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INCLUDING BROADBAND IN TRUMP'S
INFRASTRUCTURE PLAN:
OPPORTUNITIES AND CHALLENGES

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PARTICIPANTS:

Keynote Address:

THE HONORABLE MARSHA BLACKBURN (R-TN)
Chairperson, Subcommittee on Communications and Technology
House Energy and Commerce Committee
U.S. House of Representatives

Panel:

NICOL TUNRER-LEE, Moderator
Fellow, Center for Technology Innovation
The Brookings Institution

JONATHAN ADELSTEIN
President and Chief Executive Officer
Wireless Infrastructure Association

RICK CIMERMAN
Vice President, External & State Affairs
NCTA -- The Internet & Television Association

BRAD GILLEN
Executive Vice President
CTIA - The Wireless Association

DAVID GOLDMAN
Chief Telecom Counsel
Office of Rep. Frank Pallone, Ranking Member,
House Energy and Commerce Committee

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ANDERSON COURT REPORTING
706 Duke Street, Suite 100
Alexandria, VA 22314
Phone (703) 519-7180 Fax (703) 519-7190

P R O C E E D I N G S

MS. TURNER-LEE: Good afternoon, everybody.

Okay, so I'm just going to try it one more time. I know it's late in the afternoon, but I come from a Baptist church where we do call and response. Good afternoon, everybody.

AUDIENCE: Good afternoon.

MS. TURNER-LEE: Alright. Thank you all for coming on this late afternoon on a Monday here in not-so-steamy Washington, D.C. for our event that is focused on broadband and the president's infrastructure plan. We're looking forward to a very, very engaged conversation. We're joined by a very notable guest today.

My name is Nicol Turner-Lee. I'm a fellow in the Center for Technology Innovation and Governance Studies here at Brookings. And I'm just excited that we're actually having this conversation. Some people ask, do you want to have this conversation before the end of summer? And I said, I sure do, because perhaps we'll get a little bit of clarity of what this infrastructure plan may actually look like.

So we're really excited, actually, to have this conversation today. We will be joined by someone who I've dearly admired and looked at in terms of her activity on the House Energy and Commerce Committee, a committee that has just been near and dear to my heart being a person who is an avid technology follower. She is no stranger to this conversation, no stranger to the Hill. A small business woman, an author, a mother, a grandmother, a member of Congress, Representative Marsha Blackburn is here to actually provide us with remarks.

She began her elected service in 1998 as a Tennessee state senator. Her senate career was marked by her commitment to fiscal common sense and government accountability. She's become known to Tennesseans for holding budget schools, both in her district and across the state, identifying ways, proposing realistic spending cuts, and offering a solution for a state in a budget crunch.

She's often selected by her colleagues to lead the charge for common sense reform. In February 2010, she was selected to represent conservative views on healthcare reform at the president's Blair House summit. In 2012, she co-chaired the platform for the Republican convention. She served as a Republican whip every Congress, holds a seat on House Energy and Commerce -- I want a bio just like you, Representative -- and she is currently a ranking leader on the -- chairman on Communications

Technology on the House Energy and Commerce Committee.

So we're hoping to have this set up and I'll introduce our panelists afterwards, after she's done, where she will begin the conversation and it will be joined by three panelists that I will introduce by name as they approach the stage, and we'll talk about what this actually looks like. Ladies and gentlemen, let us welcome Congresswoman Marsha Blackburn to the stage. (Applause)

CONGRESSWOMAN BLACKBURN: Thanks, Nicol, and thank you to each of you for being here. Nicol and I were at a dinner one night; Yvette Clark and I were being honored for bipartisanship in working on some issues together. And with us being on Energy and Commerce, I think it's fair to say the conversation evolved much toward communications and technology and what we're going to do about meeting the needs that our nation has for broadband.

And I think it is fair to say that our president is pushing us towards a very aggressive agenda when it comes to infrastructure. And if you were to get in the car with me and drive through my 19 counties -- 10,000 square miles of my fabulous district in Tennessee -- you would see that 16 of the 19 counties are rural. And when I go into those meetings with the Chamber, with the Rotary Club, with different churches, with schools, the number one thing I hear about, the number one infrastructure issue is broadband.

When are we going to have access to high-speed Internet? And the reason it is so acute is that you can't reach a lot of the other goals and hopes and dreams and aspirations that communities have and that families have without it. And it's kind of that balance that we hit with a high tech need and it allows us to have more engagement or high touch in our lives. And that is what our communities are looking for.

When you're talking with mayors in our district or county commissioners or chamber chairman, they will say, well, we thought we had -- we thought we had -- someone who was coming here with a factory or with a call center, but we did not have access to high-speed Internet.

You will also hear your nurses and doctors over at the hospital talk about not being able to triage many times because they don't have access to healthcare informatics, telemedicine concepts, things that they feel like they need. And whether it is a high school student or an elementary teacher or someone who has left the workforce and is going through a jobs retraining program, they will talk about

wanting to stream classes and having that access.

I was a few weeks ago in a community in my district and made some remarks. And at the end of it, a lady came up to me and she said thank you for talking about broadband and about that importance. And I said, well, thank you for listening and paying attention. And she said, I have to tell you, she said, this is my daughter, she's in high school and I'm going back and doing some training because I want to be a nurse, an LPN. And in order to do that I have to stream some classes and this particular week it had taken her 4 hours to stream a 45-minute lecture. Now think about that, 4 hours to stream a 45-minute lecture.

In some of my counties we still have children and parents, the kids come home from school, the parents come home from work, they have dinner and then everybody loads back in the minivan and they drive into town to the parking lot of the McDonald's or the library or the hospital so that they can get access to wireless and the kids can do their homework.

Now, this causes an opportunity gap and in order to close that opportunity gap it is going to require access to high-speed Internet. And that's why you're going to see this administration so very committed to this. And The New York Times today had a comment that I think is really a little bit baffling. They said that infrastructure is fast becoming an afterthought. And I thought, are you kidding me? Not at all.

This is at the top of the heap. This is a president who is a builder and he understands job growth and he knows full well you're not going to achieve that if you don't have access to high-speed Internet. And I will tell you, also, his cabinet understands this. Secretary Ross, as they look at bringing back manufacturing, think about the needs for high-speed Internet when you're talking about critical infrastructure and the protections that are going to be necessary there, the delivery systems that are necessary there. Health, as we've mentioned, keeping these doors open at rural hospitals, it is an imperative. Agriculture, with modern day farming, whether it's planting, planning, irrigation, or harvesting utilization of high-speed Internet, getting things ready to go to market.

Following those reports last week, RFD-TV -- that does "Morning Watch," which is kind of like the Bloomberg for the ag industry -- they're headquartered right there in my district. I ran over and did "Morning Watch" with them. You have a lot of small farmers that look at it as big business in their life.

And then, of course, you have educational opportunity. So, meeting the imperatives are there not only for the president, but for his cabinet, because they know that this is what is going to drive jobs. It is going to drive the access to better healthcare, and it's going to drive educational opportunity for all of our children and grandchildren.

A couple of different things that are going to weigh on the overall issue, that we're going to merge up and look at how we do this efficiently, is how do you get barriers and red tape out of the way? This means, how do you simplify siting, permitting? How do you make it easier for companies to want to participate?

And then second is new dollars, investment. Where are they going to come from and where are they going to be going to? There was a DeLoitte analysis and I thought this was instructive. As you look at barriers, red tape, and funds, and then getting to what we want, which is an optimum utilization of spectrum that allows for broadband expansion. A DeLoitte analysis said that the U.S. requires an investment of 130- to \$150 billion in fiber infrastructure over the next 5 to 7 years in order to meet its needs.

So that's a pretty hefty price tag and it means that you're going have to look at public-private partnerships and you're going to need to look at local and state partnerships and then coming in to the federal government. As you look at this investment, you also need to think in terms of wireless fiber and 5G, and what that is going to mean.

And as we write a broadband bill, the infrastructure bill, our focus is going to be on technology neutral because we don't care if it is going to wireline or fiber or fixed wireless or satellite, whatever. What we care is that you get the job done. And we also know that it's going to be important to look at leverage for the dollars that get invested. And as you look at public-private partnerships, as you look at local and state partnerships, then you come to the federal government to finish that money out and seek those grants.

