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A CONVERSATION WITH NTIA ASSISTANT SECRETARY ARIELLE ROTH
ON THE FUTURE OF THE DIGITAL ECONOMY

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INTRODUCTION:

DIANA L. BURLEY

Senior Vice President of Research, The Brookings Institution

FIRESIDE CHAT:

NICOL TURNER LEE

Senior Fellow and Director, Center for Technology Innovation, The Brookings Institution

ARIELLE ROTH

Assistant Secretary of Commerce for Communications and Information
Administrator, NTIA

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BURLEY: Good afternoon everyone, and welcome to Brookings. I am Diana Burley, the senior vice president of research here at Brookings. And on behalf of President Cecilia Rouse, I am more than pleased to welcome you here this afternoon. In my role, I oversee research across the institution. Everything from Foreign Policy to Governance Studies and Governance Studies is in fact the home of our host. Today, the Center for Technology Innovation, CTI, covers a range of topics including the digital divide and artificial intelligence, which are both overseen in part by the National Telecommunications and Information Administration. The NTIA advises the president on telecommunications and information policy issues to increase connectivity and improve our digital economy. Today we are pleased to welcome Assistant Secretary of Commerce for Communications and Information and NTIA Administrator Arielle Roth, who will dive into what the agency is prioritizing. Alongside Senior Fellow and CTI Director Nicol Turner Lee, I am pleased to welcome them both to the stage.

LEE: Come on in. Yeah. Come on into my living room. Good afternoon everyone. Happy to see you all again, right back in this room. We're on a roll, aren't we, as CTI when it comes to activities and really influential people coming to the Brookings stage.

As it was mentioned, I'm Dr. Nicol Turner Lee, and I'm really excited about this conversation today because the ecosystem, particularly for telecommunications in the digital economy is really widening, right? There's so many things that we talk about, and I'm happy, and I don't want anybody to play this game where you put a quarter in the jar if I say ai, but we're gonna talk about that, but not at the beginning. We're actually gonna delve into the priorities of my guest, the Honorable Roth, who is the assistant administrator at the National Telecommunications Information Administration, an agency by the way that I followed at the start of my career. So that tells you a lot. People wanna know how old I am. There were modems in that report as well as 386 computers. I know Michael knows about that.

So, with that, let's jump right in 'cause we've got a little bit of time. There is something I need to remind you. We're doing something a little different today. Thank you Brooke. There are QR codes to the left and right of me. We will be taking questions at some point in the discussion. If you have a question and this works really well, so we can get as many questions as possible. Scan the QR code, enter your question by 1:40 of this conversation and I'll be able to ask them.

For those of you who are joining us online, please continue to use the same process of giving us your questions. And again, we will be mindful of time that we have set aside to get to as many as possible. Now I remember I told you I was gonna forget that part, so I actually said it. Sorry. I know. Sorry. I wanna start with a discussion around your priorities. How long have you been in the job?

ROTH: I've been. . .sometimes with my – I have six children and sometimes I forget what day it is – but I believe it's been about eight months since, since I was confirmed. And let me just say at the outset, thank you so much for having me at Brookings. It's really exciting to be in this discussion with Dr. Nicol Turner Lee, who's done such influential work on issues related to universal broadband access, which definitely intersects with our work at NCIA, and, to answer your question, I would say yeah our, I think my, our main priorities are fulfilling the significant mandates that Congress has given us that are related to that goal of ensuring universal connectivity and US technology leadership.

We have this huge opportunity with the \$42 billion broadband program. Getting that program across the finish line in a manner that produces the right, the outcomes as Congress intended. Consistent with the law is really top of mind. We made a lot of recent progress. In, in that effort, 50 states have been, have earned their final approval a milestone. We reached this just this week. So there there's, so there's be, there's our significant role under the one big, beautiful bill. When it comes to Spectrum, NTIA is the manager of federal spectrum.

We play a really significant role in ensuring that spectrum or the nation's spectrum resources are used efficiently. Another really critical way to ensure connectivity nationwide. And so, delivering on our mandate of, of identifying 500 megahertz of Federal spectrum to be reallocated for commercial license use is a huge priority. And then I would say finally, the third is really an issue I identified at my nomination hearing. And that we've launched, we launched in the fall, which is an issue, an initiative to look at the policy trends and market trends when it comes to children's excessive screen use, particularly in schools.

This is an issue that a lot of parents care about. And given NTIA's unique role at the intersection of technology policy and telecom policy we played a really key convening role here. And so, looking forward to developing, continuing to develop that initiative that we started.

