

THE BROOKINGS INSTITUTION

WEBINAR

WHAT'S BEING DONE TO ADDRESS
THE GROWING U.S. DIGITAL DIVIDE?

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P R O C E E D I N G S

MS. TURNER LEE: Good afternoon, everybody. I want to say thank you and welcome to our Brookings webinar that is going to be focused on the digital divide.

My name is Dr. Nicol Turner Lee. I'm a fellow at the Brookings Institution's Center for Technology Innovation. I'm very excited to have this conversation. For those of you that know me, this is an area that is near and dear to my heart and I have worked on for many years. Just a shameless plug, I'm working on a book around this called "Digitally Invisible: How the Internet is Creating the New Underclass", which will actually be available through Brookings Press next year.

And I'm just really excited that this is such a timely point to talk about the digital divide. I mean, let's be clear as we look at what's happening during this very, very difficult time. We've got 52 million school-age children that are at home, we've got a big chunk of America -- about 20+ million according to the federal Communications Commission -- of people who are not connected. And as we look at how we are putting out mitigation strategies to ensure social distancing, to find the right vaccine, to communicate daily information on where we are with this global pandemic, being connected matters.

And so the brunt of today is really to talk about, you know, what does that look like for the disconnected. In no way are we going to suggest today that there's no broadband connectivity that exists in the United States, we know that there has been tons of private investment in the infrastructure which we are using to actually do this webinar. But the challenge that we have today is that the digital divide looks very much like other inequalities that we have not quite solved.

So I am very excited to be joined by two very special people who pay as much attention to this topic as myself, if not more. The first person that we'll be joined by is second term Jessica Rosenworcel, the Honorable Commissioner of the Federal Communications Commission. If you follow her Twitter, you would see a moment by moment display of tweets trying to get our children back in school, the remote learning and distance education. At the FCC she's also been a huge advocate for the protection of the affordability of broadband when it comes to the Lifeline Program. Her bio is available via the set up for this webinar.

And next to her, the other person that you will hear from, is someone that I recently met who I just cannot say how much she actually impressed me when I went out to Marion, Alabama. If you'd had an opportunity to read my recent research, schools and communities and local digital divides around that, you would have read about a lady named Dr. Cathy Trimble, who is the principal of Francis Marion School. In this town of Marion, Alabama she runs a K-12 school where they actually have a 1:1 solution of technology. But I asked her to come today to share with us what they're actually doing to ensure that her kids in her district are getting online. And I think she's going to actually tell us some compelling information that often we in the beltway don't hear.

So that is the scope of our guests today, the scope of our conversation. I want to remind everybody that we are live streaming, but we ask that you send questions to Events@Brookings.edu or via Twitter and using #@Brookingsgov or #DigitalDivide. So, again, if you have questions we want to take them. We reserved some time for questions. Please email them to Events@Brookings.edu or send it to us on Twitter to #Brookingsgov or #DigitalDivide.

So with that, I want to jump into this conversation, because the only thing about this, people like me who talk too much don't have enough time with a one hour webinar. So I want to make sure I get all the conversation in.

So, Commissioner, I'm actually going to start with you, because this is a conversation that you and I have had virtually. I want to talk about why during a global pandemic we're actually have a conversation about the growing digital divide or inequalities that are surfacing because of the lack of connectivity for certain populations.

MS. ROSENWORCEL: Well, thank you, Nicol. That's such a good place to start. And also thank you and the Brookings Institution for having me today.

So, I mean, look at what we're doing right here, right? I mean it proves a point because as a Nation we are online like never before. We're headed online for work, for education, for healthcare. And that has consequences because not everyone in this country is connected. And so in this pandemic at this moment we have got to use it to understand who's not on line and how we're going to help them

get there.

So I feel like talking about this right now is critical, it's essential, it's how you start solving our Nation's digital divide. Because it has always existed, but this pandemic is just revealing a hard truth. It's bigger than we thought it was and we've got to do some work to fix it.

MS. TURNER LEE: You know, I want to go to another question for you, Commissioner, while we're on this topic because, you know, I've known you for over 20 years. I mean I know we started young, right.

MS. ROSENWORCEL: Oh, my gosh.

MS. TURNER LEE: I know, right? (Laughter) but, you know, when I was working at a digital evangelist we were talking you back then at the company I was with called One Economy. You know, you talk about this thing called the homework gap, that actually was really a gap way 20 years ago when there was a disconnect between what kids could do at school and what they could do actually in their home or community.

Could you share with the audience what do you mean by homework gap from your mouth so we can actually hear it? Because I think that's a nice segue into some of the challenges that we're seeing with regards to kids not being able to go back to school because of the lack of connectivity in certain communities?

MS. ROSENWORCEL: Sure. So the way I like to talk about this is I start with when I was growing up. To get my homework done I needed paper, a pencil, and my brother leaving me alone. And, you know, that third one was the hard one. But those days are gone. Kids today, no matter who they are or where they live, they need internet access. It's become an essential part of doing nightly schoolwork. We know that 7 in 10 teachers assign homework that requires internet access, but all of the data from the Federal Communications Commission suggests that 1/3 of our households don't have it. And where those numbers overlap is what I call the homework gap. The Senate Joint Economic Committee says there are 12 million kids in this country who fall into the homework gap.

But you don't even need to see their data, because in every state in this country, before

this pandemic, you could have driven around and you would have seen them sitting at a fast food restaurant, nursing a soda while they wrote their papers. You would have seen them hanging out in the library or in the school parking lot to catch a free wi-fi signal. And the truth is in the United States of America we should be able to fix the homework gap, we should make sure that every child has the opportunity to do their homework. And this problem has been weighing on me and I've been crusading about it for some time, but here we are in this crisis and, as you said, more than 50 million children are now at home, their schools are shuttered, and we are asking so many of them to head to class on line.

So it took this homework gap and it just made in bright sharp relief how much work we have to do to get every child connected. Because we're going to have to use this crisis to get policy makers at the local, state, and national level to focus on the homework gap so we don't leave any child off line going forward.

MS. TURNER LEE: You know, when you were speaking about that I almost teared up because, you know, those battles have been persistent battled prior to Covid-19.

