devices.

And so the LTE SIM cards actually embedded within the tablets and T Mobile provided six months of service there and human-I-T was the entity that was signing families up, I'm sorry they are not even was so they are signing up families for internet essentials.

Once families are indicating that, hey, we no longer need this device, or we no longer need the SIM card or we no longer - or we just want you know a better option, and for the families that can't afford to switch over or who would like to save the T-Mobile option, the district is actually supporting those families and paying for their internet. So that way, we don't have to worry about that lag. Next slide.

So, when we kind of look at some of these partners, this is something when from a community of practice scaling standpoint, obviously the district they

were responsible for fundraising, not to say it was their problem, but we all kind of rallied around them and supported them in the fundraising ask.

They as well did some of the device user testing because we're looking at thousands and thousands and thousands of devices that we had to think through, so we had to figure out which ones work best for the districts which the district would only know that answer. And so, they were doing the user testing as well as they were being a really, really great data provider in aggregate, so we could at least identify the problem at scale.

In addition, human-I-T, they were also to the earlier point I'd made, they did that family tech support, they did the - they're also signed up to do a long-term device replacement plan. So, as families are, you know, breaking devices or wear and tear is happening just in a natural function.

While we got everyone in a device right now, the long term partnership between humanizing the district is that any family within the school district will automatically qualify for some very, very significantly reduced device, where if they can't afford it, again, the district is going to be funding the cost to ensure that this isn't just a one-time thing.

I'll just skip down to the role of the city. My role was the chief advocate, the subject matter expert, so when we were looking at the various providers who could be providing the LTE service, I was actually getting some pretty confidential information from all our providers that aided us in deciding which internet provider we're going to go with.

In addition to being able to actually make the case to some of the other funders that I was already working with last year for why we needed to

support this. So that way, it wasn't just a district making an ask it was, Hey, this is a larger ecosystem investment that's going to yield these returns.

In addition to what you're seeing as the ecosystem owner, most funders, because the majority of our capital that we raised was private, we got a very, very nominal amount of the $23 million, I believe only about $4 million was actually from the state or through CARES Act funding.

But someone needed to own the ecosystem, because if we were going to be raising that much private dollars, the funders needed to realize that. Well we're not going to make one investment just for the kids. How is this going to transform our ecosystem for which that's where Connector N3 came in to say that, hey, we have this large ecosystem play, but why stop a good thing here, if we can bridge the digital divide for kids, that then allows us to cosign all these other efforts that we need to do within our ecosystem.

And so, that's what helped funders actually feel a sense of calm, to say all right, we can allocate our dollars accordingly, because we see it's attached to this larger initiative and it's not just this one all flash in the pan type thing. Next slide.

So, this is just a list of some of our core funders. I'm not going to go through these. It's realistically people who just were able to step up who again, last year, we were engaging them around the digital divide, I had told them we're not doing this in - I told them earlier this year, but last year was like, hey, we're doing this because we need to bridge this digital divide.

And now that the pandemic hit during the more aggressive stages, I was like, hey our mission is still the same. We're not doing this in response to the pandemic. We still would have to be bridging the digital divide regardless.

And so that's just something where it's truly a testament to the work that we've been able to do in an ecosystem front.

And I'll also say it's more so highlighting the value of a role for someone who is appointed by the mayor, has legitimate authority to store this cause accordingly, that allows us a certain agility to be able to engage multiple funders who might have different missions, but ultimately being able to say this is how investing in the digital divide is germane to the mission that you all are seeking to address. Next slide.

So ultimately, the larger picture, this is more so I'm conceptualizing every single thing that's happening around this. As Emy mentioned, we did a congressional hearing. Detroit Is Limitless is an effort that won a regional Emmy highlighting our role in expanding tech opportunities to Detroit Public School students with a golf tournament where we used the digital divide as an additional funding ask, where we were actually able to get $2.7 million raised to go into establishing a Tech (unintelligible) fund to support again, larger ecosystem efforts, but also cosigning our work that we did with the school district.

In addition, working with the FCC, as well as on the bottom left, you'll see we did a commercial with Jason Momoa, or Aquaman as some might refer to him as realistically providing much more national attention about the work that we're doing. And at the same time, showcasing why we're doing what we're doing, why the digital light needs to be bridged from a more ecosystem lens, but obviously using our work with the district as a cosigner.

So, this is the other thing I'll say, for some of the folks who are already doing this work, just letting you know there's a real unique opportunity. If we're not looking at broader storytelling, if we're not looking at broader activation, if

we're not bringing other folks into the fold, who historically would not be part of a digital inclusion discussion, we do ourselves a disservice collectively for anyone who's doing this work, but specifically within our local geographies, where we're doing this work to, where this work could potentially live on and have net new resources coming into our ecosystem. Next slide.

Oh, yes, that's the last slide. So yes, thank you. You know, everyone for listening, I try to go through this pretty quickly. Honestly, if you have any questions, please feel free to reach out, or you can find me on LinkedIn. I'm really active on that. So, thank you, Emy.

Emy Tseng: Okay, well, thank you so much. To all of our speakers, we have a lot of questions. Unfortunately, we have some limited time to get through them. But we can connect you to these folks.

