

MR. VILLANO

My name is David Villano at U.S.A. it's really great to be out here in the field and to be with all of you to get input into the deployment of the recovery act. I just want to recognize that in the audience we have KA TASH A from the Governor's office Governor Jan BURZ office, and she just stood up here. And it's nice to have you attend the meeting. It was very nice to have the mayor. I thought I was getting out of Washington to get away from politicians. It must be that seven billion dollars. But one of the things that I heard from the public before was a lot of questions. And there's a commercial out there, you've got questions, we've got answers. We don't have the answers in Washington. That's what we're here for. We're doing this through a series of our six public meetings. We had our kickoff meeting with secretariville sack on March 10. We have the SEC and the Department of Commerce there. This is the third of our public meetings and we're also taking comments through the web and writing.

One thing that I would like to ask. There were a lot of comments and a lot of excellent points that were made about certain needs within rural and unserved communities. And having worked in Washington for self years and trying to get programs out quickly, it's very helpful that we get comments, particularly in writing, if you're not just telling us what the issue is, but you also give us a solution. So that would be really helpful for us in Washington. We know there's tremendous needs out there. Just telling us all those needs doesn't help us allocate the resources the best way possible. So if you could please when you provide the written comments give us constructive ideas and how we can deploy the funds best between the two agencies.

Also I just want a couple housekeeping things. I didn't hear it before, but if you do have a cell phone and all of the people went outside to make a phone call on break, please make sure you have your cell phone off. I'm just going back to the

comments again. We're taking them here through the six public meetings and you can also submit them in writing. You go to the NTIA or the USDA web site, you can find information. There's one central location that all the comments come into and that's NTIA and SEC. USDA and NTIA will be sharing all comments that we receive through the comment period. We have a distinguished panel my last panelist showed up. I was looking for you there during the break and I would just like to give a brief introduction and then start the panel. Our first panelist is Gaylen Updike. He is the telecommunications development director with the Government Information Technology Agency of the State of Arizona. He's actively involved as a panelist and speaker in many regional and national conferences joining with others for important discussions about strategies, best practices, and how to deploy the necessary broadband infrastructure required for America. Prior to working at G I T A, Updike's professional career spanned 29 years in high tech systems and applications and as a consultant representing a number of resellers, system integrators, and manufacturers. From 1986 to 1992, he also owned and operated his own company, Compusource. Interestingly, too, he was appointed to the Arizona House of Representatives. He's been on the Arizona Telecommunication Information Council and the Greater Arizona E Learning Council. Our second speaker is EM Lynn JERden. She's a CPA with Lynch Interactive Communication Technology. She joined the company in 1992 at its Western New Mexico Telephone Company subsidiary. She has worked on rural local exchange carrier issues since 1979, when she began her telecommunications career with Ernst & Young's telecommunication group. She was a member of the rural task force appointed by the Federal State Joint Board On Universal Service to review the universal service support mechanisms. Currently she serves as the cochairperson of the W G A policy committee and a member of the National Exchange Carriers Association. Our third panelist is Vernon James. He is a general manager of the Saint Carlos Apache

Telecommunications Utilities. He's the Chief Executive Officer and it is an independent telephone company. Prior to his appointment, he served as the president of their board of directors from the start in 1994. As CEO and general manager, Mr. James manages all activities directly or through support and managers. He is responsible for planning, directing, coordinating, controlling all the lines of telecommunications business including cable TV and Internet service. He previously served as Executive Director of Health and Human Services for the San Carlos Apache Nation, was a Tribal Operations Officer with the Bureau of Indian Affairs.

Our next panelist is Al Silverman. He's the Vice President and General Counsel for Cable One. He served as the -- in that capacity since 1986. He is a graduate of the Wharton School of the University of Pennsylvania, and the University of Pennsylvania Law School.