LEE: Yeah, no, I'm excited to talk about that. I have two kids. You have. More power to you really. So, let's jump into bead, right? And that's actually exciting that all 50 states have pretty much gotten through that implementations process. It was hard, right? It was a hard program, but much needed. For those of you who know me, I wrote a book about the digital divide. It's actually available in the bookstore if you would like to pick it up at 20% off. But you did say, listen, states after this, you're on your own. I'd love to hear what's next, right? We get the states connected. How do you see the role of the government, beyond this initial implementation November, you stated, let's try and get more independence right from the government when it comes to subsidies. So just curious, like how that looks. Not the non-employment, just what's next after everybody's connected and they've run through their projects.

ROTH: Yeah. So first of all, kudos to the states. This program was a long time coming. The infrastructure law passed in 2021, and it's just really took forever to get off the ground. In, in large part, in our view due to ex extraneous, unlawful mandates that slowed the program and created red tape for states and providers and undermine and undermined participation. And so, in, in June the Trump administration has, she knew guidance for the program really getting the program back on the right track.

A program that was based in competition, accountability, and respect for the law. And we think that these reforms really, we're extremely successful. We saw increased competition in the program. Providers that had sat on out under hostile rules came back. We've got data showing massively increased participation rates in, in, in various states that that obviously resulted in costs coming down. And I think, I think a lot of, in, a lot of focus has been on, how we reduced costs in the program, which is something that we're very proud of. But I think, like one thing to keep in mind is that overspending can have really. Problematic second order effects.

We, Congress wrote the law in a technology neutral manner, set out performance criteria that providers had to meet in order to qualify for the program. And that was, we believe the right approach and the approach that we've abided by. We, amazing things happen when we allow private sector competition to, when we enable the right conditions for private sector competition, both in terms of bringing down prices, increasing outcome, improving outcomes for consumers and as well as

promoting technological innovation. And so, I guess back to your question we, the number one goal here is to ensure universal broadband availability, close the digital divide once and for all as Congress intended or on track to do that.

The previous administration was really focused on, one technology universally and maximizing only that technology. Whereas our focus has been on universal broadband access, getting every single last American connected. And that's what we're on track to do. We're also, you mentioned the role of the government going forward. One, one of our most significant concerns has been how do we ensure that this program is successful? And we don't see this kind of defaults that we've seen in broadband programs past. That's something that we've really thought of. We have a mandate under the law to ensure that providers have the financial and managerial capacity to deliver on their own, on, on their promises.

We've, we've been very focused on that. We wanna see this, we wanna see this this program succeed. We don't wanna see community stranded. And so, we've been very clear with the states that we don't wanna see you, you can impose regulatory experiments on these providers that drive investment away and that, un undermine the success of projects. Permitting is really important. A hospitable permitting environment is so critical to ensuring that that projects are delivered quickly and efficiently. And then I guess finally, ensuring that providers are really in a position to deliver and aren't counting on hypothetical, uncertain future subsidies in order to deliver on their obligations. We really wanna see, make sure that we have serious providers in the program that are truly going to deliver for their communities.

LEE: No, I mean that all makes sense and I'm happy to see that this administration has taken the helm and continue the program because I think all the investment of time and applications it was a hard roll up your sleeve moment for many of those states. I do wanna go to a couple things you said, if you don't mind. Red tape. So, you mentioned permitting, but I'm pretty curious, as a person who's been in this for so long, like 25, 30 years, what part of this administration has made those areas easier? Like permitting and streamlining some of the processes? It's been a lot of talk. I, in a lot of conversations, would love, I think to, for you to go into detail on how NTI has addressed some of that red tape first.

ROTH: Yeah. We, yeah, as I said, addressing, permitting is something that's been that's really critical to ensure that projects succeed. We have more control when it comes to federal permitting. We've we established we established a permitting. Tool called ESAP developed by expert NTIA staff to all automate the permit, the Federal permitting process and ensure that that per, that, the process of getting a categorical exclusion under NEPA is quick and seamless as possible. And so that, that's just one, one example. We've been working with, other federal agencies that have, that are that, that have, that with whom pro providers might encounter permitting obstacles, like historical preservation and anyway. Yeah. And the, and then the other side is obviously state and local which has, in some ways been the more tricky part of improving the permitting environment, providers with providers.

I mentioned that we we've, we, in our terms and conditions, we require states to make commitments to us regarding the streamlining of permitting as well as keeping costs keeping per permitting costs reasonable. And so that, those are some of the initiatives we've taken. Obviously, this is something that we continue to work on. This has come up in the context of the bead savings or the non-deploy deployment funds. And so, we're continuing to look at creative solutions to in ensure that bead projects and broadband deployment in general faces a more streamlined and efficient permitting state and local permitting process.