MS. ROSENWORCEL: You bet.

MS. TURNER LEE: And I know many of us on this call have been trying to address. And here we are right now, you know, with this possibility of an educational meltdown essentially because our kids are losing a lot of months of instruction. But I'm no educator. And, Dr. Trimble, I remember when I came to meet you, the first thing that you said before you spoke about the technology that you were giving your students in Marion, Alabama, you were telling me how they were sitting on stoops of your school over the weekend or parked in cars just to use the school's wi-fi.

I'm going to go a little bit into this further, because that was what -- six months ago when we actually met. Now, they can't even come outside because of social distancing.

So, Dr. Trimble, tell us a little bit more about what's actually happening in Marion, Alabama in response to this pandemic.

MS. TRIMBLE: So in the middle of March we were under preemptive dismissal for three weeks because of the pandemic in an attempt to decrease the spread of the virus. So at that time what

we did was we devised an educational plan for those three weeks -- our school did. We started scrambling around. Just like the healthcare professionals had to prepare for the pandemic on the healthcare level, we had to do this on an education level. It was a little bit different, but it's just as hard. We did three weeks of work. The first week we decided the students would get work for enrichment, which was also a time to do a trial run in the event that dismissal evolved into a closure, as it did of course.

The second week was going to be our spring break week, and then the third week the students were going to be assigned actual required school work. And then once again, we'll be able to see who actually had internet access and that type of thing.

Well, when the state superintendent came and declared school be closed for the remainder of the year, this placed us in the position of, as you said, remote learning. And our teachers were called and spent an entire day trying to make contact with students and parents to see who had access to wi-fi or who had access to the internet. Well, when they did that, and as I said, it actually took about two days because some had both, some had wi-fi and not internet, some had either, which let us know that remote learning was going to be a challenge. And it is a challenge for us.

With us having a disproportionately higher number of students not having access to the internet, it simply compounded a problem we already faced on a daily basis -- a lack of resources. We have a limited number of textbooks. We don't have the resources to adequately supply textbooks for all of our students. So we're challenged, first of all, to seek equity in a situation where, in my opinion, equity could not be obtained.

When we got the Apple ConnectED grant, it seemed to be an answer to a lot of our problems, and that was good because we have the infrastructure within the school. We also partnered with AT&T, which did a grant to make sure that the students had access to internet outside of the school. Well, with the grant ending in May of this past year, now we no longer have that. We don't have that with AT&T. We're left with the devices, but we don't have the connectivity.

So what we're doing as a school, we're using a blended model. Those without access to

the internet are receiving hard copy packets of work to complete. And those with internet access are getting instruction via whatever digital platform their teachers are using.

So, like I said, we're sort of seeking equity where equity really does not exist.

MS. LEE: And while I have you, Dr. Trimble, and I'm going to pick up with you, Commissioner, on these devices without internet in just a moment, but who are the people that live in Marion, Alabama for those folks who haven't visited? I know it took me a long time after I left Birmingham to get to you. It was a two lane road for at least two hours and I was glad it was light outside, right, because I had not really been to the South very often, right. But who are the folks in your community when you talk about equity? What are their conditions, circumstances right now?

MS. TRIMBLE: Well, what we'll talk about first, I want to talk about the education community that exists at our school. Ninety-eight percent of our students are on free and reduced lunch. The median income for Marion -- or actually Perry County is around \$23,600. And that's down about \$6,000 within the last five years. Very rural area, not a whole lot of economic growth or development. And then right outside of the city limits, which is maybe about three or four miles right outside of where our school is, there's no internet access at all.

MS. TURNER LEE: Mm-hmm. So this actually ties to another piece that I just wrote on rural broadband gap. Right here, just two hours away from D.C. in Garrett County, Maryland -- and all the pieces that I'm speaking of, folks, can be found on the Brookings webpage, under my name, Dr. Nicol Turner Lee, or somewhere on our content.

So, Commissioner Rosenworcel, I want to turn back to you then and this whole idea that Marion County actually has devices -- and, you know, we know that programs change under different leadership. So for those of you that are unfamiliar, the ConnectED was an initiative started by the Obama Administration. Companies like Apple extended it way beyond the Administration to provide those devices, but it essentially have across the country, through the various private sector partners, some type of one to one connection.

The challenge with schools is really the internet access in the community. So I don't want

to get too technical, Commissioner, but I do want to talk about the use of unlicensed wi-fi, for example. I know one of the things that I've been pushing is park a school bus -- like you used to say, remember, about five or six years ago -- in the community to broadcast out unlicensed wireless wi-fi so people could get on line. I know the Commission just opened up a six gigahertz proceeding on that. You know, what do you think about the use of that six gigahertz for people with devices but with no connectivity?

MS. ROSEWORCEL: Sure. Listen, when it comes to solving the homework gap, my solution is anything that works. And one of the things that could work is something you mentioned, which is increasing the amount of wi-fi available.

And so now I'm going to try and not get all spectrum nerdy on you (laughter), but here we go. Right now we have two bands that a lot of our Nation's wi-fi activity takes place over, 5 gigahertz and 2.4 gigahertz. And everyone who's got a wireless device or is working at home using a wi-fi router knows we're using more of those airwaves than ever before. And as we head to the internet of things, those airwaves are getting crowded.

So what we need to do to make sure that wi-fi continues to be open and available and innovation can take place and wireless, is make sure that more of our skies are opened for unlicensed airwaves or wi-fi. And the next big swath of spectrum that the Federal Communications Commission is looking to open is in the six gigahertz span. And it's very exciting. Here's why, it's adjacent to existing spectrum that used for wi-fi, which means that devices could be available very fast. And because now we're going to have a really big amount available in this mid-band spectrum, we're going to see speeds that are near one gigabit with the next wi-fi standard.

So taking that back to why it really matters, which is how do we get more people access, is it means we could have more wi-fi in more places and we know wi-fi democratizes internet access, and the more we can make it available at super low cost, the more students and individuals can get connected to life on line. And we need to make that happen.

So that's how you go from the technical and nerdy to something that I think is meaningful.

MS. TURNER LEE: Yeah. And, Dr. Trimble, I think that might be an answer to some of

the concerns you have about getting those kids on who have some kind of connected device but may not hve the connectivity.