Our fifth panelist is Samuel Doe. Again he is the Executive Director of the Flagstaff Family Food Center. He was born in Massachusetts. He started the agency in New York and Connecticut and Massachusetts several years ago. He went to college up there. He's an engineer by education. He did his internship at General Dynamics. He has mechanical design engineering in his background. He worked for Saab in Sweden. He came back to the States and began volunteering at the Flagstaff Family Food Center. He became their cook. And now he's their Executive Director. Our final speaker is Jams Si Ta Pesh La could I. I'm glad I'm doing well with the names tonight. Last night I had a little bit of a problem. But she's the CEO of Navajo Education Incorporated. She's a Native American, maternal grandchild of the Dearspring Clan, a maternal grandchild of the Cliff Dweller Clan. She was born and raised on the Western Navajo Reservation in northern Arizona, she is a veteran, she went to Northern Arizona University, and she's employed -- she was employed with Northern Arizona University. She's currently the host of Native American News, Chair of the Native American Democrats of Northern

Arizona, and the Director of the PESH LA could I Cultural Foundation and a member of the Navajo Nation Chapter of Native American Veterans. So our distinguished panel for this evening, and we're going to be discussing the definitions of broadband underserved and . As I mentioned, I work for Rural Development. And we began our broadband program with the 2002 Farm Bill. And in 2007, 2008, they began deliberations on the 2008 Farm Bill, a five year term. One of the things that came through that was new definitions for rural development for unserved, underserved communities and also giving the secretary the authority to set up broadband definition. At first when the Recovery Act came out it threw all that aside and allowed us to come up with brand new definitions to meet the President's objectives.

So during that process it took several months. It took almost a year to go through the 2008 Farm Bill and that was just to get the legislation enacted. And Mark was very good at counting up the dollars and figuring out how much goes to each state. We have 18 months to spend the seven billion dollars. So we don't have the same amount of time that Congress had deliberating with the 2008 Farm Bill to come up with some definition and to actually get this money out there. We have to have it all obligated by September 30 of 2010. And it sounds like a long ways away, but 18 months is a very short time frame.

So I'm very interested in hearing from the panel on how they believe that we should come up with workable solutions for definitions of broadband underserved and unserved communications.
MR. UPDIKE: Is my microphone on?

It's a pleasure for me to be here in this capacity and also as the first speaker here, panelist, I would like to welcome the representatives from the federal government, the N T I A, FCC, and USDA. And I certainly am one who appreciates this opportunity to speak from our own areas of concern and have you here listen to what

has been said today. I think you will find that Arizonans are a breed unto themselves, somewhat independent, and have a habit of speaking their mind. And so we are happy that you are here to listen to us and hopefully we will come to a common understanding. I was very impressed last night by one of the speakers, one of the panelists in the subject matter that we're talking about in Las Vegas, and she indicated that the -- that the highest priority probably for us to get something done was to be bold. And I appreciated her comment. And I think that that is, in fact, a true statement. We need to be bold, that we need to put a line in the sand, analyze the benefits and negatives of that line, adjust accordingly perhaps, but at least draw the line. We must move forward, because our economic lives here in the United States are dependent somewhat on the decisions we make here.

In Arizona there was an official statement regarding at least the speed that is defining broadband. There was officially approved back in 2006 by an organization called GCIT, which was the government's Council on Innovation and Technology. And there was a group that was impaneled, a subcommittee was impaneled, and eleven recommendations were provided to GCIT for approval. And one of those had to do with the speed, the minimum speed for broadband. And this was back in the day when 200 kilobytes was still the FCC standard.

And we know the havoc that that caused in today's marketplace. And our definition was that it had to be at least one megabyte symmetrical for the State of Arizona. So I'm going to move to Arizona. At least we have a definition in place from an official body, from Governor that politan know APZ administration THAFT one megabit. Now, we haven't implemented that. In many, many cases that was a statement of policy. And now that has been superseded by the marketplace. But at least we have a minimum.

I think also that another component that needs to be considered with regard to the definition of broadband and also underserved and

unserved is the cost factor that is being -- that consumers pay for that which they consider to be broadband. Let me back up just a second here and say that also the decision about broadband should be technologically neutral, meaning that there's about 20 different ways to skin a cat. And so wireless, wired, smoke signals, referring to Mr. SA, all of those are possible if you can maintain at least one megabit. And so we will -- if we accede to a one megabit standard, we will be about one-tenth or maybe even one-twentieth of what is a common standard in Japan right now. So -- or common average in Japan. We need to keep that in mind.