LEE: No, that makes complete sense, right? Because that's not only an obstacle to the build out, but it also could be an obstacle for future development. So, thank you for sharing that. I wanna go to the non-employment funds, which you brought it up. Let's dig into that. And I wanna connect it to this conversation that you've presented, which is we really want the states to be fiscally conservative, right? As they're building out these projects. Or be mindful but also think about whether or not they're gonna be sustainable. So, there's a lot of money that's remaining in the non-employment fund, for some of it I think was a legitimate reserve that was intended as part of the grant.

And then there's been other monies that were rolled back. How do you see that money playing into this, right? Is this gonna be money you think that could be used for projects that may be under budget, over budget, not necessarily, but digital literacy. I'm just curious what's been in your mind as we think about the use of the non-employment funds. And just for other people, this is not necessarily just correct me if I'm wrong, Arielle, but it's not necessarily the money that's left over from projects

that, don't meet their budget expenses, but it was an appropriation of money that was available as well.

ROTH: Yeah. So, 42 point \$45 billion was appropriated for the program. We've been able to, we're on track to achieve universal broadband availability at half the cost, which is really an incredible result. And so, when you have such an enormous amount of money at issue, there's a lot of different ideas on how it should be spent. We are in the process of developing guidance on that very topic. We actually held a listening session yesterday to hear from the public and as well as states on the best uses of that funding. There were, there's obviously and just to illustrate the amount of interest, there were 1400 registrations for the listening session and a thousand unique participants of the listening session.

Really a ton of interest in how the funds are spent. There were a lot of different ideas presented. Some referenced permitting as I mentioned earlier, some referenced improving public safety communications such as investments in Next Generation 9 1 1. Others brought up efforts to address kids' excessive screen time in school. So just a whole panoply of ideas that, that we're looking at. I think ultimately what when we're looking at this funding, we wanna ensure that it's successful in the same way as the benefit of the bargain was.

And that means ensuring that the funds are used to produce real, concrete, measurable outcomes for Americans that we have performance metrics and measuring those outcomes. We're not inviting waste, fraud and abuse in how those plans are structured. And also, that we're not creating secondary problematic second order effects. As I said before, you. Overspending has consequences. And particularly for technological distortion when it comes to investment or r and d, private sector r and d. So, I, I think that those are the principles that we're. That are framing how we're looking at the broadband deployment savings, but we're really open to the public's ideas also welcome you for you to enjoy. Join next week we're, because there are so much interest, we've actually scheduled a second listening session next week. I believe it's the 18th. Invite you all to join and join. Share your ideas, share what you like, and also share what you don't like. No, yeah, no, I, and please take that into consideration to, to register your thoughts.

LEE: So, I wanna stay on this because in the listening session it's interesting the things that were identified. So, over my course of 30 years doing this, we've seen a lot of efforts to build up broadband infrastructure. And we've seen this like corollary where demand what people do with it is also I, my book I outlined over the last 30 years, it was investment in infrastructure and then there's investment programs, and then we roll back the programs and then we invest in infrastructure and it just has been a ping pong over the last 30 years in terms of why we probably haven't solved the digital divide. So, I'm real curious though, if we build these networks and we actually have the type of connectivity, and I'm really excited about the fact that we're finally getting this job done, what does digital literacy look like?

Are we gonna have this case where we have more demand supply than demand? We build, it doesn't necessarily mean they come. How are we gonna maybe think about the non-employment funds as a way to create a marketplace for all of these new assets? Have you thought about that? Like where do we go where, my mother or my grandmother or her list of sisters who are not digitally connected are able to take advantage of what's happening in their community that, we've basically put so much time and investment in.

ROTH: Yeah, it's certainly that's certainly one of the categories of ideas that we that we heard about yesterday. And definitely as somebody who's worked in telecom for many years, I'm very familiar with the refrain that, that for some, the, that there are all different types of, barriers for why some choose or are not online. I think it's a really interesting question. It's a really challenging question. It's a real question, right? For some folks, right? Yeah. Who can it on, right? Yeah. And I think I think I just go back to those kind of principles that we have of our, we need to ensure that, we have a clear outcome that we're trying to achieve.

And what and let's establish performance metrics at the outset set to ensure that we're actually meeting that outcome. Because you referenced, broadband programs past we wanna ensure that we're not again, that this is not, we don't want this to be that continual cycle of, creating these multiple overlapping broadband programs and then redoing everything in a few years. Ultimately we wanna see like this, the secretary is very outcome driven. And that, that is going to be key in any decision that, that the administration is making on, on, on how these funds are used.