You know, I want to stay on you for just a moment, Commissioner, because we've gone through the first stimulus relief fund. You know, Senators Markey, Schatz, and others actually came together to try to promote the use of unused E-Rate funds into the stimulus so we could actually connect people like Dr. Trimble and we connect schools in Washington, D.C. and all over the country that are actually having these same types of experiences. We're now in rumors that we're on the next relief bill and I think your colleague, Commissioner Starks, put out something about a connectivity stimulus.

What are you seeing around that? What conversation should we be having to sort of get the attention of policy makers who are doing a great job, right, in terms of pushing out legislation, but to pay attention to this area?

MS. ROSENWORCEL: All right. Well, I'll be very clear. I want the Federal Communications Commission to solve the homework gap. And I think we can do it with the authority we already have under the Telecommunications Act of 1996, and, bonus, if Congress steps forward and give us additional funds to make that happen. And I remain hopeful that those things can happen.

Here's how it would work. The Telecommunications Act of 1996 -- and I don't know, remember 1996? Like I had AOL. You know, that's a long time ago. (Laughter) Congress was ahead of the curve, though. They saw that they should make sure that every school in this country should be connected to the internet, that it was going to be essential in the decades ahead for learning. They were right. And now, as a result of that law, the FCC runs a program called E-Rate. It's the Nation's largest education technology program. It sends funds to schools and libraries in every state to help them get connected to really high speed broadband. But now we know the challenge is not at the school building, it's the students at home. And if that legislation was designed to support the classroom, well, guess what, the classroom is no longer that school building, it's the kitchen table, it's the student at home.

So let's be creative with that authority and use it so every student can get connections. And we can do that with lots of things, by helping support broadband at home, or having schools use the

E-Rate program to loan out wi-fi hotspots. And for every student, that could be the difference between keeping up in school and falling behind. And so let's use the E-rate program to solve the homework gap and let's not waste this crisis, let's do it right now.

MS. TURNER LEE: So, Dr. Trimble, I mean we sit in Washington, D.C., right, and we work through legislation and regulatory policies to actually bring out to communities like yours. I mean what's your familiarity with E-Rate? Is that something in terms of the idea that you're hearing would be a stimulus for the people in Marion, Alabama and Perry County?

MS. TRIMBLE: Well, of course, as the Commissioner said, I am familiar with E-Rate and how we utilize that within our school district. But I do want to add something there.

Just last week the State of Alabama had nine broadband providers receive a total \$9.5 million in grants to bring high speed internet access to Alabama communities. Governor Ivey awarded the grants under the Alabama Broadband Accessibility Fund, which was created by the Alabama legislature in 2018 to help rural and underserved areas.

Now, of course, I was more than excited to see this, until I read the article that listed the grants awarded and the coverage areas, and Perry County was not on the list. Now, that let me to inquire, why not. So after checking with one of our senators, I was informed that no one in our county, our city, our region applied for the grant.

So you asked me about our needs. We have so many needs and the first thing, obviously, we need someone advocating for us. And not only to include the students at Francis Marion, but that includes all students through Perry County and all of its citizens. Do you think for one second if I had known these grants were available that I would not have made every effort to apply? Absolutely I would have. It's one thing to reach out nationally and -- as we did when we got the Apple ConnectED grant. Apple spent millions of dollars, as you said, Nicol, to make sure that all of our students not only had iPads, but they also had access to Apple Care 24 hours a day. It's one thing to partner with AT&T when we had the Apple ConnectED grant, who contributed \$1.7 million over three years to provide mobile high speed internet, which made connectivity go beyond the classroom and the school, but students also

had access at home and anywhere there's wi-fi. That's all great. But when we have our local and state personnel who seem to forget about us or forget the fact that there is a need for (inaudible) sustainability in order for these students to continue to get the best usage out of these devices they have. We need our people to advocate for our needs.

Secondly, we currently do have the infrastructure within our school, thanks to Apple, where the students can utilize the device, but just like the Commissioner said, that's while they're at school. But when your school is the kids' table, that's a whole different ball game. And then not only that, now these devices are four years old and our students and our staff are trying effortlessly to complete tasks using outdated equipment.

So each year we still go -- I'll give you a really good example -- we go to Apple Leadership and Leading Academy to stay abreast of the latest tools and what our students can and should be doing. I'd be pumped there, I'd learn so much, our team brings so much back. One of the things this year that we brought back was girls who code and we started two girls who code clubs at our school. We were so excited that -- I mean we worked all night at the Academy when everybody else was partying. We worked all night coming up with a plan, we got back to the school, we had an entrance meeting, the girls were excited. We were pumped and we were ready to go, only to find that the devices basically were antiquated and we could not use them. So that left our teachers scrambling to see how can we make it work.

So another issue for us is sustainability, like you spoke about earlier. How do we keep these -- not just having the one to one devices, but how do we have them where they're working to the max potential for our students.

MS. TURNER LEE: No, and I think that's such an interesting way to look at it because I think your school district is not the only school district struggling with this right now. I mean I think we would all agree that one part of this three-legged school affecting schools all over the country -- they either have the device, they either have the access, or they have training or they have none of the above, right.

And so to your point, I mean the question I have for you is I want to go first down to the rural broadband challenge. And while we have the Commissioner's ear, you know, have her listen to what you're saying. We see a lot of money allocated towards rural broadband in recent years and months, right. We just announced a huge rural broadband connectivity fund out of the FCC. But we're also seeing I think this extent to which could somehow be called broadband gentrification, right, where you have poor communities that may not get access to that or may not have the knowledge.

Commissioner, what do we need to do to ensure that we have a ubiquitous plan? Because what I think Covid is actually suggesting to us is though these problems existed before, the disparities are becoming just more amplified. And I want to put a shout out that there are tons of companies out there that are stepping up to the case to make sure that people have what they need. You know, through the Keep America Connected program we're seeing a lot of -- and, Dr. Trimble, I can send you those resources of what companies are doing -- but I want to talk to this broader issue of blanketing the country with access even when they are some of the poorest most rural communities that we're dealing with.

Commissioner, you want to respond to that real quick?