We fully realize that we have some work to do and we are currently moving forward with that. We've already had a hearing where we looked at mapping and some of the necessary items that need to be attended to in order to really set the right foundation for this to take place. I don't know about you, I think the FCC's 477 maps need a good scrubbing and need to be looked at.

If you were to look at the map for Tennessee's 7th Congressional District it would lead you to believe that 93 percent of the district has access to broadband Internet, and I will tell you that is not so. And our states, many times, have done a much better job for their mapping and know where the needs are, so we're going to have a little bit of a revisit on that.

I think there's also probably some good healthy conversation that needs to take place on what the speeds are. Do we need 15 down, 3 up? Do we need 25 down, 3 up? What should the speed be? And as you move into your panel discussion, you all will have the opportunity to dive a little deeper on those issues because that's going to be an important part of the conversation.

Now, as we look at the funding, rural America, the unserved areas, is going to be the first focus. And there will be an emphasis on areas that are unserved. I spend a good bit of time on my weekends at farmers' markets and this past weekend I was talking with a family and they told me exactly where they lived and they work. Farmers doing the markets are a big part of their business model and they said this is where we live and there's access to fiber that ends over here, and then there's wireline and it ends over here, and we live right in here. And they're still on dial-up. They are still on dial-up.

So think about that. They have four children that are all in elementary school and they're running a small agribusiness, all from their home and their own dial-up. So they're one of these families that get in the car and drive so that they can get a wireless signal.

Regulatory burden is something that we're going to be reviewing. As you all know, the FCC is reviewing, too. What I have heard time and again from it doesn't matter if it's ILECs, CLECs, voice-video data, or whomever is providing the service, they all want certainty. And they would like for us to put some things in statute when it comes to net neutrality and dealing with some other issues, so that it's not left to the rules of the FCC or the preferences of a commissioner.

I will tell you, I do think that reclassifying broadband into Title II, which is a doorway to rate regulation and other components, has not been helpful. And I will remind you that in 2015 we had encouraged our colleagues to work with us in a bipartisan way so that we could put some things in statute and draw some bright lines on issues that would have prohibited the need or, as the commission thought, it was a need to move to Title II. So you can expect us to do a revisit on some of those issues.

Chairman Welden and I fully hope this is not a one-sided conversation. We hope that

this is going to be a bipartisan conversation, bipartisan legislation, as we move forward on these technology issues. I will just highlight with you that we do have an FCC oversight hearing tomorrow. As many of you are aware, the first FCC oversight hearing was scheduled back in March, but it happened to be scheduled on a day that the chairman needed us at the last minute to give him that day. And we marked up a healthcare bill, the AHCA markup, so we lost that hearing. This has been the first chance we've had to get everybody back together and we will do the hearing tomorrow.

We will also look at our FCC reauthorization bill during the course of that hearing. I encourage you to stay in touch with me. You all know where to find me on Facebook, Twitter. Chuck Flint, who leads our work on tech policy, is here with me today. You can easily find him, also. Robin Colwell is there at the committee and leads our team at the subcommittee staff.

We have other issues in addition to broadband, all of which are going to have an impact. As I said, net neutrality we'll be covering this year. We're diving into some other things, also, and you can expect legislation coming forward as we come back in September. Next year: 911, and those efforts are being led by Susan Brooks; media ownership, Billy Long is leading the work we're doing there; encryption, which Leonard Lance and Mimi Walters are leading that work; privacy is being led by Bill Flores and Pete Olsen. And, as I said, tomorrow we'll look at the FCC reauthorization and, shortly after, we will look at the NTIA reauthorization.

I am so thrilled to join you, Nicol. Thanks for the invitation to be here. I thank you all. You're going to have a great panel and we will look forward to hearing some of your thoughts that come from that panel, and be in touch and let's make certain that we can expand broadband and get America back to work, healthy, and kids having access to education. Thanks. (Applause)

MS. TURNER-LEE: All right, thank you. So now we're going to go into the commentary side of this, which is to have panelists talk through what they heard and then we'll ask some other questions of them. So let me introduce them in the order that they will be sitting. Let me put my glasses on for that.

Let me first introduce Jonathan Adelstein, who's the president and CEO of the Wireless Infrastructure Association, and a former commissioner at the FCC. And I'll reserve my personal stories for each and every one of you, so that it doesn't land up on Twitter or Facebook. Come on up, Jonathan,

you're going to sit next to me.

MR. ADELSTEIN: (Inaudible; off mic)

MS. TURNER-LEE: Yeah, exactly, I'll keep you in line. Next to Jonathan is -- actually, go all the way down to that, you've got to follow directions. Go on down one more -- two more. Okay. (Laughter) I'll tell you -- one more over. All my stuff is right there, okay.

MR. ADELSTEIN: At least you got (inaudible; off mic).

MS. TURNER-LEE: No, I'm sitting over there. Okay, Rick Cimerman -- now you have to follow directions, you're going to get next to him, okay -- vice president of External State Affairs for NCTA -- The Internet and Television Association, is joining us. And I have a history with him, but I'll reserve my thoughts.

Brad Gillen, who is executive vice president of CTIA -- The Wireless Association, and, Brad, I'm going to keep it going, I won't say nothing about you, either.

And then last but not least, my friend here, David Goldman, who is chief telecom counsel at the office of Congressman Frank Pallone, who is ranking member over the House E&C committee. Let's give them all a round of applause. (Applause)

Okay, as my team already knows that I have a pretty big mouth, so I'm going to sit here so we can have a nice conversation together. So let's talk about what we actually heard from the representative when it came to her thoughts on the infrastructure plan. I'd like for all of you to just give us a couple of minutes of commentary, reaction on -- what did we hear? What did we hear?

David, I'm going to start with you and we'll go down, and then I have a set of questions for you, but just your general reaction to the congresswoman?

MR. GOLDMAN: Well, first, thank you for having me. I appreciate it. This is great. So I'm just going too quickly -- I wrote down what I heard as kind of what the plans were. Let me know if I'm missing anything.

I heard that we have to talk about funding, streamline siting, that things are going to be tech neutral, we should be looking at public-private partnership, mapping -- thinking about mapping, we should have conversations about speeds and we should be looking at unserved areas first. I think that's what's going through all of that. And maybe I missed something, but going through all of that that I was

listening and thinking there's a lot there that we can have conversations about and a lot that we agree with.

And then we got to regulatory burden and net neutrality -- (Laughter) -- and I'm not sure we're in exactly the same place on all of that. There was a screeching halt at that point.

But at least on that first part, when we're talking about the infrastructure pieces, I think that a lot of what Chairman Blackburn was saying, I think a lot of our members agree with and have done some work on this already. And we can talk about it more as we move on, but we have a number of bills that address a lot of these issues. We have bills that address the funding issues. We actually worked on a bipartisan bill the last Congress on some of the siting issues, especially with federal lands.

Tech neutrality, our work that we've been doing so far, we want to make sure we have speeds that are adequate and we don't created two tiers of Internet, but we're definitely focused on making sure that we're tech neutral. So, what I heard is that there's a lot of places that we can start sitting down and working on it. Like I said, our members have put out a number of bills with their approach and what they're thinking about this, so we're looking forward to getting some engagement from the Republican side and starting to move forward on that.

MS. TURNER-LEE: Yeah, David, I'll pick up on a few -- I'll pick up on some of those bills and what they might be.

Brad, a general reaction to the congresswoman's remarks?

MR. GILLEN: Thank you, Nicol, thanks for having us.

MS. TURNER-LEE: Yeah.

MR. GILLEN: I think, taking a step back, one of the most important things is we're having this session. A year ago, when we started talking about infrastructure reform in this country, it was about roads and bridges and tunnels. And now it's assumed that broadband is part of that and that's really a testament to Chairman Blackburn, to David, and the Democrats, as well, in a bipartisan fashion saying, if we're going to lead the world going forward, that broadband has to be central to that conversation. And that wasn't where we were a year ago.