One question that actually applies to all of you, I think is around how did you get the information to determine the - to get a better understanding of the connection issues at home? How, and also other issues around computers around even skills, what data did you use?

You know, you mentioned surveys, like, what was your strategy for figuring out what the home needs were?

Kimball Sekaquaptewa: I'd like to start because I'm just so impressed by Christina and Mike, their dazzling graphs just blew me away. But it was organic, you know, we ask the families, you know, you have the information that the providers provide, but then you ask the students, you ask their aunties, and you ask their parents what's actually going to work.

So, maybe because of our small size, we were able to really work with more of a human information processes as far as the fancy, you know, overlaid data, because one of the problems we have on tribal lands is we don't have a lot of street addresses. It's really critical for public safety, even in, you know, the 911 responses. So, it's a lot of P.O. boxes. So, when you're trying to do fancy data analysis - that was not our friend. So, we went, and we talked to the people who knew.

Joshua Edmonds: I can go next.

((Crosstalk))

Christine Diggs: Thank you. I'll speak for the county and the school division here. We – pre-COVID, we partnered with Mike. Mike mentioned the speed test survey and so we partnered around that and the county government did a lot of press to try to encourage people to respond and take that survey and then we followed up and Mike and I coordinated our dates on that.

We followed up with a phone, message blast, whether it was text messages, emails, or phone calls to all of our parents in the school division, encouraging them to take that speed test also. So, that was sort of our pre-COVID approach.

And then once we closed down, we knew we had to get students connected and we just started with our high school students in March and April, when we were kind of still in emergency response mode and we utilized our high school principals to be surveying and calling their students.

And then when it became apparent this summer that we were going to be doing virtual learning this fall, that's when our schools when I said they got

motivated for the data, they really did. We did a survey, but it was really about what are your learning needs and what are your preferences for your students? And that was for all of our parents and we had internet questions as a part of that.

At the same time, the State Department of Education for Virginia also rolled out some specific questions regarding internet access that they're going to start requiring in their data reporting. So, that also helped, and we utilized their questions that they're that they want us to submit data on to inform our survey.

And then as you know, when you send out a survey blast, not everyone necessarily replies. So, we followed up-- our school followed up with phone calls to each household and got the data that way. It's a challenge.

Emy Tseng: All right. Joshua, you mentioned ACS, was there other data…?

Joshua Edmonds: So yes, no, that was --yes, so we mentioned ACS as a baseline, we had a lot of data analysis too, because again if you're dealing with a lot more of your funders, they're going to see much more data, which lo and behold, I'm going to throw out a term that I probably should qualify much more but on time, we live in a state of data poverty on digital inclusion.

I'll follow up later what that means in other conversations, but specifically, we then were able to satisfy the concerns right now by saying we're investing a lot of money in us building out a very complete data trust that has a multi-year investment attached to it. And so, we were to say that, hey, currently our surveying efforts have with making some assumptions.

The district did do their own survey, but we're also going to be backing these figures in on an annual basis within our local data set, database all that's being

built out that is going to company ACS data as well as FCC data as well as our surveying data, as well as any other data sets that we can purchase now through our connector and the (unintelligible).

So, I know I said a lot. But, yes, primarily, it was more so done by the district, but we were able to satisfy additional concerns and modeling that we did off to the side with now what's doing more robust data collection that we're going to locally own moving forward, and that's going to come available Q1 of next year.

Emy Tseng: I actually have a question for Michael and Kimball, I guess it's a combination of a couple questions, but it's about the - so you are doing infrastructure deployment, and also setting up internet services? How are those costs, are those costs passed on to the families or how - so what is - are they being provided free of charge?

And then I'll also add to that another question about what are the unique challenges of rolling out broadband infrastructure to rural communities? Which I know it's a big question, but…

Mike Culp: Go ahead, Kimball.

Kimball Sekaquaptewa: For us in the tribal space, you know, some people really just - some of the tribes just feel like it's, you know, a human right to, you know, a necessity and they do not want to charge their people anything. Some want to just pay the rent, you know, and that's probably - those two are the greatest categories.

But if you know, for these small lists that are setting up, you're seeing, you know, you have to rent the router, you have the monthly charge, and you

might have a one-time installation. So, you can be front loaded with hundreds, hundreds of dollars of you know, the one-time cost and for our families, that's a lot and it's prohibitive.

So, the tribes are absorbing those costs for the CPEs, the customer premise equipment and the others that I mentioned, using a lot of CARES money right now. And like I said, with the fiber work that we put in, we put in two 60-mile networks in the past few years. The tribes self-invested out of their personal funds for that.

Each one of those was about $4 million and then depending on the size of the community, whether it has 250 homes or you know up to 700, or seeing the cost come in from in the Do It Yourself model where you hire your own people to give them employment during this time to do those home installations, then we can – we're seeing those costs come in between $200,000 and maybe like $600,000.

So, you know, relative to the fiber cost, it's very, it's affordable, and we can do it, we can find the money to produce important projects.