MS. ROSENWORCEL: Sure, sure. Listen, just like you said, let's give a round of applause for the companies that have stepped in with low cost and even free plans to help connect low-income communities and individuals during this crisis. They deserve credit. But in the end, I don't think as a Nation we want to just rely on their generosity. We want to have a program for justice. And I think digital age justice is getting everyone connected. And there are two things that I would focus on right now when it comes to that.

The first is that the maps at the Federal Communications Commission describing where broadband is and is not in this country radically overstate service. That's because we assume if there's a single subscriber in a census block, then we assume that there's service available throughout. And that's just not right. Everyone knows from their own lived truth on the ground, there are so many places they don't get service. So if we don't fix those maps, we're not going to be able to manage this problem. You

never can manage what you do not measure. So we've got to start there, because I think accurate data is the first thing, and we are over counting the state of service in rural America, and that's a problem.

We've got to fix it.

The second thing is I want to --

MS. TRIMBLE: Can I ask --

MS. ROSENWORCEL: -- make sure that we don't just focus on deployment. So much of the vocabulary in Washington about broadband is where we're going to get the infrastructure and how we're going to get the infrastructure there. Let's also focus on adoption. We've got a lot of communities in urban America where households do not actually have this service. We've got to figure out how to get affordable and reliable broadband to all those households too, because it's not just kids who are in Marion, Alabama, it's that 60 percent of the students in Detroit are from households without broadband. They are suffering from the digital divide in the same way as some of our rural communities. We've got to fix that too.

So maps and then thinking about not just deployment, but also adoption.

MS. TURNER LEE: That's right. Dr. Trimble, you wanted to jump in?

MS. TRIMBLE: Yes. I'm sorry, but I do want to add -- and you're absolutely correct because when the pandemic started, one of the first things that we noticed and parents were contacting us and saying and the teachers are saying (inaudible) service for you, will you be able -- the students be able to get internet. Well, those people or those service providers, there was -- they did not even service our area. So it was null and void for us.

So I mean that was great, that was very generous, but it still wasn't an answer. And even if it was, it would only have been a temporary answer. We're not looking for temporary handouts, we're looking for lifelong solutions.

MS. TURNER LEE: That's right. And I think, you know -- again I just wrote about this for another rural community. I love the way that you all are feeding into my recent work. I have to tell you, this is a great time. You know, part of what we're seeing is I think the blanket solutions or wholesale

solutions that we've come up with for policy when it comes to rural broadband may actually need to be shifted a little bit, right. We may need to look at instead of divides, more solutions for what works for different communities. And we may have to think about ways that government can actually support the deployment of rural broadband, something that in the past we've shied away from.

So, Dr. Trimble, I think we're all on it here, just trying to figure out how to solve that, because what we've learned about Covid-19 -- contrary to what a lot of people are hearing only in the news about the disproportionate effect of this disease on African Americans. I've got another blog coming out there on this with colleagues from Brookings.

The challenge is Covid had no color, it had no name, it had no income. And the people who are often being victimized by this I think are a lot of the people we're talking about today who are disconnected. Which actually leads me into another piece. Dr. Trimble, I'll start with you. What are the healthcare services like? I mean there is a big push also for telehealth. And I'm curious to see if rural communities, if you look at the blanket of rural communities like yours, will you be able to benefit from that? And then I'll pivot over to the Commissioner, who is actually going to talk more about what we're trying to do to actually mitigate remote health.

MS. TRIMBLE: That is such a big issue for us here in small town Alabama. First of all, there are 67 counties in the State of Alabama and of the 67 counties in the State of Alabama Perry County was the 66th county to have its first confirmed case of Covid-19.

MS. TURNER LEE: Wow.

MS. TRIMBLE: All probabilities not because it didn't really exist, but there was no testing sites, there was no testing being done in this county. Now that we do have a confirmed case, it is just not about Covid-19, but we do not have a hospital within a 30 mile radius. In January we lost one of our students, an outstanding young man, 14 years of age, to asthma. And in 2020, someone does of an asthma attack. His parents called the ambulatory service here, they were on a run in another part of the county. So they basically tried to provide assistance to her son and then put him in the car and drive him for 30 minutes to try to get him help. We lost a young man. So in the 21st century, again, this should not

be happening.

So in regards to telemedicine, we do have doctors that do telemedicine and basically, unfortunately for some of our people -- that is the only way for our younger people I should say -- they're getting assistance. But then for the older ones who do not have access to the internet or don't even think about it, they're losing out because in a time such as this where we're sheltered in place and they really can't get out or people can't get out to get them, they're suffering in their homes. And we're aware of that.

So, you know, again, we're not looking at losing a generation of young people, we're looking at losing our elderly generation also because they do not have access to those things that could help with even small health problems.

MS. TURNER LEE: Commissioner, you want to comment on what's happening around the telehealth initiative?

MS. ROSENWORCEL: Yes. Let me make a point here, which is that Congress, during the last coronavirus stimulus bill, gave the FCC \$200 million and said, quick, come up with some efforts to enhance telemedicine during this crisis. And at lightning speed, the agency turned around and said tell us how we can help with remote monitoring and telehealth during this crisis. And, by the way, it's not just for patients with Covid-19, it's for patients who might be in a rural area, who may have to drive in for a regular test to their diabetes or to pregnancy checkup. They might be able to do these kind of things remotely and in the process not expose themselves to this virus.

And so the good news about this is that we moved this out as a bureaucracy with a speed I haven't seen before.

MS. TURNER LEE: Ever, right.

MS. ROSENWORCEL: And I think the other really good thing is that the agency has committed to having grants of no more than \$1 million. But that means is we're going to be able to offer these funds to lots of different places in the country, and I hope we don't just offer them, I hope we learn from them. Because if we learn that telemedicine works for certain types of ailments and works for certain types of folks in different parts of the country, and that it offers opportunities in rural America that

might be unique where hospitals are closing, let's figure out how when we get to the other side of this crisis, we're going to continue to do those very same things going forward.

MS. TURNER LEE: And, Commissioner, I want to touch upon what Dr. Trimble said though, for the older Americans the problem may be actually a device or even having a simple smart phone. Tell us a little bit more about LifeLine and why that also ties into this conversation on the digital divide.