LEE: Yeah. No, I agree. And I, and look, trust me. I know that I said I've been doing this 30 years. I feel that way, in terms of my own self doing this. But I do agree, I think it's important for us to build up the institutional capacity, right? So that people can get access. So, it's a consideration that perhaps, we need to join that next meeting to try to talk about it, right?

ROTH: Yeah. And I would also say, just, I think that is actually one of the reasons why we were, I think our approach of in, of ensuring like competition in the program is so critical to that.

LEE: That's right.

ROTH: Goal because it's competition that's been the most effective source and innovation in, in, in, in promoting connectivity and lowering prices in broadband markets. Yes. And ensuring that we, have different solutions out there that meet the diverse needs of our country is I think, really critical in achieving that, that goal that you that you identified.

LEE: No, thank you for that. And you talked a lot about technology being technology agnostic. Space has come into the debate too. During the time that you've been here, I'm sure that's been something on your desk. Where does that fit into the agency, more broadly and more specifically into the bead program?

ROTH: Yeah, no, it's commercial space is obviously an incredibly important locus of our nation's technological innovation has provided really incredibly transformative opportunities for connectivity. So, we are it. Our work is intersects with that in, in different ways. One of the, one of those ways is Spectrum. We,

LEE: I was gonna say, we're getting into that.

ROTH: Yeah. I don't know if you don't want me to get to that yet, but it's there, we obviously have a huge role to play when it comes to ensuring access, commercial access to spectrum, whether that be for commercial license, mobile networks, or WIFI unlicensed spectrum. And also, for satellite spectrum. Increasing access to spectrum is actually one of the best ways to promote competition and

broadband affordability. Because, just in, in so many ways, that's the best, that's one of the most important forces for in, in addressing connectivity gaps.

LEE: So, I'm curious like. We've had this spectrum debate for a long time and I'm excited to see that we're now in the United States back on the block, right? When it comes to spectrum auctions. We had FCC Commissioner Libya trustee here last week who was excited about that as well. My question for you is like. How does this coordinate with space being part of now the suite of providers that want access to spectrum, and then how is that going to, in some respects, shape our global leadership? And so how have you been thinking about it, that as well?

ROTH: Yeah. Thinking about that a lot. Yeah. We strongly believe that we need an all of the above approach to spectrum. Just like we believe in technology neutrality is really important to promoting our innovation when it comes to broadband connectivity. It's also the case that we need to have a an all of the above technology agnostic approach to spectrum. We need more spectrum for commercial licensed use. We need more spectrum for unlicensed use, and we also need more spectrum for satellite use. We've been really active on, on, on the satellite front. We perform the interagency review of the SpaceX Gen two V three application, which sought to significantly increase the amount of satellites in their constellation as well as their access to spectrum.

And that's really, it also intersects with the bead program because that's going to is going to critically affect the ability of low earth or orbit satellite providers to meet their obligations and exceed their obligations under bead. And that, that was, that that working with our federal agency counterparts to ensure that there, that critical federal emissions were protected while promoting that our critical technology leadership in satellite connectivity is very important for both, for our domestic reasons as well as our international leadership.

We've been, working on preparing for the World's Radio Communication conference in 2020, 27. The agenda's very satellite focused. And so going in with strong positions into WRC is something that is really at top, is top is at top of mind for promoting our global leadership in satellite communications. We one, one we announced in the fall that we had. We've also been working on, improving the automation of processes for accessing we talked about permitting earlier. There, the process of

getting access to spec spectrum to launch satellites has been a challenge proven challenging in previous years.

We're trying to automate that more. We announced we unveiled a new portal to make that process more seamless so that companies can more easily access congest spectrum in the congested SB band. I really just, these are all kind of efforts that are going to be really important to achieve that goal of maintaining and our leadership in that area.

LEE: And it's interesting too because it would appear to me with satellite in there, the FCC just put together a space bureau, less than five years ago. And there's still a lot of conversation around like interference and junk and whether or not that's still the most app solution when it comes to connectivity, seamless connectivity. So, I'm sure those conversations and you're coordinating with the FCC on that.

ROTH: Oh yes. We are, we work we work constantly with the FCC and especially on, on space and satellite matters. What does that mean though? I just, last question on the space thing. There has been talk with the bead program of space being, being part of the suite of connectivity services that we're providing.

LEE: It appears to be though some of the states wrote on the past technology of fiber. So, is there gonna be less of commitment to the fiber part of it? We still need the fiber to propagate wireless, fixed wireless, standalone cable, et cetera. I'm just curious, is there gonna be a shift with bead that we'll see while the projects are going on? Or we're, this is gonna be something different. I'm still trying to understand it myself, so I figure I'd ask you.