So I think the fact that we're talking about what different components that we have here is great progress. In our mind it really is two challenges that have two separate sets of solutions. The first,

as Chairman Blackburn talked about, her 16 to 19 rural counties and those Americans without access. We're very proud of the wireless industry. We just spent \$300 billion over the last 12 years to reach 99.6 percent of Americans. That's the people, not the country.

And that we definitely want to work with Congress and the administration on how do you get every American, and how do you close that digital divide which does require, in most instances, government funding. These are uneconomic areas that we need help to serve and that's certainly a key component of this.

The other part of that that Chairman Blackburn talked about was the regulatory red tape and what we're really looking for there is we're ready to spend hundreds of billions of dollars on the next generation of wireless over the next decade -- 5G, which we'll talk about more this afternoon, but it really goes to we're going to build new networks. They're going to be fundamentally different in how they operate and that's going to require a whole new set of infrastructure.

They essentially looked at it and this really translates to \$275 billion will be invested by the wireless industry -- not asking for any government money there -- to build a whole new infrastructure on top of our world-leading 4G infrastructure, and that is going to create \$500 billion added to the economy. Three million new jobs. About 10 percent of those, Jonathan, companies helped build the actual infrastructure and the construction jobs, But then as the chairman addressed, it's going to touch every part of our community: agriculture, education, health, automotive, and it really will be transformative.

And it's very important that we get the rules in place to allow us to start deploying today because we're in a global race. Everyone sees what 4G wireless does for everyone in this room. The apps economy happened here, why? Because we had the best wireless industry. And Japan, Korea, the European Union, and China all want to take that for 5G, and the biggest thing the government can do to make sure we keep that lead is to allow us to have streamlined and modernized siting built for tomorrow's networks, and let us get started building.

MS. TURNER-LEE: Rick?

MR. CIMERMAN: Thanks, Nicol. I, too, appreciate the opportunity to be here today. So we heard much to agree with from Representative Blackburn and I brought a hundred copies of

something called *Delivering Broadband to All Americans*. I see some of you have it there in the audience. It looks like I didn't bring enough to go around, so feel free to contact me afterwards for a copy of that.

But in there, there are six principles, if you will, and I think that Congresswoman Blackburn touched on at least four of them. One is do a better job of mapping.

Two is prioritize unserved over underserved or served areas. When I first walked in the Green Room, so to speak, my friend Jonathan Adelstein said, I know what you're going to say. You guys spent years beating me up at RUS about unserved versus underserved. (Laughter) And that's true and I'm going to talk more about it later because it's vitally important to hit those that have nothing first.

But also she talked about technology neutrality. So we're all here, obviously, to talk about broadband and getting broadband out to those that don't have it, to rural areas, but we shouldn't forget as we do that -- and Brad talked a little bit about this -- that broadband in America is largely a success story. So congresswoman's 16 of 19 counties -- you know, the FCC may not have it right that it is 93 percent served, but across America, cable alone is serving 85+ percent with high speeds, 25 and 100 megabytes or better, all driven through private investment.

So although Brad expressed pleasure that broadband is now part of the conversation, and we do, too, we have to keep in our minds a distinction between the literally crumbling infrastructure -- dams falling down, bridges falling down, roads filled with potholes, et cetera -- that the American Society of Civil Engineers estimates has a \$4.6 trillion unmet need. And those are infrastructure programs that are traditionally government funded.

We have to distinguish between that and the largely private sector invested and built broadband networks. Now, having said that, since 2009, with BTOP and BIP and the FCC's Universal Service programs, the government has spent about \$34 billion. We don't think that it has been all that effective because it hasn't been targeted at unserved versus underserved areas, so there is a role for government. But we should be clear that at the end of the day this is largely going to be driven by the private sector because the government in an era of limited resources just doesn't have the money to go out and build what's necessary.

And if we harken back to the National Broadband Plan from 2010, it estimated at the time that to serve the last 7 million -- this was at a time to get them to 4 megabytes, so obviously we're way

beyond that in terms of what we want -- that it would cost \$24 billion, but that to serve the last 250,000 out of that \$24 billion, it would cost \$14 billion. So that was 4 percent of what was defined as the problem, 4 percent of the 7 million. But that's one-third of 1 percent of the total.

So to get those last 250,000 people, \$14 billion, which is why one of our other principles is, we have to rely on alternative technologies in some case, whether it's satellite, fixed wireless, whatever it is, it's not just fiber and wireline to every home in America. So I will pause there and then we'll come back more about unserved.

MS. TURNER-LEE: Yeah, and Jonathan, I want you to react, but I want -- just for the clarification of the audience -- to just distinguish between unserved and underserved, okay? So people can understand when you throw those terms around.

MR. ADELSTEIN: Sure. Well, thanks for having me called and thanks for having me put right next to you. I finally found where to go. (Laughter)

And I think we found a good speaker today in Chairman Blackburn, she really I think nailed it in terms of how to get this done, which is bipartisan, focused of jobs, focused on expanding broadband to rural America, and for all of the country to make sure that the siting rules are where they need to be. As Brad said, we work very closely with Brad and CTIA to try to get those rules changed. In every state in the country we're working on state legislative campaigns. CTIA has been a wonderful partner out there as we've gotten 11 states to pass laws in the last year, and another state about to go.

And we also need federal help. I mean, the fact is that this is interstate commerce, you know? This is squarely within the Commerce Committee's role to find a way to move the ball forward on investment. As my colleagues have said, we're prepared to invest, but if you throw roadblocks in front of it, it makes it more difficult. And the reason this is special is because it is broadband. I don't think if it was strip malls we were talking about, we'd have a full room here, in terms of getting them zoned, but broadband has what here at Brookings we call "externalities," where you have many economists. The benefits of broadband accrue to society to a much greater extent than just the benefits that accrue to those who provide it themselves. So you get the educational benefits that Congresswoman Blackburn talked about.

You get the healthcare benefits that are so essential and it transforms rural economies,

as I learned at RUS. So we really have an opportunity here to do something great and her emphasis on bipartisanship makes it more likely we'll get it done. I was glad to hear that she didn't agree with the *New York Times* article. I woke up yesterday and read "Afterthought." It wasn't very encouraging, but in the end if you read the article, it wasn't as bad as the headline because there's a lot of support in Congress and the administration.

On both sides in Congress, as we heard this morning from David Goldman that folks want to get this done. And the committees in Congress aren't just talking about it, they're working on it. David talked about bills they're working on, bills that are happening on both sides of the aisle, in both houses of Congress. So this is very actively under consideration. The White House is working on legislative language, as well, that includes broadband, so we have come a long way in saying that this is something that we're going to get done.

For our industry, I think the streamlining is much more important than the dollars. And I think the dollars do need be focused on areas where it's otherwise uneconomical. And you mentioned unserved versus underserved, it's a tricky kind of distinction to make because it's not as simple, as I learned in doing this, to define where unserved begins and underserved ends because the edges are very fuzzy. And we could go on and probably spend the whole hour about the debate about how that gets done. It's hard to make something economical if it's unserved, that's why they're unserved, because there's not a market for it.

And it's not just the market for getting it built, but then you have to have the op ex covered, which the operating expenses sometimes aren't even economical, but if you give somebody free broadband, there's nobody there to run it and make sure that it is sustainable. So, generally speaking, Congress in 2009 permitted underserved areas to be covered in order to allow it to be economic and without that it would have been more difficult, actually, to get the resources out. But we could discuss that. That was my previous hat.

Right now, as far as the wireless infrastructure industry, we're prepared to deploy the capital, not necessarily looking for federal help there. But it's much more important that we get the streamlining done to make it possible for the capital investment to flow quickly, to not have resistance.

It's not just money that it costs, and time is more important in some ways. The delays are

costly and I think it's got to be a balance. We're not talking about any delays, it's just unreasonable delays. Let's come up with a way of getting this process done so that it's a win-win: the community get broadband, the industry is able to serve the consumers that are demanding it.

MS. TURNER-LEE: I want to go back to this theme that I keep hearing, which is bipartisanship and bills, right? So, David, I'm going to come back to you for just a minute because we heard from the chairwoman a lot of things about this should be bipartisanship, and let me just remind everybody, this is an infrastructure panel not a net neutrality panel today. (Laughter) So we can stay focused on the infrastructure side.