As far as the -- how cost affects the standard of unserved and underserved, I would really like to see some statement, and this is me talking now after analyzing this and trying to be bold, that we somehow incorporate costs per megabit as part of an underserved or unserved definition. Underserved meaning that you can't get it at any any cost because it's not the -- it's not just not there so you need a special help. Underserved using LI cost is a factor of the acceptance rate or adoption rate by the public which is one of the metrics that we measure in an underserved or unserved area. So somewhere cost per megabit is a factor. Let me just illustrate what I mean by that. In Japan right now, and I use Japan for a number of reasons, number one is because they have at least a similar standard of living that we have. And right now in Japan it's about 22 dollars a month for 26 megabit connection average. That works out to be one dollar 30 per megabit per month. And in the United States it averages somewhere around 30 to \$50 per megabit from a -- with a range of one and a half megs to one thirty .03 megs for D S L. That's an average that works out to be \$15 per megabit. Now, why do I bring up the contrast between the United States and Japan? Well, what's happening -- and by the way the density of population is a very, very important consideration for the return on investment of this. But I will tell you that the New York/New Jersey area has about the same density of

population that Japan does. And they're paying the 30 to \$50 a month and the -- I'm sorry. New York and New Jersey are paying the 30 to \$50 a month and the Japanese are by and large in the same density of area paying about \$1.30 a month per megabit. So I think that we can do some comparison. Now, why is this so important? Because even though we may feel real good about lowering the standard and having a 200 kilobit or a standard that is so that everybody gets to play and we get to put broadband and coverage in all those and all those good things, the rest of the world is hoping that we'll do that so that we won't catch up technologically and so that we will, in fact, fall farther and farther behind in the 21st century information age and more and more jobs can be sent overseas because not just their lower prices for labor in India and some other places, but also their technology is exceeding ours and they can be more productive. Now, I may sound cynical. I am. And I think that we really need to draw a line in the sand and really move forward with these standards for underserved and unserved.

MS. JERDEN: My name is Evelyn Jerden as he said, and I work for a company that is other in ten states and I can tell you all of those ten states are as excited as air is for the money. We have 15 different companies and we actually have a variety of different types of service. We have WIE max, we have cable modem, we have fiber, we have DSL plant. So we have every different type of plant there is and we're trying to truly figure out the best way to upgrade in the proposals that we're giving you so that we're not just picking one technology. I don't believe there's just

one solution, David, in this whole thing. In the true challenge this is just a deposit. I think that was said in the March 10 meeting. The money that's going to be put forth CHLTH SOT the definition of broadband is really critical. There's no question that the definition needs to be an involving definition. The SEC came up with that 200 kilobytes and at the time it might have sounded okay. Today most people will agree that it's incredibly slow, you really can't download video. And if you look at the American recover and I reinvest act, it's designed to collectively take a giant step forward towards everyone in America realizing President Obama's desires of a 21st century, not 20th century communications infrastructure. So I would say that at a minimum it should be at least seven 68. I have no problem with the one meg. I would say as an absolute minimum, if you look at it 768 would be the lowest end.

Now, that definition is pretty critical because if you look at all of the different items that are essential in America, remember, we're looking at those -- think about all the different services and the abilities of customers to get the capabilities. Farmers have now the ability to access online auctions. They don't need to go. If they can access this, you need to have a speedway above the 200 kilobits that is -- to be able to function those items.