ROTH: Yeah, I think. When you look at the states, every state had their own unique kind of mix. I think of technologies that met their, we have a diverse country geographically, topographically in terms of density. Not, the state, the statute, listed performance requirements. And it was really, up to what we said in, in our roles was, we're just, it doesn't make sense. And congress, the law, it wouldn't make sense based on the law for us to have a one size fits all, of course, technology. We need to really go project area by project area to determine what's going to work. In every project area. And so

that's and the results really bear that out. You have, some states like Kansas has a ton of fixed wireless. Montana has a lot of satellite. Rhode Island is mostly has more fiber. It just every state is really different. Yeah. No, and

LEE: I'm thinking also about like, when we go to WRC, obviously China has been ahead of us when it comes to C-band and we're just now catching up on some of that technology that, those bans that were caught up in a lot of the scarcity debates of the past when we first met, right? So, the question is just, are we gonna still level set ourselves internationally? So, as we're thinking about getting everybody connected, that we're still staying relevant on the spectrum assets that we were trying to get out quicker or sooner or less expensive. I know there's a C-band auction coming up, right?

ROTH: Yeah, no, and we've been working really closely with the FCC in close coordination to ensure that, that that auction is a success. We just filed comments in the NPRM. Obviously we have, we as NTIA, we, we represent the position of the executive branch and we there are, significant federal equities at issue in that. But we wanna be leaders in all of the above. All of all of the above. Exactly. Exactly.

LEE: I wanna switch out to Spectrum and talk about excessive screen time with children. Now I don't know if that's a policy for you, 'cause you got six kids. How old are they? They young kids.

ROTH: So, my oldest just turned 13, so I'm a mom of a teenager and then my youngest is a baby.

LEE: So, see I have a 19 and 23-year-old. We don't talk about screen time, we talk about college. In terms of if mama can afford it. I wanna talk about this. You mentioned like some of the non-employment fun could be directed to curbing excessive screen time. What do you see as the problem? Because I was in a conversation not too long ago, and I think when we think about screens in young people, right? We land up in four buckets. One is around social media, another one is around distraction in schools. Another one tends to be around whether or not there's addictive harm. We just saw that there's a big lawsuit that's being litigated right now. And then the other piece of it is pedagogy, right? Should we have screens to help us with learning? I'm curious, when you say excessive screen time, define for us, like what does that mean for you as a priority?

ROTH: Yeah. This is. As a mom, this is something that I, I struggle with my on myself to define, you have the screens have become so, so ubi, so ubiquitous. The internet is so ubiquitous in our lives, and there's been this refrain that, I've heard and, especially became amplified during the pandemic that, access to that, that broadband and connectivity is really like the cornerstone of a modern education. And those, that kind of argument was used to justify, it seemed to me to push more ed tech and screen use and internet use into schools. And I think, I can have always been a little bit skeptical of that and I think a lot of parents are skeptical of that. Sometimes, there's, you have these trends and I think it's really important sometimes to step back and examine.

What's really at play here? Why are, should we revisit these assumptions? Is this really are these trends really in the best interest of children? Or are there other things going on? Is, what is the marketing landscape for ed tech in schools? What are the federal policies if any, that exist that are pushing schools in this direction? And just given NTIA's position as a leader in connectivity and telecom issues and internet policy we, I just felt that it was, it would be a given that this is so top of mind for so many parents. Any parent you speak to practically, any parent you speak to these days is just, feels a little bit like their children's lives are increasingly, their social lives are increasingly online.

And then they go to school and their lives at school are increasing online and then they're doing so much homework online and so the question is, how do we ensure that this is intentional? And that technology use is thoughtful and intentional and not indiscriminate. And so that's what. Is what we're looking at. Looking, just learning. We did a listening session in the fall. The first step I think is listening, understanding the current research out there. We had great participation from leading thinkers on this subject Dr. Jared Cooney Horvath and others that joined. We had I think a 200 parents, teachers, experts join as well as stake stakeholders join the listening session. And I think that's the that's important as a first step is just getting a grip on. What the problem is and what tools we have potentially to address it.

LEE: No, I can appreciate that and I appreciate, again, another listening session, so thank you for that as well. I guess I wanna ask you about a deception though, right? So, when I was doing my book, I went to Maricopa County, Phoenix in Arizona, and I found an elementary school that completely shocked me, right? Because these were first, second and third graders that all had cell phones and

they were walking around pretty proudly with their cell phone. And I asked the teacher, why is it that the kids have cell phones and you don't disallow them? And she said, no, because these are kids who need their cell phones.