Can you just talk a little bit about what the Dems are actually doing when it comes to infrastructure that may lead us closer to being more bipartisan with this particular proposal?

MR. GOLDMAN: Yeah. Thank you very much. So, our members from the beginning of this Congress have been stressing three themes within the telecom world, but I think it probably expands beyond that, which is security, opportunity -- and that's where we are talking about jobs -- and connectivity, making sure that everyone in the country is connected.

Along those lines we've rolled out a number of bills in this Congress, but the one I think is the most appropriate to talk about right now is the Lift America Act that we put out. And this is a bill that Energy and Commerce Democrats put out across the entire committee, so it deals with healthcare that we have in our committee. It deals with energy, but also the biggest part in the first section of the bill is broadband. And we set aside \$40 billion to reach 98 percent. And that number is based off of FCC numbers that they put out and FCC predictions that it will cost about \$40 billion to get about 98 percent of the country.

Obviously, we want to get to 100, but I think we're starting there and the way that we allocated is that most of it gets allocated through a reverse auction mechanism. We do prioritize unserved. I actually think that virtually everything that you said for cable's priorities we probably hit. It's technology neutral. We acknowledge in rural areas we may not be able to get to the highest speeds. Most of the places we're trying to get to 100 megabytes, but we acknowledge that we're not going to be able to get there everywhere.

And then we take off a portion of it to also realize that not every state is going to have

unserved, but that every state does have infrastructure problems. And so we take a portion of it and we allocate it across the states to run their own reverse auctions, and that's when they can start looking at some of these underserved areas. They can also look at fixing things like school broadband, 911, Next Generation 911. So that's the Lift America Act.

But we really kind of have a suite of bills we've been pushing out that try to address these issues, but the truth is that broadband, it is a rural problem. It's also an urban problem, it's also a number of other issues that we need to be paying attention to and they all need to be looked at together. So I just wanted to quickly run through some of the other bills.

Congressman Loeb sack has a bill that does look specifically at the data and asks the FCC to improve its wireless data. This is something, and I think we heard Chairman Blackburn say it earlier, that this is something that -- I've worked both at the FCC and in Congress, this is an issue that the members of Congress know better than the people at the FCC, to be totally honest with you. They drive every corner of their district, they know every corner of it. They know what's served, they know what's not served. They know where they get dropped calls, they know when they go to a community center and everyone there says, we're not connected. And then when they're brought the FCC maps and it says, don't worry, it's all covered, they know that that's not serious.

So Congressman Loeb sack is pushing this bill. I don't want to get ahead of him. I know he's working to try to find a Republican co-sponsor to work with him on that. We're hopeful that that becomes a bipartisan bill and then we can start moving on that.

Congressman Ruiz has a bill where he actually looks at helping to subsidize tribal areas. Something that gets, I think, left out in these conversations a lot is, what are we going to do for tribes? They're horribly underserved. It's really not economic to get there and you really need to have some government intervention to help our.

Congressman Welch looks at schools. He's got a bill that addresses making sure that there's Wi-Fi in schools the way we need it.

Congressman Luhan is working on a bill that addresses public-private partnerships, and this one has not come out yet, but one of the things he's looking at is can we help cities, municipalities, and this addresses the urban issue. So can we help some of these places build out some of their own

fiber and then be able to partner with carriers, with the people who can run it? We're looking a lot at, what about these municipalities? They don't want to run their own systems. They want to find partners there, but it's not economic to go and start digging up the streets for the companies themselves. Can we help the city make it financially beneficial for everybody? So that's a bill that he's working on and we hope to get that out soon.

And last, I just want to plug another bill. It's not straight on broadband, but we just rolled out last week what we call the Viewer Protection Act that looks at making sure that there's enough funding for broadcast towers in the repack that's happening and from the incentive auction. You don't want to forget that communication takes a number of forms. There's wireline, there's wireless, but it also goes over the air on broadcast, so we're trying to pay attention to that, as well, at the same time trying to balance and making sure that the spectrum that came out of the incentive auction gets out to mobile carriers as fast as possible.

So those are the bills that we're working on. I think that's it.

MS. TURNER-LEE: Yeah. No, these are great, David. These are all on public record or they're being percolated or --

MR. ADELSTEIN: The Luhan bill is coming soon --

MS. TURNER-LEE: Okay.

MR. ADELSTEIN: -- but the rest of them, they're all out. They've all been introduced.

MS. TURNER-LEE: Okay, so what I want to do next is tease out, I want to get to the money part, right, but I would like to tease out this urban-rural dynamic that appears in the infrastructure plan, right? And so there's been a lot of discussion where people talk about the infrastructure proposals, that most of the money will go into rural -- or most of the incentive will go into rural, et cetera.

I'd like to hear from the varying industries what that looks like. Should it be one or the other? An urban play or a rural play, a combination of both? How do you see what the chairwoman was laying out affecting -- I mean, she's obviously Tennessee, right, but affecting all of the infrastructure needs that actually exist across the country?

Brad, do you want to start?

MR. GILLEN: Sure. I think it has to be all of the above. And I think there's definitely the

underserved areas, and a lot of what David touched on is those communities where we're going to need government's help to get there and we can have a conversation about how to do that, but our macro right now is focusing on how do we upgrade our networks throughout the country, rural, urban, and suburban. And what does that look like?

If you think about it, we've had a set of government rules at every level of government -- federal, state, local, FCC -- to build a community of 200-foot towers you see along the highway. And we lead the world in that and now we're looking to towers smaller than this. And when you start talking about small cells and what we're going to need to do, the rules aren't designed for that at any level of government. And so that's what we're looking to do, is to have rules that actually promote the kind of deployments we want to make to lead the world. And that is something, as Nicol alluded to, it's got to be everywhere. This has got to be the town squares of everywhere, Manhattan, Kansas, and Manhattan, New York. And that goes to access.

If you think about where these things are going to go, access is key. It's going to be on streetlights, it's going to be on telephone poles. This is much more discreet technology. It's about timing.

What is the process to do this? It's one thing to have layers of regulation and requirements for a 250-foot tower in your community. If you're putting up hundreds of thousands of these it's a very different process and we need the certainty to know that we can build and that we get an up or down answer.

And the rest goes to cost. Does the cost reflect the technology and does it reflect the discreetness of what we're trying to build? So, in terms for us to be able to get to every pocket of the country, really the focus for us is on that streamlining process.

MS. TURNER-LEE: Hey, Jonathan, I'm going to go to you and then I'm going to go to Rick, since you guys are sort of in the same industry or work, obviously.

MR. ADELSTEIN: Right.

MS. TURNER-LEE: Same approach in terms of small cell deployment, what are you looking at?

MR. ADELSTEIN: Well, yeah, Brad's right about -- maybe to step back and look at the network architecture that he's referring to is 5G's densification. So we have limited amount of spectrum.

We're trying to get more spectrum out of the government, but it's like you only get so much blood out of a turnip, and it's been too slow, too little, and not enough is lined up, as CTIA has pointed out very clearly.

So what's really done a lion's share of the work in the past and what is going to in the future to provide the data throughput that's necessary for wireless is raw strength of more infrastructure, just building more of it. And that involves -- densification means putting more and more sites closer and closer to the end user. That means towers themselves get filled up because carriers are going on towers that might be on them. It might be that AT&T is on one and now T-Mobile is going to add itself to that one. So they're getting filled up.

And in rural areas towers tend to be much more cost-effective; small cells tend to be more expensive. The little ones that he talked about is not necessarily cost-effective in a rural area. Generally speaking, small cells fill in the network for capacity issues. What's happened is, the towers aren't going away. They're going to remain there to provide the umbrella coverage, but there's so much demand for data, which is predicted to go up another 600 percent over the next 5 years, that they're falling short of keeping up with the demand for data, particularly if you have kids. Do you see how much video they watch? It's just sucking up enormous amounts of bandwidth.

So, to keep up with that, industry is investing particularly in urban areas, and suburban, to begin with in densifying with small cells as well as putting more equipment on the towers. In rural areas it's not necessarily cost-effective to do that because it's generally more expensive per megabyte than a tower would be.