MS. ROSENWORCEL: The LifeLine program, for those who may not be familiar with it, dates back to 1985, and that was when you had the phone on the wall and there was curly cord. I still have to explain to some young people in my office how you untwist those things. In any event -- life skills -- 1985. So President Reagan was in the White House and the assumption across the board was, hey, if you don't have phone connection, you're not going to be able to keep up with healthcare, get a job, interact with government services, your kid's school. So we were going to support low-income households to make sure that everyone had basic telephone service.

Okay, it's 2020, and you know what, today that basic dial tone is internet access. We've got to figure out how to migrate the LifeLine program from being just about voice connectivity to being about internet access. And so I think in this crisis we have to figure out how to come up with some emergency broadband service or we help support that kind of access, because it's become apparent that if you want to have some semblance of modern life right now, you're going to need that access. And the LifeLine program needs to be modernized, adjusted, and right sized in order to support that access for low-income folks.

And that's not just folks with kids in school at home, it's also for senior citizens. And today about 2 million senior citizens rely on that program, about a million veterans rely on that program. But we could do so much more if we made it meet this moment. And making it meet this moment involves rethinking how it can help with internet access.

MS. TURNER LEE: Before I go to you, Dr. Trimble, I want to encourage people who have questions, in about less than 10-15 minutes I'm actually going to go to Twitter and to email and get

your questions so that we may respond. If you have a question, send it to Events@Brookings.edu or send it via Twitter at #Brookingsgov or #DigitalDivide. I'm seeing on my own Twitter right now a lot of questions coming in, a lot of activity. Keep that going. I think what you're hearing from both of these ladies is that we need to keep making noise. We need the noise, we need the noise.

I mean, Dr. Trimble, I want to go back to you. Now, I put out in this op-ed recently that we need to park a big school bus that could actually broadcast wi-fi in neighborhoods where we know kids do not have access. I have to tell you, it may have sounded like the Magic School Bus when we were growing up, but it seems like the most creative solution that we have right now to get young people on line in addition to checking out these wi-fi hotspots.

Going back to these young people, even going back to the challenges associated with getting telehealth services, what do you think about that? Is that a feasible idea, to do whatever it takes to make sure people are connected?

MS. TRIMBLE: Well, when we had a district meeting immediately after our preemptive closing, those are one of the first things that we discussed, getting hotspots on the school buses and place them in a -- and that is something that our superintendent is pushing profusely at this point, getting hotspots. The problem that he's having is going back to like the Commissioner was saying, he can't find hotspots. First of all, right now everybody is trying to get hotspots. So that's one of the things that we're looking at.

And then, Nicol, if you remember, the ice cream shop that was here and all of the young people were -- well, guess what, it's closed down. So I mean now you have places where our young people would gather and have access -- so that's becoming less and less within our little small town because - and I don't mean it's closed down because of Covid-19, it's closed down. You know, it closed down prior to this.

So we're having that issue, but that's one of the things that he superintendent is working hard on right now. And I've been working hard with him to try to find hotspots. So if somebody can help us out with some hotspots to go on some school buses, we've got the yellow cheese wagons, we're just

waiting for some hotspots to get on it.

MS. TURNER LEE: Okay, so put yourself to the camera because a whole lot of people are looking at you, and say I need my hotspots.

MS. TRIMBLE: We need hotspots like yesterday, like yesterday. And that's one of the things when the superintendent was talking about it -- you know, I'm one of those go-getters and he was looking at me and I was like, yeah, you know, I'm going to help you out with that. So I've been really, really -- because he was like I tried and I just cannot and I was like, okay, fine, I'm on it. So, yes -- not knowing I was going to be doing this -- so, yes, please listen, we do need hotspots in Perry, County.

MS. TURNER LEE: You know, and this is interesting, ladies. And I'm going to start throwing these questions out to both of you and then we'll go to questions. I mean this is the new normal. I mean if you think about it, we don't know how long we're going to be in this state, we're not sure if we'll ever return back to a place where we were just two months ago. The extent to which now schools and our workplaces and our hospitals have to rethink the methodologies in which they actually provision services and deliver those services will probably be different.

One question to you, Commissioner -- and I would be remiss if I didn't ask you this -- with all this increased usage of broadband, how are we doing in terms of our network capacity? You know, we've had tons of private sector investment in these networks, but are we going to make it? Because I think this new normal is going to be a lot like the information superhighways, is going to be the defining factor in terms of its strength and ability.

MS. ROSENWORCEL: Yeah, that's a really good question. Because like I said at the start, we're on line like never before for work, for school, for entertainment, for healthcare, all of it. We're putting stress on our Nation's networks like never before. And I think the FCC should be monitoring this. We should learn from this stress. What are we going to need going forward to make sure our networks are resilient and can withstand this load? What does it mean when we're not just consuming content on line, but we're in conversations like this, we're in video chats, we're uploading data constantly, we're creating too. That means traditionally we've thought about having higher download speeds than upload

speeds, but maybe we need to revisit that and think about more symmetrical networks, because, again, we're not just consuming on line, we're creating on line now.

So the FCC, if we've got a major weather event, a hurricane or a power outage, daily produces reports that says here's how our networks are faring, here's the cell sites that are down, here's the outages we see. I think the agency needs to do that right here and right now. Lots of companies are producing reports and that's useful, but the agency needs to have a standard methodology so we all know how our networks are faring, not just nationwide, but in the communities where we live, because that's what matters to us most.

MS. TURNER LEE: Right. And what has this plan, Commissioner -- and then I'll go to Dr. Trimble for the last word here before we go onto question and answers -- what has this experience taught us? I mean I've been in this space for 25 years, one as a digital activist, now as a scholar who's writing about this, and I continue to see the same kind of conversations happen over and over again and it scares me because this exit from analogue into digital is actually going to matter, it's going to determine our life choices, our quality of life. It's going to determine a lot of factors, our health and wellbeing. So if we were to put on a post Covid had and begin to forecast into the future, what would be your counsel going forward when we eventually come out of this?

And then I'll switch over to Dr. Trimble.