Because at this time, this was way before the current conditions and existence that we're dealing with these kids had parents that potentially could be deported while they were at school. And so, they needed that phone as Latin Americans to be able to call a parent or call the next person in line. When I did some research in a school, a rural school. Their phones were like the calculus computer for them because they didn't have access to, hardware or broadband. I guess my question is, will there be exceptions, right? Because I think that part of the challenge of the digital divide is making sure that people have access, universal access, and there's no barriers for that connectivity. Particularly now as we talk about ai, where you're gonna need an internet enabled device to even access ai. How do we strike a balance?

Does that mean that NTIA will need to do more research? Are you thinking about those kind of projects? Are there gonna be exceptions to the rule? Because I do agree with you, we all need to lock down some of the very malicious and egregious outcomes that come out of excessive use. But we also, in a society where a generation of kids have grown up with screens, and this is actually gonna determine not just their current life context, but maybe their future when it comes to occupation.

ROTH: Yeah, no, I think that those are really interesting questions. Definitely the inequality side of it is really interesting to me because, and it's interesting because, the research I've seen has actually shown that you actually see greater reliance on ed tech and digital curricula in more low-income school districts. If you're a parent who has the means, like you, you have the means to send your kid and you have this to a tech for your low-tech school that you know, especially given that the research shows that, learning skills, including digital skills in an analog environment. Is actually more, is actually better pedagogically for children. I think it's really important to think about how these trends are actually potentially disadvantaging low-income children. These are really hard questions and it's, I think, I just think it's really important that we grapple them with them rather than resorting to like simplistic assumptions that like more is always better.

LEE: Although, I would say, and I'm glad you brought this up, for those of you that follow CTI, we're doing a lot of work on AI and education. Technology and education and screens. Some of this is class-based. I love the way you mentioned it. I like yourself, probably was able to send my kid to soccer or to dance and I don't know how many of you ever did traveling dance. It's like the best and the worst at the same time. But I could get them off the screen. Because I had the means. Yeah. In low-income communities, some of those parents, they can't get 'em off of screens. They're working, two jobs. The kid is on the bus in the morning and the night, on the school bus, they're doing their homework.

For me, I think it's as NTI explores this, it's a really interesting way to piece the dots together. And I think your agency is the glue. But again, keeping those considerations in mind that we all grow up differently, yeah. I think really matters.

ROTH: Absolutely. I totally agree. And they're certainly front of mind for us.

LEE: Yes. We've got some research coming now. We can help you with it. Okay, excellent. We're gonna go to questions in just a moment, but I told you I was gonna talk about ai. Okay. You ready? That's great. Look, this is the first conversation that AI came in the 40 minutes of the conversation. We made some progress here. It's a miracle. I know it is. 'cause it always starts there you are at NTIA, AI is the bread and butter. I think for the future, not just domestically, but also globally. What's your hope for the technology, and particularly as you see. Us having this conversation about internet policy, it appears to me at some point that's gonna approach your desk as well, if it hasn't already.

ROTH: Oh, it's definitely approached our desk. Look, AI kind of permeates all of our work in at NTIA, like broadband networks increasingly rely on AI for network optimization, and then AI relies on broadband to get its services to the edge of the network. And consumers, they're inherently related. So, they, it comes up in in all of our work streams. We actually were, we were given specific taskings in the President's AI Action Plan that we're currently working on, on, American leadership in drones and robotics and the adoption of open source and open ai by small and medium businesses.

So, we're just like looking, we're looking into this through our office of Policy and international Affairs. And so, it this is, yeah, this is we're, it's critical that we that we lead in a I that's certainly a huge priority for the President. And so, we're all hands-on deck in that respect. Especially given the intersection between AI and six G. That's right. Yeah, that's right.

LEE: In the next three years, four years, five years, what's gonna be a legacy? I know that's always the hard question, but it's good because I gives me a chance to read some of these questions that you all have given me.

ROTH: Yeah. I would say, it really, getting back to your first question, I think getting bead over the finish line, ensuring universal broadband availability consistent with the law. I, I think and ensuring that we do so in, in a way that's efficient and non-distortionary and protects America's technology leadership meeting our targets under, the on under OB three when it comes to spectrum, we're working really hard to deliver on our coming deadlines. Really important that Congress set those deadlines. Just to ensure that we have that that we have that certainty and of a coming pipeline. And then I would say, yeah, I guess third, just, hopefully convincing people that we need to be looking at excessive screen time in schools and having a really frank and thoughtful conversation on how federal policy makers can move the needle in a manner that supports positive, healthy outcomes for children.

LEE: And fair.

ROTH: Absolutely. Perfect.