So the interesting issue here is that regulatory relief, I think, probably will do more good in urban/suburban than in rural where in rural we're just starving for investment. It's more of an economic issue than a permitting, though there are permitting issues in many rural areas, particularly some of the higher end areas where the NIMBYs are strong and they say, don't put that tower in my beautiful \$3 million estate's back yard. And, of course that's always a handful of NIMBYs, just as everywhere else. It's not the majority of people. And the rest of them complain that they can't get the service they need, but the capital will end up going somewhere else if folks are throwing up barriers.

So, in rural areas, if they throw up barriers, forget about it, it's game over. So you have to assume that you have good regulatory treatment in rural areas or they're not going to get the investment.

In urban areas it tends to be the same thing to some extent. If they throw up barriers, then the capital tends to flow somewhere else, depending on how dense it is. So the areas that complain the most end up hurting their citizens the most profoundly and denying their own citizens the access to the healthcare and the educational benefits that Marsha Blackburn talked about.

If I had to guess why Chairman Blackburn and Ranking Member Pallone, on a bipartisan basis, we're hearing so much agreement, and what I heard really today was an agreement on the big issues about the need for getting this job done. It's really encouraging, I think, that there's a recognition that broadband is something of a national treasure. That we have to get it out, it's important to the entire nation that everybody have access to this. And so creating a certainty that we've talked about in regulatory streamlining is crucial to getting it done.

MS. TURNER-LEE: So, Rick, what about you in terms of urban/rural and the cable industry's perspective? And then I want to go into a conversation about money.

MR. CIMERMAN: Sure. So let me just start by saying that I certainly agree with what Brad and Jonathan have said, but that I just want to make an overarching point that we can't forget, which is that wireless is only the last few feet, if you will, few hundred feet, whatever, of broadband. Everything else goes through the wired network. It comes in through the tower, it goes in through the pole. There might be some microwave or something, but your wireless is really built on wireline. And, therefore, when we're talking about streamlining and removing barriers to deployment, we can't forget the wireline side of it.

My friends on either side of me have done a fantastic job in the Congress and in the states pitching their message, and maybe we haven't done that good a job, but also we haven't been looking for as much relief. We do have some specific proposals that we can get into on what Congress should do with respect to removing barriers to deployment on the wireline side, but we can't forget that.

And I have to say one thing that might disturb Brad more than Jonathan, I don't know -- unlicensed. Now, CTIA supports unlicensed, too, but unlicensed spectrum -- when we think about unlicensed, think about Wi-Fi, okay? So here's a couple of stats. All data out there today, 52 percent is carried over wireline networks from the endpoint. That means 48 percent is over wireless. Well, of that -- this is for data -- 45 percent of the total total, meaning over 90 percent, is carried over Wi-Fi and only 3

percent of the larger data question goes over licensed mobile spectrum.

So over 90 percent of all wireless data goes over Wi-Fi. So just think about that in your home. The average home has 11 or more Wi-Fi-connected devices. You might have one device plugged in, you know, the one desktop computer or something that's plugged into the cable modem or the Verizon product or whatever it is. But every other device -- I have three kids, the oldest of which is 12 -- I'm not going to go through -- sometimes I do a slide of all of the devices. We're over 22 connected devices in the home between the game consoles, the iPods, the other things. And, you know, I'm just the average American consumer here, it's not like we have crazy, spoiled kids. (Laughter)

So the point is, Wi-Fi, we can't forget about unlicensed. But I want to come back to unserved for a moment and give an analogy which goes to the urban/rural question, and it's this. I assume that most or all of you have been to a wedding or been to a bar mitzvah or been to a conference where they're serving the meal as a buffet, right? So you can look at me and say that when it comes to buffets, I'm rarely underserved. (Laughter) So the point is, once I've gotten my plate and I've gone and eaten, I don't go back in the line until all of those little old ladies and all the kids and everyone else has gone through the line. Well, that's what it's like, unserved versus underserved.

Underserved has something already and the problem has been with our Universal Service Program, every time they raise the speeds, well, it's a lot easier to serve those people that are already served, so that's where the money goes. When they went from 4 to 10 that they're funding now, some people that already had something are getting more. And no one ever goes to the people that have nothing. Those are the people that haven't made it through the buffet line at all. And that's who we need to prioritize and get them something before we worry about giving the people like me, that have already eaten, a second plate and a bigger helping.

MS. TURNER-LEE: Well, let me go to the buffet analogy now. I'm going to just put it out as a disclaimer. I don't like buffets because I don't eat enough at the buffet to make it worth my while. But let me ask you about this whole investment piece, though, right? Because if we just stay on Rick's analogy with the buffet, we've got this distribution of wealth or distribution of assets or food that's hitting pretty much the ecosystem.

There is this assumption in the infrastructure plan that there will be some private

investment and the chairwoman said we need money. Where does it come from? Because obviously, the people who are eating little bits aren't getting the attention to actually go into the marketplace and invest. And that will obviously be an issue with the infrastructure plan.

MR. CIMERMAN: The unserved areas will need government money.

MS. TURNER-LEE: Okay.

MR. CIMERMAN: There's no question about it. And I think Jonathan made the point, they're not economic in the first place, that's why people haven't gone there. So we fully acknowledge that government money will be necessary in many of those, if not all of those, places.

MR. GILLEN: I can't resist the buffet analogy. Real quick --

MS. TURNER-LEE: I was going to say, we seem to have started something.

MR. GILLEN: -- and I'm speaking personally, not necessarily my job, but sometimes if you get a buffet, you see these little buffets at some Indian restaurant that hardly anybody goes through it and you wonder, how's that economic? How do you finance having all that wonderful food out there and only three people are coming through? And that's the problem with serving unserved only, is that we're going to get the basic infrastructure for the buffet, so that if everybody's sharing it, then the economics work a lot better. That's what I learned at RUS.

If you just have unserved only is where the money should be focused on, to the extent possible. But generally speaking, the way that broadband networks work is that they broaden networks. They go over a large area and they don't just serve one little area, and you can't get a business to set up to serve unserved only, so you end up funding a business that serves a broader area. Hopefully, you cover the unserved, but often there's going to be other areas that are underserved, or even served, as part of that. It's just not that neat.

And, otherwise, it's very hard if you're doing a subsidy to get solely unserved because then even it's hard to cover the outback. I think it's the right focus trying to get unserved dealt with, but how you do that is messy and that's why, I guess, maybe the restaurant business is tougher than wireless even.

MS. TURNER-LEE: David?

MR. GOLDMAN: A couple of points. First, you should have let the little old ladies ahead

of you in the buffet line. (Laughter) Seriously.

MR. CIMERMAN: They're not fast enough, what can I say?

MR. GOLDMAN: We've got a sick Costanza (phonetic) problem here. (Laughter)

Second, you make me do a lot of math, so 50 percent of broadband is 90 percent Wi-Fi? Is that -- I'm just kidding, I'm with you on that one.

One of the things to talk about that we thought about when we were putting together our infrastructure bill that has this \$40 billion is realizing that if we're going to do a big infrastructure package like this, this is different. We have a number of other subsidy programs that are out there, and they all have to work together.

This is something that we've been talking about on our side, is starting to think about how do we make sure that all of these different programs are coordinating with each other? Because it's not -- there's RUS, which is great, there's the Universal Service Program at the FCC, but there's a number of other ones throughout the government, the Department of Commerce and other places. How are we making sure that these all work together? Because if we do a big infrastructure plan that has money, that tries to reach out to these areas, that's going to be a one-time investment most likely.

And what we don't want to do is strand that investment. What we don't want to do is pay for fiber to be laid or towers to be built and because it's not economic to serve that area, which is stranding that infrastructure there. That's why we need to think about not only having this one-time infrastructure spend, but how do we think about using these other subsidy programs, like Universal Service, to keep those things going, to keep the operating expenses going on after that?

So I think one of the things to think about as we're doing this is that there's different pieces and they all have to fit together and we shouldn't be just doing complete shotgun approach on this of let's just do all of them without thinking about it and hope that it all works out for the best.