MS. ROSEWORCEL: Well, I think as you know from your research, and as Dr. Trimble knows from her experience in Alabama, these problems have existed for a long time. This disaster is just exposing them to more people.

So what we need to do is take this crisis, take this momentum, like you said, make some noise, raise a ruckus, and decide we're going to fix it. I think this is an inflection point for action and we've just got to seize it. We need to connect everyone in this country just as we did with rural electrification and plumbing and every major type of infrastructure that came before.

We need to start thinking about broadband in that same way and we need to start thinking about access to it as a right. It's no longer a luxury. This crisis has made that clear. Everyone is

going to need access and we've got to find a way to make that happen.

MS. TURNER LEE: And, Dr. Trimble, I would say to you, I mean I've been on the phone, you wouldn't believe it -- I'm not an educator, I'm the child of an educator -- with a whole lot of school districts who are just scrambling to figure out how to promote these programs. I give it a big shout out to schools and I give a big shout out to libraries who have really made the decision to do the morally right thing, which is to not disadvantage just one or two or hundreds of students if they can't get everybody on line.

In your experience and in your wise counsel, what would be your advice to school districts that are really trying to get their hands around this homework gap, as well as figure out how to take the remainder of the school year and make it productive?

MS. TRIMBLE: First of all, I think the first priority is to bridge the gap between the local, the state, and the national entities with educational personnel and elected officials to hear their concerns and to find solutions, to combine assets and with needs. Understanding that if you want productive citizens in the digital age, the digital needs must be provided.

It has also forced us to look at digital inclusion as a school. As you know, there are some people who embrace technology and some do not. All of our teachers are required to use digital platforms now. Within the last two weeks, some actually had to have tutorials or lessons on how to be fully inclusive, to be the best for their students during their remote learning. Just Monday when I was at school, one of the teachers said with all this technology we're learning and that we're using, we're going to be way ahead of the game when we start back in the fall. And I was saying, baby, you never get way ahead of the game in the digital world.

We have continued to go digital and hope everybody around us provides those avenues we need in order to do so. As the Commissioner said, no one in the educational community should be viewing internet access as a luxury. It has to be perceived as a dire need. So first we must change the mindset of everyone within our educational communities to understand that access to the internet is about prestige, it's about empowering our students for not only the future, but also for the present, because

technology is not just a passing fad, it is here to stay.

MS. TURNER LEE: All right. So I've got a lot of questions. You know, I think we covered really good ground. I mean the first thing that we covered is we do have this homework gap that we have to close. I think we also covered some policies that we need to pay attention to and areas for further legislation. I think we covered the fact that there should be more public-private sector partnerships, and I think we went to the root of the problem, which are people. At the end of the day, all of this affects people, right. We could talk policy all we want, but without the most important "p", of people, we would not be sitting here today having this conversation.

So we've got a lot of questions. That's what I'm over here trying to figure out what to do. I'm going to try to do this the best that I can and get to as many questions as possible. And I'll try to pivot it to each of you to take on a question, and then if you want to come in and add, please do.

But you know what I forgot to talk about, Commissioner, is 5G. I don't know why I forgot to talk about 5G, because I talk about 5G in every other sentence in terms of what the possibility of it is to actually close parts of the digital divide.

I'd love to start with a question from the audience, which is around 5G technology and, you know, how you think 5G could potentially impact the digital divide that we're talking about today.

MS. ROSENWORCEL: That's a good question. 5G, for the uninitiated, is the next wireless standard. It will have radically higher gigabit speeds and much lower latency, which is going to make available a whole range of new applications. It could be transformative, much like 4G, the last wireless standard was transformative because it put a smart phone in all of our pockets and palms with lots of applications. This would be connecting lots more in the world around us, so we could be more efficient, more effective, and more safe. But, again, we've got to be on guard for equity in deployment, just like with every other network technology.

And early deployments in the United States of 5G have focused on really high band airways. And that spectrum has a lot of capacity, but the signals don't travel very far. So as a result, those early deployments have largely taken place in our most urban centers. The accounting and math

works better there, that makes sense. But over time we're going to have to figure out how that technology is just not limited to wealthy urban centers, we've got to figure out how we use other spectrum bands and change policies to make sure that it reaches more people and more places so those innovations are not just limited to our urban corridors, but can reach everyone.

MS. TURNER LEE: Okay. Now, Dr. Trimble, I have a question for you.

How can schools collaborate with regards to the education gap and closing the education gap, particularly with early childhood education institutions at this time where we're sort of in this disparate system?

Is there any collaboration that can happen between schools to close some of the educational gaps?

MS. TRIMBLE: Oh, absolutely. As a matter of fact, although we only have two schools within our district, one of the things that have helped us tremendously is the collaboration between the schools because everyone don't have the same thing, everyone do not have the same professional learning that they have received, even know how they can maximize the use of what they do have. So the collaboration, and especially with us being connected at school, we've been able to collaborate with other schools to let them know what means do they actually have even though they may not know it.

So, yes, that is very, very important and can help so many other places. And, like I said, I've been one that has been doing that, so that's not a problem.

MS. TURNER LEE: Yeah, no, I know. Look, Dr. Trimble didn't share, but her school is actually a consolidated K-12 school. And if you want to really get into weeds on her school, again, go to the Brookings webpage and pull the paper on "Bridging the Digital Divide Between Schools and Communities" and you'll find out that she has had to bridge early education with high school transition and she's been able to do that with this aspiration of giving all of her kids technology.

Commissioner, this question is for you. Over the last few years we've seen many state governments funding rural broadband programs. As state budgets are disseminated by Covid-19, these funds are likely to disappear. What are Federal agencies like the FCC doing to bridge the gap in the

short-term? So would love to pick this question up with you.

MS. ROSENWORCEL: Yeah, that's a really good point. I think to date Washington has not worked well enough with our state counterparts on these initiatives. And I think that if we figure out how to row together, we're going to get there further, and we're going to use all of our scarce dollars in a smarter way.

I know that there are about 30 states that have their own broadband programs. And some of them are big, some of them are small. I think it is now incumbent on Washington and the FCC to do a much better job coordinating with those programs because we want to take our scarce resources, make sure they go further, and also because in the end we're not going to figure this all out sitting here in Washington. We're going to need people on the ground in the states who know where service is and is not, to help us with this process.