Mike Culp: Okay, right answer. We're, we're struggling. We don't own a fiber network within the local government, the schools have some fiber that's put into place for their own use. So, our approach has been partnerships. We're partnering with the internet service providers and applying for a grant application through the Commonwealth of Virginia. So that's been our major way to get funding and we too, are also in the CARES and coronavirus relief fund.

But also, we have funds that have been drawn down by the locality and those funds are using are being used to do some interim work. We're looking forward to additional funding coming from the Commonwealth of Virginia to

help move us forward. And Dr. Diggs has a much better answer to how the school division is helping their students. So, I'll pass the hat over to her or not the hat, the baton, the talking stick. Go ahead.

Christine Diggs: Well, basically, it's to use the revenue from our EDF lease to Shentel to fund providing internet to our students that need it and so, that's our plan to sustain. We won't be able to sustain at the level we're at, but we will be using that revenue from the lease to provide hotspots.

And like I said, these - we just see those as sort of a stopgap measure until we can build out their connectivity and accounting.

Kimball Sekaquaptewa: Emy, can I follow up just a second on that.

Emy Tseng: Sure, of course.

Kimball Sekaquaptewa: You know, so when I mentioned that 2.5 band, it's the same thing Christina's saying with the EDFs. It's, you know, it's just the nomenclature change for it, but the - we're really - for us there's many bands, there's spectrum, there's tons of different layers if you see the FTC spectrum allocation.

So, while 2.5 is a great one right now, by the people through carriers, you know, who really want to utilize it as well. You have to look at like the difference spectrum that's available over your unique situation. And you probably have to do multiple bands, whether it's 3.5 with a CBRF or just unlicensed.

And then, you know, maybe you'll have - be interfering with another network, or maybe you won't. But - so for us, you had to really look at using all of

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them and what was going to make sense because they all have different characteristics, right, being able to go through trees, being able to go through adobe walls, like we have - or distance and the maximum amount of data that they can carry.

So, that's been part of our equation is to figure out what's going to work based upon our best choices.

Mike Culp: Yes, yes just amended to go into the geographic challenges, meaning there's low density, meaning we don't have that many potential customers for the ISPs - that's always been a challenge. And now it's even further, there's a lot of great intent, but we're running out of available workers to do the make ready work, you know, preparing telephone poles or power poles for additional fiber, people going out and doing the engineering work that has to be done.

It just seems like there's a workforce development effort that's brewing that we could come together on and start to think about. How do we get more engineers? How do we get more people who can do that dangerous sometimes make ready work and work together to help offset that cost? By putting people back to work, so, that's it.

Emy Tseng: All right. Well, thank you again, and I apologize, we have a lot of questions that we could definitely continue this conversation on for much longer time, but please do reach out to us and we can put you in contact with the speakers.

And we'll also have the presentations on the website with all sorts of useful links and information that they have provided. So again, as a reminder, the presentation recording will be available on our website within seven days.

I'd like to highlight our next webinar. And so please join us again on November 18th, for the webinar, How Broadband Enhances Local Economies.

And finally, feel free to reach out to us. We're here for technical assistance and we're really here to help and help you expand broadband connectivity and help your efforts to promote digital inclusion and broadband adoption.

For more information, please email us at broadbandusa@ntia.gov or call us or actually visit our website. Again, I want to put in another plug for our new digital inclusion section of the website which actually highlights all sorts of initiatives that happening in localities and states across the country.

So, thank you all again. Thank you so much for the speakers. Thank you for your patience, for hanging in there during our technical difficulties and have a wonderful afternoon.

Mike Culp: Thank you. Don't be afraid to write.

Emy Tseng: Okay.

Christine Diggs: Are we sticking on for a little bit?

Mike Culp: Whoops, I should have. Yes, should I go back on the screen or we just want to talk or how do you guys want to do this or…

Kimball Sekaquaptewa: I thought that we were supposed to debrief on the phone afterwards, but I could be wrong.

Mike Culp: Yes, I'm not sure either. Maybe not.

Kimball Sekaquaptewa: Yes, everybody kind of dropped off. Well, I'm going to - I'd like to follow up with you guys for sure. It was great to hear your projects. They are amazing and I love the way that you're helping the school extend to home, that's like really the - I've got my eye on that one as the goal. So, just real amazing work and look forward to hearing more about it.

Mike Culp: Yes, glad to coordinate anything you guys need. Had a great time out there by the way, off the personal side and the personal. It was just so much fun. Just really had a great time. So yes, we'll be back. Yep. Did the Santa Fe mountains at Carson National and really had a wonderful time. Beautiful land of enchantment. Yes.

Kimball Sekaquaptewa: It's (unintelligible) that maybe the lack of connectivity keeps our (unintelligible).

Mike Culp: Yes, I can imagine.

Kimball Sekaquaptewa: But I'm glad you had a good trip.

Mike Culp: Yes and my son is getting his project going. So, he's definitely on his way, so it will be fun. Yes. All right.

Kimball Sekaquaptewa: Send him down the road in Cochiti if he needs anything, so let us know.

Mike Culp: Okay, that's excellent. Will do. All right.

Kimball Sekaquaptewa: Take care.

Mike Culp: Good talking with you, Kimball. Okay. Take care. Bye.

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