I think we have an opportunity now to plan ahead for if we do have a big infrastructure spend, what happens to the Universal Service Program after that? What happens to RUS? How are we using that? How are we maximizing those? And do we have someone in government who is in charge going forward to think about these different programs that are across these different agencies and how they all work together?

MS. TURNER-LEE: Yeah, and I want to pick up, Brad, I want to go to you just on this question. In a few minutes, if you have any questions, please start preparing them because we'll open it up and, obviously, Tweet #USBroadband so we can continue this conversation after this.

You know, there's been a lot of conversation -- I think David is right -- there's going to be this mix of subsidies. There's going to be this mix of private investment in some way; the industries that you all work in has already been putting millions and billions of dollars, actually, in infrastructure build. What about these regulatory incentives? If you were to do this pendulum of what's more important, is it the incentives that were discussed in terms of some regulatory compassion or is it the money, right? Or is it what Jonathan said, maybe the money, but in these areas?

So I'd like to get a sense, just in terms of the industry, where would you like to see these prioritize? Because, obviously, we want to get to bipartisan consensus on this.

MR. GILLEN: Sure, and I think for us it really -- I think the money is about the rural challenge. That's where the money goes if you're looking at how do we get next generation facilities out there. It is about removing the impediments. And I completely agree with you, we need more fiber. None of this happens without fiber and that we need to make sure to dig once the policies are in place, too.

And again, not a very fun panel, but I also agree we need more unlicensed, as well. But we need both. For us to lead the world in wireless going forward, every application is going to have to have its own solution. If your connected car has hundreds of sensors and HD cameras, what is the right technology mix to make that go? What kind of network are you going to need to do that? And we're going to need all of these things.

And in terms of the money, it truly is -- we're ready to spend, (inaudible) projects \$275 billion of our own money to get this right. And I know the cable industry expends billions of dollars every year, too, and so it really is, for us, how do you enable and unlock that private investment at every level of government to let us go build?

MS. TURNER-LEE: Rick, is it the same thing for the cable industry in terms of priority? Money, incentive, or something else?

MR. CIMERMAN: As a general matter, we are not looking for government money, so

streamlining would be a higher priority. Now, having said that, that doesn't mean that in terms of rural broadband that it's not important to spend money. Those uneconomic places where we're not really changing the incentives probably, and it may just be that the government has to fund those places, so that's fine.

But in terms of what we're looking for to either expand our footprint, to raise our speeds, to do things like that, that has more to do with the streamlining side of the equation. And I have been very remiss in not mentioning pole attachments because pole attachments are a huge impediment, pole attachment costs and fees and practices and procedures at all levels of getting more fiber and more deployment.

And I know that my colleagues also are working with pole owners in many places, that includes municipalities, co-ops, investor-owned utilities, but pole attachment reform is something that we'd like to see either at the FCC or in any infrastructure bill.

MS. TURNER-LEE: I've got to ask Jonathan to jump in here.

MR. ADELSTEIN: Yeah, I've got to agree with them. I think the industry as a whole is looking for regulatory relief to deal with the bulk of this. The thing you have to realize is that it's not as easy as it looks to build 5G networks. It's extremely expensive and the revenue is not necessarily going to cover the cost of a number of carriers and other players, perhaps even the cable industry, building out 5G networks. Consumers are getting a great deal. You've got prices dropping 13 percent in the last year and yet all of these unlimited plans are coming out. Consumers are using more and more data. So consumers are getting more for less, and who's left holding the bag, but really the industry that's doing these investments. To keep up with all of that, they're spending enormous amounts of money while the average revenue per user goes down, while margins get tighter, while prices go down.

At some point the government can't keep throwing roadblocks up in the way of that and expect that the demand of the consumers is going to get met, particularly in the area so important to the overall economy and healthcare, education, et cetera, is broadband. We've got to get some relief and some certainty about the rules in order to build out this whole new architecture that I talked about of densification.

That means making it easier to get on towers, too, and Congress has already done that

on a bipartisan basis. They enacted a law to make it easier to co-locate on an existing facility. And we've got to continue that progress and I think that's why we really look to the regulatory package as the most important part.

MS. TURNER-LEE: So I just have a quick question and it wasn't what I was going to pose to you all, but I do have a question as my portfolio handles digital inclusion. You know, at the end of the day the bigger question is, if rural is still going to be a problem today, even with this infrastructure plan, it still sounds like it's going to be a problem, right, in tribal communities?

How do we actually solve that? Will the infrastructure plan alone be something that could actually address the digital divide or is it going to have to be other things that are actually going to have to address the digital divide to be more conscious about closing it?

MR. CIMERMAN: So it's going to be other things. Let's think about just the plain old voice telephone, right?

MS. TURNER-LEE: Okay.

MR. CIMERMAN: Even today, we're at maybe 98 percent and we still have a percent or 2 of folks that don't have electricity. Now, maybe some people choose to live off the grid, but the point is that even after 60 years, however many years of trying to get phone service out to everyone, we haven't done it. So I think although it's an admirable goal of 100 percent for broadband, we also have to be realistic.

But having said that, let's harken back to the National Broadband Plan. And, Nicol, you and I have been working -- you much harder than I -- on adoption and digital inclusion for years. But in the National Broadband Plan, Blair Levin, the primary author, used to go around saying, look, we can work on the 7 percent problem -- that's what we've been talking about here today, the 7 percent that don't have broadband -- or we can work on the 30 percent problem, which is those people to whom broadband is available, but choose not to subscribe for any number of reasons. It might be digital literacy, it might be cost issues, it might be lack of equipment, whatever it is.

But we should also be realistic and say, all right, 7 percent problem, we're going to work on that quite a bit. We're going to throw money at it, we're going to do things, but there's this other, in some ways, bigger problem that really doesn't get all of the attention. And so it is going to take much

more than just the infrastructure plan to deal with closing the digital divide.

MS. TURNER-LEE: Yeah, I agree. I think it's something, as this conversation is actually going on, that we might think about some of those things because, if not, we talk about the same thing. I want to get to questions, but I do have one more burning question I do have to ask.

So we've talked about what could go into the proposal. I do have to ask this and I'm not going to say what industry I was talking to, but I was asked an interesting question when it came up to, well, you know, we do have all the private investment to do this stuff. Intelligent infrastructure, though; so I'm from New York City and I would like to know that the George Washington Bridge has some broadband in the center as I'm driving over it, that somebody is watching.

MR. GILLEN: That's when the bridge is open, right?

MS. TURNER-LEE: Right, when it's open. But I'm thinking, and I think many of us in this audience when we think about AI and we think about kinetic cars and we begin to think about sensors and the placement of sensors, et cetera, why is it that broadband is actually not integrated into the conversation of crumbling roads and bridges? Wouldn't it make sense to actually figure out how do you run a broadband connection alongside the bridge or alongside the dam or whatever the case may be so we can avert disasters? Is anybody working on anything like that?

MR. ADELSTEIN: Absolutely, I think there is a lot of effort right now to figure out what those partnerships look like. I see Donna out there working with Sacramento and doing a lot of new things to get both fiber out there, but also to get other services out there that you see other places, working in San Diego and others, where you're seeing streetlights that are part connected. That I think we really have to get to a place, if it has power, it needs connectivity, and that we need to give cities the tools to better manage their roads, to better manage their every other part of water, power, energy, that I definitely think those conversations are happening in earnest. And those really need to be partnerships.

And so when we go to cities to talk about how to deploy new networks, part of that is how can we help you run your city better by giving you access to more information, by giving your residents access to more information? But you're exactly right, if you're building a new road, if you're going to build new pipeline, if you're ripping up the streets, broadband connectivity with fiber, wireless, all of this, needs to be part of that for the city to benefit from where we need to go.

MR. GILLEN: Yeah, I think the idea of smart cities requires smart regulation. They're not going to get that kind of connectivity unless they basically roll out the red carpet and allow providers to come in and get it covered everywhere. You think about a connected car uses more data than all of Rick's kids and all of their 22 devices combined. One car driving down the road, a lot more data. It's remarkable how much data.