LEE: Alright, I'm go to the questions that you all have sent. For those of you online, I'm gonna try to read as many as possible and for those of you that are here, so I like this question 'cause we often do not talk about this as the NTIA oversees the rollout of 42.5 billion in bead funding. So, I think it's an op deployment they're referring to. What specific or generally, excuse me, what specific accessibility requirements will be put in place to ensure that newly built networks digital interfaces, customer service systems are fully accessible to people with disabilities from day one, rather than retrofitting them later?

ROTH: That's a really great question. I think I would I don't want to speak incorrectly, so I'd love to whoever asked that question, I think that I'd like to I understand that the challenge that, that question is getting at, it's a really important one. And to the extent that there are, challenges that are that that we need to be thinking about and haven't thought about, and, happy to happy to have that conversation. But certainly, ensuring that we all providers need to comply with the law no exceptions to that. And, but happy to take that back and learn more.

LEE: Perfect. Another question, and I think this kind of relates to what you mentioned about Congress enacting a lot of these laws. We know that the Digital Equity Act was canceled. It's unclear whether or not Congress will revisit that law or again, the non-employment funds or cost savings could be used to address digital skills, devices, workforce development programs. Is that something that you think you're gonna wait to Congress to reinstate that? Or is that something you think you could do now in terms of digital literacy with non-employment or other funds?

ROTH: I think that, I think, as I said before, we're open to different ideas. We're open to creative ideas. Would definitely invite you to join the listening session. And also, if you don't wanna join the listening session, if you wanna just share via email. We have an account set up broadband grants@ntia.gov. These are really these are really these are challenging questions and we certainly want to get the, this pot of money consistent with the same principles that made the rest of the bead program successful.

LEE: Perfect. How accurate is the national broadband map? NTIA had its pulse on that for many years. Is this something that the agency will continue to update and improve? And I know the FCC shared some responsibility in that, but I remember years ago you could go to the NTI website and see where there was access across the us.

ROTH: Yeah, we have data that we that we rely on, but really the FCC map is the authoritative map for broadband availability in the us It's not like any map. It's not perfect, but it continues to get better. And we think we've played a role in, in, in that as well. We've certainly relied on that map subject to, the areas that were identified as eligible we're subject to a challenge process. We when we issued the restructuring notice in June we provided an opportunity to update our eligible areas consistent with

the most recent version of the map to ensure that we weren't, duplicating in investment or so-called or engaging in subsidized overbuilding.

It's a really important map. We continue to work with the FCC. We also contribute to the broadband funding availability map that looks at, where federal programs or funding broadband. But I think just we're really, we certainly agree that with the sentiment of the question, this is, it's important to know to have good data to ensure that we're using federal resources efficiently.

LEE: Yeah, it could be interesting, right? In terms of the performance metrics that you outlined, if that was updated as well. So just something to think about. This question, the guy I know, Mike Nelson, I guess I'll ask you a question 'cause he says not only his question, but he cheated a little bit. He put his name, he said, "NTIA, the FCC and the State Department devote a lot of time and money to shaping decisions at the UN, the OECD, the G seven, and the G 20 as well as in foreign capitals. He wants to know is NTIA doing enough?" And I'm gonna caveat 'cause he said if he gave you an extra \$10 million, but I think that's not true. If there was an extra \$10 million for international monies that was available, what threats or opportunities would you spend it on?

ROTH: Yeah. This is an issue that we're that's so critical. We've been, we've taken a more active role on international standards, which is the standard setting process is so important to our technology leadership. And we, NTIA actually and personally, like I, I identify, I attended a 3G PP meeting in the fall to see the challenges that US companies face in participating and attending in standard setting organizations. We have been actively preparing for the WRC 27 so that we go into that with in a strong position with clear positions where we've rallied our allies around our positions. And so, I think definitely we're spending a lot of time on, on that, working with the State Department and the FCC and other federal agencies.

Even multilateral meetings just on, yeah it's just really critical that we have a good survey of, where challenges are. We've been like, for example the, in the first Trump administration the six gigahertz band was designated for unlicensed use. And many countries have, some countries have gone in a different direction for that band and really using our resources to we, we've been actively working on with the state department on efforts to ensure that we maintain our leadership in that band. Just

because WIFI technologies is an area where we really dominate and we have an interest in in preserving that ban for WIFI. So those are just a few examples where we're, using our resources that we have to. Advance our international leadership.

LEE: Perfect. This question is about actually six G. You mentioned a key component of six G, as we've been talking, I guess will be seamless integration of terrestrial non-terrestrial networks. Can you elaborate on how that would work?