So I think going forward we are going to need to coordinate like we haven't before. Shame on us for not doing it in the past, but in the future we have really got to make sure that we do that because I think it's going to make the difference between getting service to more people and waiting longer for that to happen.

MS. TURNER LEE: Thank you. Dr. Trimble, I've got a question for you. How can public libraries work with community partners to help implement some scalable solutions around digital equity? Have you thought about the role of the public library or have they come to the table to talk about ways to bridge this gap?

MS. TRIMBLE: They actually have. A lot of our students actually have to rely on the public library because they don't have access at home. So we do sit at the table with the public library. Unfortunately, at this time, it is closed like everything else. So that doesn't help in a situation like this. But as the Commissioner said, it is bringing light to it to how we have to work even more so in terms of collaboration going back to the initial question that was asked, because we can't have one without the other. We have to work together in this sense.

So, yes, the public libraries have helped us tremendously. We have students who have

on line classes and fortunately when we were on the grant they could take their devices home and do the work, now they can't. So they have to set aside time to go to the public library and do that.

MS. ROSENWORCEL: Yeah, let me just jump in on that because the E-Rate program I described that's been around since 1996, which helps wire our Nation's classrooms, also helps wire our Nation's public libraries. So schools and libraries have been in this cooperative partnership for more than two decades through the E-Rate program. And some of our libraries are just doing amazing revolutionary stuff to get everyone connected. We have big libraries, like in New York and Kansas City, that are loaning out wireless hotspots to help patrons. We've got little libraries in Maine and lots o other places that are doing it.

I spent some time on a library in New Mexico on Tribal lands and they were trying to figure out how to make sure people had more access after hours. And their solution was really kind of low tech. They just built a bigger porch and made it comfortable for more people to sit outside. And I love the creativity of that solution, I love that it's probably low cost, but I want us to do more dramatic things. And I'm pretty convince that libraries who have been partners with schools and helping with the homework gap are really going to be there going forward after we go through this past where so many of them had to shut their doors and close to their patrons.

MS. TURNER LEE: And I have a question on -- hold on -- this whole question of libraries, because libraries also help us a lot with digital literacy. And so we've spoken a lot about access to the internet -- and this is actually a question from one of the listeners for both of you -- when we think about digital literacy, what should we be doing to get people up to speed on all of these things that we're talking about?

You know, there's been some schools that I spoke to and some partner organizations that are afraid to give the devices because they're not sure that people will know what to do with them or won't know how to use them or be safe.

So digital literacy, talk to us a little bit about what that means for you, Commissioner, and then, Dr. Trimble, what that means for your community.

Do you want to go first?

MS. ROSENWORCEL: All right, sure. So the FCC doesn't have a direct assigned role in this, but I can tell you two things that have become apparent to me as I've traveled around the country and talked to schools and libraries about this.

With schools, when it comes to the students, our kids today are digital natives. They've got a facility with figuring it out that probably exceeds that of many of their teachers. Definitely in my own household I can tell you it even exceeds the parents, right. They're growing up in a world where there's no distinction between the analog and digital, and I think that that has enormous impact on their willingness to participate in digital education and their effectiveness in doing so.

Now, when it comes to digital literacy, I do think a lot of our Nation's libraries have been doing enormous good setting up programs and assisting communities, making sure more people can get on line. I've seen some incredible programs, for instance, at public libraries in places like Brooklyn, where so many people speak so many different languages and they're figuring out how to draw them all in and make sure they learn. So those individuals can be more effective in their communities and are more likely to choose to be connected at home.

There is so much good that libraries are doing in this regard and I think, again, when we move through this pandemic and we come out on the other side, I hope that they'll continue doing that. It's been so important.

MS. TURNER LEE: And, Dr. Trimble, what about you? How are you encountering digital literacy among your parents and students? And what are you trying to do around that?

MS. TRIMBLE: One of the things that this has done, I think our parents have been more reluctant about using digital tools and they have been looking at the children like -- as if okay, well, this is your thing to do to keep you busy. But now with this pandemic, it is forcing them to take a look at what they're children are doing and they are able to learn a lot from their children because one of the things that we do is we worked on -- part of digital literacy is being a good digital citizen. And so as a result of that, they're able to show their parents and their parents are able to see that it's not just about me playing

games, it's not just about me interacting and communicating with my family and friends, this is actually a tool that is empowering me. And as a result of it empowering the students, it is also empowering their parents, which in turn is empowering our community, which is what we want, which will give us a voice and a reason to sit at the table to have this conversation because now I realize the effectiveness and the importance of this tool, so now let's see what we can do about getting it.

MS. TURNER LEE: Yeah. And I mean that's one of the things, right. Our parents -- and when I came to Marion, you told me one of the things that you put together was a parent computing center and those parents that I ran into, they were like no, no, no, no, my kid is not going to know more than I do, right. I'm going to figure this out.

And, honestly, people who are listening, I mean this digital divide is really about the invisibility of a whole lot of people who are not necessarily grasping the skills that they need to actually get on line. And some of that is going to be intuitive. They're going to have to figure it out, just like we're figuring out these mitigation strategies. I think at the end of the day we're going to have to figure out a way to sort of codify this, right, so we could move forward.

I've got a question about my bus. So I want to ask the Commissioner. My kids think I am actually not getting any sleep because I keep seeing this bus in lots of places. We've seen this wi-fi enabled bus in Florence, South Carolina, and throughout South Carolina they deployed 3,000 buses I think with a partnership with Charter Communications to provide the open hotspots. We're seeing in South Bend, Indiana where there are buses that are actually deployed.

Commissioner, can we get wi-fi enabled buses through E-Rate or does this have to be something that's more of a Herculean effort to actually bring that? Because one of the questions was why can't we do this and why can't we do it nationwide?

MS. ROSENWORCEL: Yeah. Listen, as far as I'm concerned, let's do it, let's do it right now.