So to build that dense of a network is an enormous commitment of capital and if, along the way, you can't have a spot where somebody complained they don't want the antennae in their back yard, which happens to be near a street where there's a lot of traffic, and all of sudden you have a hole in the network. We've got to have this ubiquitous network and that's where the federal government is stepping in and Chairman Blackburn and the Democrats and the administration are all thinking about how are we going to make this -- if you're going to have smart devices, they really have to have that universal coverage, and very deep into the network.

MS. TURNER-LEE: David? Rick, okay.

MR. CIMERMAN: Well, now, I don't want to give him the opportunity to rebut me now.

(Laughter)

MR. GOLDMAN: Whatever Rick is going to say, he's wrong. (Laughter) That's my prebuttal.

So we've worked on a couple of things. So Congresswoman Eshoo from our committee has worked in a bipartisan way on a policy called Dig Once, which basically means when you're digging up the street, when you're building these other things, put the broadband conduit in when you're doing it then. So that way Rick's members can start laying their fiber. It's an easy thing to do and something we should be doing anyway.

It's something that we added into our Lift America Act. In our infrastructure bill that we did this year is maybe a new step on the Dig Once, which is as we're starting to lay these conduits, you should also be putting access points in because we're going to have smart cars, we're going to have smart infrastructure, we're building out these cities, but also on long highways we're going to want to be able to connect Jonathan's towers so Brad's guys can all get into it really quickly.

And what's bad now is a lot of times when we run this fiber along highways, the access

points will be 10 miles apart and it doesn't -- for that 10 miles in the middle, you have fiber there and you can't get into it. So do think about it ahead of time. When we're laying this fiber, let's start making it easy to start cutting into it so that way, as we're upgrading the other infrastructure and making everything smart, that we have an easy way in.

So I think there are things, again, that we can start thinking about now to start building out towards that.

MR. CIMERMAN: So I will agree with everything that David said. I just wanted to make my one net neutrality point that I heard from somewhere else, which is --

SPEAKER: (inaudible)

SPEAKER: No.

MR. CIMERMAN: No, it's -- okay, all right. Nope, you can't have smart cities with dumb pipes, all right? So I think that's a bumper sticker: "You can't have smart cities with dumb pipes." But having said that --

MR. ADELSTEIN: And I just closed up all of those conduits, just so you know.

(Laughter)

MS. TURNER-LEE: This panel is getting out of control. (Laughter)

MR. CIMERMAN: There is some work in Washington, the Bipartisan Something Center - - I'm forgetting the name -- has done a lot of work on infrastructure over the years, but specifically on these questions that you're raising. And they did something back in May with the U.S. Chamber infrastructure folks on that very topic.

MS. TURNER-LEE: Yeah, this is all a very interesting topic. I want to open it up for any questions that anyone may have. If you could raise your hand, I'll ask as you ask your questions so we can get all of you in before we close out the panel, just keep your comments short. As we get to the last few questions, I might ask you to both say your questions and then have the panelists respond. So stay alert.

Let's start with this gentleman right here.

MR. HURWITZ: I want to thank the panel for a very good presentation. My name is Elliot Hurwitz. I'm a former State Department official and an intelligence community person. Representative

Blackburn said that this administration is committed to infrastructure and she quoted the *New York Times* article as saying that infrastructure is becoming a backwater. I think infrastructure is becoming a backwater and I know the title of this is "Including Broadband in Trump's Infrastructure Program," but Trump's infrastructure program is the last thing on his list of priorities.

I mean, he's talking about immigration, he's talking about healthcare, he's talking about legal reforms, he's talking about immigration, he's talking about Russia, he's talking about all kinds of things. Infrastructure scarcely ever gets mentioned. Would anyone like to comment on that, please?

MS. TURNER-LEE: Don't all speak at once. (Laughter)

MR. GILLEN: Sure, I think we heard Chairman Blackburn say it's her priority, Commerce Secretary Ross' priority. I think this is really, what is the opportunity to move this issue forward? And the infrastructure package is certainly one of them, and a central one of them, but as we've alluded to, there's lots of other places that this conversation's happening -- at the FCC and localities and states -- to move this forward, and we're going to need all of those things.

So, from our perspective it really is anyone talking about how do we get more broadband out there, how do we streamline those processes, is an important conversation for us to be part of.

MR. CIMERMAN: One thing, it's clear looking at the title that we're talking about broadband in infrastructure and you've asked the question about, is the big thing moving --

MS. TURNER-LEE: Infrastructure, that's right.

MR. CIMERMAN: -- which is a great question and very unclear to a lot of different people. You read the *New York Times* article and you can see different perspectives on it, but one thing that we have gotten broad bipartisan agreement on within the administration, within the Democrats in Congress, as we heard today from David Goldman and Republicans, we heard from Chairman Blackburn, is that broadband is going to be included.

So if something moves, we're like a passenger on a ship and if something moves it's going to have broadband in it. It's going to have regulatory relief as a function of that and the shape of that is something that we're discussing right now.

And I've talked to the people at the White House, who were working on it today, so there is work going on on the details of broadband being included in the package. So we're subject to the big

movement of it. I hope it goes and if it does, I know we're going to be on the boat, so that's good.

MS. TURNER-LEE: Right, and here at Brookings we're nonpartisan and I would say, if he'd started with infrastructure, we might have a different headline today.

MR. CIMERMAN: Nicol, just to follow up. Just as I was remiss in not talking about pole attachments, I've been remiss really in not talking about the FCC --

MS. TURNER-LEE: Right.

MR. CIMERMAN: -- although that's not the subject of this panel. I mentioned them tangentially earlier, but we shouldn't forget that they have a huge role and there are things they can do without additional congressional authorization. And they have before them today -- first of all, they created the Broadband Appointment Advisory Committee --

MS. TURNER-LEE: Right.

MR. CIMERMAN: -- of which Jonathan is a part and we have various representatives on there. They have a wireline infrastructure proceeding, a wireless infrastructure proceeding, a petition before them, and I'm highly confident that they will do some things in this space that we have been talking about in terms of streamlining. They necessarily create more money.

MS. TURNER-LEE: Right.

MR. CIMERMAN: I suppose they could raise commercial service funds, but having said that, one of our points --

MS. TURNER-LEE: Right.

MR. CIMERMAN: -- I'm sorry, in our paper is the FCC should be quarterbacking these support programs.

MS. TURNER-LEE: Right.

MR. CIMERMAN: They should largely be the primary quarterback.

MS. TURNER-LEE: David?

MR. GOLDMAN: I just want to add, I get your point about the administration, but --

MS. TURNER-LEE: He's still answering your question, Elli.

MR. HURWITZ: No, I'm sorry.

MS. TURNER-LEE: We're trying. (Laughter)

MR. GOLDMAN: We could talk later, if you want. No, I was just going to say, just ultimately remember that this package, Congress is going to have to do the heavy lifting on this. So I'd say don't let Congress off the hook. Keep pressuring Congress to do this. This is why we have been putting these bills out here is because we want to be working on it, we want to be thinking about these issues.

The worst thing that can happen, the worst way for this to be done is at some point there's an announcement that we're doing an infrastructure bill and it's going to be done by the end of the month, and we throw something together that no one thought about. So I think now is the time to be doing the heavy lifting and trying to think about these issues, which is what we're trying to do. But regardless of what the president is saying, talk to your members of Congress and tell them that this is something they should be doing because ultimately that's who's going to be doing the work on it.

MS. TURNER-LEE: That's right. Second question, just to make sure we move along, over here. And if you can keep your question real brief, and panelists if you can keep your response real brief, we'll be able to get a couple more questions in. Go ahead.

MR. LOGAN: Hello. Thank you all for coming here and talking about this very important topic. My name is Gavin Logan and I am with the National Urban League. A lot of the stuff that you all have been talking about is incredibly important and right on point. One of the things that I did not hear mentioned and I was wondering if you have had a chance to think about is not just when we talk about diversity in terms of users, but also supply line diversity.

With any infrastructure in particular there are going to be a lot of contracting subcontractors. As you all mentioned, a lot of this is going to be driven by the private sector and one of things that we at the Urban League are concerned about, or hopeful of, is that there will be areas, opportunities, and diversity as well in the supply line, as well. Have you all had a chance to think about that? And if you could provide any off the cuff remarks, if you have any?