ROTH: Yeah. I think that this kind of gets at the principle that I think many of you would, I think, agree with that consumers don't really care what technology that they're using to get online. They just want it to work. And so, you know that that certainly. From what my understanding is going to be a key feature of future six G networks, as you said the seamless integration of terrestrial and non-terrestrial networks so that consumers can really be connected everywhere and even in the most remote places. It's really exciting. It's a really exciting opportunity and it's all the more reason why we need to ensure that we're promoting sufficient access to spectrum, including for direct to sell satellite service which is an incredibly exciting innovation where we're America leads and ensuring that we promote our leadership and go into WRC 27 with strong positions that advance American leadership and satellite technology.

LEE: So that, that brings me what you said about consumers wanting seamless integration of technology. I completely agree. I think most people do not recognize just how interesting these networks are, right? Where you can bounce from license to unlicensed and then based on where you are, the ecosystem, there tends to be some type of connectivity, but you did say consumers don't care about that part, but they do care about cost. So, I just really am curious from you, how are we gonna like level that with a and I mentioned the same thing to Commissioner Krest Trustee as well. Affordability is a big concern. This is my own question by the way. It just was a trigger. I have moderator privilege, I wanna ask this, but I'm just thinking like, how can the NTIA who's been a historic leader when it comes to research and reports really help us understand the affordability question because it, they do care about money, right?

And I think we've seen that over the course of the last year with the affordable connectivity program, 20 million, 20 plus million people on and 20 plus million people off. Like, how do we avoid that, so people are not picking between broadband and bread?

ROTH: Yeah, I think it, it is such a challenge because and one that actually is probably a big challenge that if you were to, when it comes to the \$21 billion is, in some ways it's cruel to put somebody on a subsidy and then just, not have a plan. So that's actually I think one of the challenges that I think policymakers would need to grapple with. I think, more than any subsidy and, 'cause, subsidies can have, and I think it depends like we're still talking very abstractly, like you wanna ensure that the subsidy isn't creating, a second order harmful effects.

Okay. Inflationary effects, I think one of the most, and one of the clearest, most effective ways that we can promote broadband affordability is through promoting strong facilities-based competition. That's made American broadband so great. Competition is the most effective way to bring down prices. Fixed wireless has been a great example of, the way that technological innovation and facilities, space competition has Inc. Has had an effect on broadband home broadband, market prices. And, in the same way you have cable companies entering mobile broad broadband markets. It's that I think any way that we can foster competition and is really help, is really effective in that respect. And one of the best tools that we have is getting more spectrum into the commercial marketplace.

LEE: No, I definitely agree. I think innovation is a combination of having competitive choices. We've seen broadband wireless in particular go down to its lowest. But I do wanna mention right when the ACP was out, we also saw the private sector respond to ensuring that those prices stayed down because that subsidy provided an offset for people who did think that extra \$20 was, just a little bit too much. I think, NTIA has such a great opportunity to research this stuff. I started in this space. The first place I went to was NTIA's reports that Larry Irvin started in terms of how people were using the internet. And I think we have that gap, right? So maybe one of the areas is to think about how does NTIA use some of these sources to come back to its bread and butter, letting people know what are people really thinking about when it comes to broadband and screen time maybe.

Just thought I would mention that. I do wanna ask one more question. I think I got time of one more question. 'cause we didn't talk about this either was security. And resilience. I know, right? So, before we leave, what is your take? The question is how are you thinking about resiliency when it comes to security, cyber threats and the whole nine as we build out more of these networks?

ROTH: Yeah it's a very challenging question like that. I think that the number, our number one priority should be promoting American technology leadership. The internet is inter, is interconnected. We wanna ensure we have strong network operators. We definitely saw a lot of scary we are definitely very aware of the, what happens when our networks get infiltrated by bad actors? We saw that in Salt Typhoon. And so, I think just, I think ensuring that we lead the world on next generation technologies, whether it's satellite communications or six G networks, is really critical. And ensuring we have the right regulatory conditions in place, permitting spectrum, conditions in place are going to be key to ensuring that we also have secure networks.

LEE: Perfect. Ladies and gentlemen, let's give a round of applause to the Honorable Area Rock. Thank you. I appreciate the conversation. For those of you that are here today, please continue to follow our work at the Center for Technology Innovation. Subscribe if you've not already to, to the Tech Tank Newsletter. And the Tech Tank podcast, which actually allows us to take these complicated issues and make them a little bit more simpler for you to translate. We have an event coming up on a webinar next week on our data center work. So just a quick plug we just put out myself, Darryl and I, Wes and I a paper on community benefits agreements when it comes to data centers. And next week it will be online, so you don't have to come in person, but you can log on. Thank you so much and thank you again. Thank you.