You know, I first visited one of these school buses several years ago in Coachella Valley, California. And everyone thinks Coachella, they're thinking some big musical festival. I'm not talking

about that, I'm talking about the agrarian community that's in Southern California with a lot of folks who work on farms, and the superintendent who used to work there, someone named Dr. Darryl Adams. He managed, much like Dr. Trimble, to get devices to every student. But then what he found was when he shut the school at night, the kids were still hanging around the parking lot. They were sitting down with those devices because it was the only place they could get on line.

So he came up with an idea that's really smart and has started to flow around the country, and it's especially potent in rural areas, because kids in rural areas spend a lot of time on the school bus. It can be an hour going to school and an hour going back. So he turned that ride time into connected time for homework. And here's the thing, what if we were able to do that nationwide? So many students, especially in rural areas, would be able to go to school and back, download homework, get their math sets, quickly watch some videos about how they're supposed to manage in pre-algebra, or whatever they're studying. It could be really impactful. And there are folks that are doing this in Alabama, in Indiana, in California, in Illinois -- all across this country.

So I think that the FCC should step up, use its E-Rate program to support these initiatives. And to that end, there's bipartisan legislation in the Senate and there's also legislation in the House to suggest the FCC do just that. And I certainly am going to keep on pressuring my colleagues that we can do that, because I'd like to imagine a point in the not too distant future where kids again could ride that school bus and get to school and back and that we could turn that ride time into work time, so any child who needs it will be able to get some connectivity during the course of that ride.

MS. TURNER LEE: Dr. Trimble, sort of the same question, because I know you're all for getting a wi-fi school bus. You've already put out the plea. When you think about these partnerships that you've had over the past, I want you to think bigger than Marion, Alabama. Companies are doing a lot of stuff, the Internet Essentials program from Comcast, T-Mobile just announced programs. We're actually tracking a lot of those programs here at Brookings just to sort of see what we actually have available to people.

The question I have for you, what incentives can you actually offer to those companies to

want to come into communities like Marion and sort of partner with you? Or do you just need plain old information to actually make that happen? What do you need?

MS. TRIMBLE: Actually, like I said, one of the problems we're having is we have a lot of them that have offered, but because of the lack of broadband connectivity, it's been a problem.

But I'll tell you one thing, I promise you this, if we can get it and get it in those students' hands, you're going to see some outstanding productive citizens. I'm going to tell you something, all of the challenges and the obstacles that we've had and we still do have, I never utilized them as an excuse and I don't let the students utilize them as an excuse either. Even though they don't have a lot of the resources, they don't have the textbooks, they don't have internet access when they go home now, still the last couple of years we still graduated 100 percent of our students, 100 percent of our seniors still got into college. So I'm going to tell you something, if anybody ever makes any investment in this community, I promise you they'll get some positive return from some outstanding young people that leave that high school

MS. TURNER LEE: Man. Now, we're running out of time, but I do have to ask this on behalf of folks -- I mean there are just so many questions, I don't even know what to do, but this one I feel really hard pressed to ask before we close.

Our friends of Native American Tribal lands, our friends in urban communities -- we've talked a lot about rural, but they have the same problems when it comes to digital access.

Commissioner, in terms of what are we doing during Covid, post Covid, to ensure that our Tribal reservations are actually connected, for one, and then, two, what do we need to do more of in the urban space, just to make sure they have -- I think you've also mentioned LifeLine but is there anything else we need to do? This is an all hands on deck problem that we have.

MS. ROSEWORCEL: All right. First, let's talk about Tribal lands. Listen, Native Americans shouldn't be the last Americans to get connected. But many of our Tribal lands are among the least connected places in this country. We don't want them to become digital deserts. We're going to have to figure out how to use the E-Rate program to get their schools and libraries connected, we'll have

to get their healthcare centers connected, and then we've got to work on getting folks connected at home.

In the near-term, the FCC has some opportunities for Tribes to engage in their own connectivity projects using the 2.5 gigahertz band that are really important. And anyone who is interested in Tribal connectivity, I would definitely encourage them to seek those out. That's a fantastic opportunity to help create more wireless networks in Tribal communities.

And like you mentioned urban areas, I think a lot of our digital divide conversation has ignored the realities of urban areas. Lots of kids are not connected and can't do their schoolwork in urban America. And if they used to be able to rely on a fast food restaurant, a coffee shop, or a library, they can't right now. And so we are exposing the extent of the digital divide in urban America in this crisis. And those kids, just like their rural counterparts, are missing out. We've got to make sure that when we think about a national policy to close the digital divide, we think about urban, rural, and everything in between.

MS. TRIMBLE: That's right.

MS. TURNER LEE: So, ladies, we are out of time. I could sit here with you forever. I could sit with this audience, who has been very engaged over live stream. This is my first moderated conversation, so I think I did well because my boss took a picture of us. He was able to capture a good pose. But what I want to say to all of you that are listening -- first of all, I want to say thank you to FCC Commissioner Jessica Rosenworcel, and I want to say thank you to Dr. Cathy Trimble. The benefit of having them both in different places and having this conversation is just invaluable.

And I want to just alert all of you, continue to follow us at Brookings.gov. We will keep looking at these issues and pushing solutions. And, again, look at my expert page for some recent work that's come out and look for the book that will be out in 2021.

Keep this top of mind. Keep this top of mind. The digital divide was there before and it's not going away, so this is a great opportunity to have some collaborative discussions so we never come back and have the same type of conversations.

Thank you, everybody. Please stay safe and we're all in this together as we get through

COVID-19.

Thank you, ladies, I appreciate you.

MS. TRIMBLE: Thank you guys so much for having me.

MS. ROSENWORCEL: Thank you.

MS. TURNER LEE: Yeah, thank you. If you could stay on for just a moment we'll wrap up. And we will look at all your questions and, as much as we can, it will be in one of our documents at Brookings in our research. So thank you very much.

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CERTIFICATE OF NOTARY PUBLIC

I, Carleton J. Anderson, III do hereby certify that the forgoing electronic file when originally transmitted was reduced to text at my direction; that said transcript is a true record of the proceedings therein referenced; that I am neither counsel for, related to, nor employed by any of the parties to the action in which these proceedings were taken; and, furthermore, that I am neither a relative or employee of any attorney or counsel employed by the parties hereto, nor financially or otherwise interested in the outcome of this action.

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