MR. ADELSTEIN: We've done a lot of work on that. As a matter of fact, the Wireless Infrastructure Association has pioneered the Diversity Summit at our annual show where we bring diverse suppliers together with the large companies -- AT&T and T-Mobile and Verizon and American Tower and Crown Castle, and SBL -- all these large communications putting out contracts to basically do

matchmaking to try and diversify that pipeline. And we've actually worked with NUL, as well, and MMTC on getting training out to a diverse population, make sure that people who are working on America's broadband networks look like those who are using them.

MS. TURNER-LEE: Anybody else? Next question was over here.

SPEAKER: Hey, thanks to you all for coming. This is a question for David, and then perhaps Jonathan being part of the BDAC, which is fun to say.

MR. ADELSTEIN: (inaudible off mic)

SPEAKER: Well, anyone who wants to address it. The congresswoman talked about Form 477 and we all have noted the bipartisan agreement around getting accurate data for informing coverage maps as they are now, or where coverage is? But what about -- can you speak to concerns about accountability for companies who receive public monies to then say, okay, well, we've delivered our payload, so to speak? Or we've made our deliverable on the back end, and if you can speak specifically to the Gigabyte Opportunity Act that the BDAC is working on codes to inform, that would be good, as well? Thank you.

MR. ADELSTEIN: I think that's a really important issue. So I guess that there was a couple of things in there. One of the things I know that the FCC's considering right now that we're watching is, there's the accuracy of the data, and it's also, how do you challenge it going forward to make sure that it's right? And I know that CTIA has proposals on how to do that. So that's one of the things we're watching closely, to make sure that that's done in a way that going forward we're making sure that the money is spent correctly and that going forward we're making sure the maps continue to be accurate.

So I think that's right. I also think on any of these infrastructure bills it's something -- and I don't know that there's a resolution on this yet, but one of the things that we've been talking a lot about is if we're going to spend all of this money, who's monitoring it? And how are we making sure that it's getting spent in the right way?

And I don't think it's just enough to kind of claw back what's left after you've misspent it, so it's one of the things we're looking very closely at that, making sure that whatever mechanisms that we use to spend the money has an accountability to it and has proper oversight.

There's been history in some of the programs at the FCC not to have that. And so we

don't want to recreate that, especially if we're going to put the amounts of money that we've been talking about putting in there. So I think there's a little bit of a stay tuned, but it's something that we're paying very close attention to.

MR. CIMERMAN: And I'm just going to jump in real quick on that point because we presciently had that in our paper that I just distributed. I mentioned that there were six points. Number six, you practically just read it, "Demand accountability in spending public monies to ensure that subsidies achieve their intended results." We've got a whole paragraph on it, a citation, too; Inspector General reports, several of them professing concern about the spending of money, but it's exactly one of our six key points. Demand accountability. And once again, I'm happy to hear David agree with me.

MS. TURNER-LEE: I'm going to end with one last question. John, we'll take you?

MR. PEHA: Hi, Jon Peha, Carnegie Mellon University. I've heard a number of times today to do unserved ahead of underserved. But we struggled in the BTOP and BIP days with defining unserved and underserved and often underserved means a census block or a city or a county where some people have great broadband and some households have nothing. And I'm wondering if they're going to get left behind, so to those who say unserved ahead of underserved, can you tell me exactly what you mean by unserved and underserved?

MR. ADELSTEIN: Well, one of the problems with BIP and BTOP is that they didn't do number one on our list, which is do the maps first. So there's problems with 477. Yes, it's problems with census blocks. There are many proposals. Chairman Blackburn held a hearing on mapping where she heard several different proposals to do a better job at the FCC and we've recommended, I think, giving more money to the FCC to refine their data.

We think it's pretty easy to tell who's unserved: the people who have nothing. Is there going to be some overlap? Yes. Our problem with BIP and BTOP, in particular, was the definition was if there's only 25 percent unserved, we had suggested 75 percent as the law. So we had vast areas of Kansas, for example, where there's an existing employee-owned provider where someone came in, they got either BIP or BTOP money -- I forget which -- they completely overbilled the existing provider and essentially did nothing for the unserved.

So is it a problem? Yes. But nonetheless, I think we can still prioritize those that haven't

made it through the buffet line at the beginning before giving other people something better.

MR. GILLEN: And it is tough to define having lived through that. I guess, going back in history, going to the 477, Rick brought back some old memories. I guess, maybe because I'm old, we should have done the maps first back in 2009. And Congress actually authorized the maps in the same bill that they authorized these programs and talked about unserved versus served. And what's interesting is that here we are eight years later saying the maps are still wrong.

So if we'd done what Rich had said and done the maps first, they still wouldn't be any good and we still would have had to go out there and do the kind of analysis we did on a granular basis. Each time that we looked at it we asked the provider to lay out exactly what was happening in the community. We tried to cross-reference that. We opened it up to the public to complain or say that there's inaccuracies in their analysis of what's served and unserved. So we had to go through a very granular process at the time.

What people forget is that at the time we had high unemployment, 10 percent. The economy was cratering and we were doing everything we could to get the money out as quickly as possible.

MS. TURNER-LEE: Right.

MR. GILLEN: So the idea of waiting for maps was not an option when we were trying to stimulate the economy, which we successfully did. What we're looking at now, we have a little bit more time and we ought to be thinking about getting it as accurate as we can and making sure that we do have as accurate of a count of where the service is and isn't before we commit the money, rather than having the kind of urgency that we did before.

Now, when unemployment is 5 points lower than it was at the time, when the economy is growing as opposed to contracting, and we're in a different environment. And these are long-term investments that are going to yield benefits for many years to come. And I certainly agree that we need to get the maps as accurate as we can first before committing federal resources.

MR. GOLDMAN: Just two real quick things. One of the things is, what Jonathan said is absolutely right and something that we've been thinking a lot about. BTOP is different than what we're trying to do now because BTOP was about spending money quickly on these issues as opposed to right

now we're actually trying to do it right in building the infrastructure and making sure we're doing that in the most efficient way.

And one of the things that we include in this, in our bill, in our proposal on how to do this is somewhat simultaneously, as you're allocating the money -- if people think that the money is being allocated to the wrong place because the data is wrong, that they should be able to challenge it on the spot. In some ways we can improve the maps as we're spending it; it doesn't all have to be completely sequential.

But a related problem that I think -- maybe we just have to have another panel on it, but we talked a lot about rural, but I think some of these infrastructure problems we forget is an urban problem, as well. And this is something I hear from my members. A lot of my members are from very urban districts and they talk about that in very urban districts -- I'm talking New York City, like the middle of New York City -- they still can't get access to high-speed broadband. And there's the affordability problem, but there's also just the access. And there's areas that because of the economy of the certain blocks that we're talking about, they just weren't served, and I think that's something that I think we can't forget to focus on and we shouldn't forget to talk about.

I think 5G might be and the fixed wireless might be a way to help with a lot of that. That might be something that can help change the economics of those areas. But I really think it's something that we haven't talked as much, but I really don't think we should forget about, either.

MS. TURNER-LEE: So I'm going to end this unless you, Brad, you have 10 seconds -- okay? Make sure, everybody, that I'm an equal opportunity panelist person. I want to end this just by saying something. First of all, thanks to the panelists for coming out. Let's give them a big round of applause. (Applause) They behaved to the best of their ability, and we found out Rick Cimerman's eating preferences, so that's something that we did find out.

MR. CIMERMAN: Don't get in my way at a buffet.

MS. TURNER-LEE: I sure won't. And I also just wanted to leave with one note. Here at the Center for Technology Innovation we are appreciative of your efforts to come join us today. Keep following us and the work that we're doing. This is one of several conversations that we hope to have on this issue.

And I'd like to just leave with Jonathan's comment about waiting is no longer an option. I would say waiting for broadband is no longer an option. And so the quicker that we can accelerate this infrastructure plan with all of these great ideas and make it bipartisan, the faster that we'll be able to make sure that everybody is connected.

Thank you very much, everybody, and have a good rest of the day. (Applause)

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