One of the discussions last night in Las Vegas which I list -- or looked at the transcript was the discussion in Utah of the Utah Education Network. That is a system that one of my companies, our Utah company does do. We have 10 high schools, 15 middle schools, 26 elementary schools that we have texted where teachers can in fact serve simultaneously up to 20 different schools at the same time. The Utah Education Network, U E N is an excellent example that we should be looking at. That definition of broadband has to be set high enough in order to provide these types of features out there, telemedicine clearly, telecommuting. It's not just gaming, it's not just so the kids can be playing the games. But it is all of the multitude of opportunities. The second thing we are supposed to do on this panel is discuss what's the definition of unserved. Is it only if you just can get a dial-up network? No. I would say not. I would say that those who only have 200 kilobits are, in fact, unserved. Because I believe the definition of broadband should then be linked to the definition of whether you are or are not so I would say if we use 760 AEZ as the definition of broadband, you are unserved. So what would I say is the definition of underserved. I would say actually underserved goes up to somewhere around a 12 meg range. You might say Evelyn, where did you get 12 meg. It's not an exact number, but I will say that if you're in that range of 12 meg, you can typically download most of the features that you need that video, the content that you're needing in order to do the various service items, the way to bring those jobs, to be able to keep people at home so that our kids are not moving from the rural areas. The relationship reality is I would say that underserved is anything less than 12 meg. I was told I had four minutes and 45 seconds so I will stop.

MR. JAMES: Thank you for stopping, Evelyn. My name is Vernon James, and unfortunately David didn't mention the most important

part in my bio, and that's I'm a member of the San Carlos Apache Tribe. And I'm also a Vietnam veteran. I'm going to take a different approach this evening. I'm going to springboard off of what Gaylen has said and off Evelyn's statements and also off comments made earlier by Lois. I'm going to address something that is dear to me that I think should be addressed in all of this stimulus package. And I'm going to read my comments. And I'm going to give you my written comments. And I want you to listen to what I'm going to read.

SCATUI is a tribally owned -- by the way, the acronym San Carlos Apache Telecommunications Utility Incorporated, because it's such a mouthful we call it SCATUI. SCATUI is a privately owned company serving the San Carlos Reservation in east Zen FRAL care air. San Carlos clearly falls within the rural and high cost areas of this great nation. SCATUI serves approximately 2854 square miles to approximately 2700 tribal members. Our overall density is less than one customer per square mile. In 1996, the San Carlos Apache Tribe purchased a property from U.S. West. Only 28 percent of the tribe's members had service with dial-up to the Internet as 56 kb per second. A clear example of being underserved. By the 2,000 census, 79 percent of tribal members were provided basic telephone service with dial-up at less than 512 kilobytes per second available as broadband to selective business customers such as law enforcement and emergency health facilities. Today's SCATUI provides telephone service to approximately 94 percent of the tribal households and is capable of providing broadband for triple play.

This progress did not come easily and required

significant investments. SCATUI has invested over \$25 million in network infrastructure and can provide broadband services to approximately 98 percent of our tribal members. SCATUI probably has demonstrated the ability to deliver state of the art broadband to previously unserved and underserved areas on the reservation. So what's the problem you would ask? Our problem is that many tribal members can't afford broadband service. Because of our tribe's diagnosis our tribal members have very low incomes. And unemployment is officially un0CHS LI estimated at 75 to 80 percent. This is reflective of most tribal populations.

This is also reflected by 60 to 70 percent of our tribal members qualifying for Lifeline and Linkup. Therefore, SCATUI recommends that the definition of underserved recognize affordability as an issue that prevents access to broadband services and should allow for consumer financial support.

Things are too bright. I lost my place. Financial support in a similar manner to the current Lifeline and Linkup services available for basic telecommunication as part of the American recover and I reinvestment act of 2009 broadband initiative. For example, supporting monthly costs of broadband services at the level which accommodates distance learning using video content. And supporting the costs of the activation fee and gateway equipment such as the modem. From a public policy perspective, SCATUI strongly recommends that consumers receive support from the stimulus package. This direct support will allow tribal members to search for jobs, be innovative in creating work from home, and increase their educational opportunities.

And I want to thank you giving me this opportunity to make these comments. I recognize many people out there being general managers, being part of other companies that provide communication services in the state of Arizona. And I'm honored to be up hear making these comments. Thank you.

MR. SILVERMAN: I'm going to

try to keep my comments as brief as I possibly can, recognizing that this is kind of an introduction and albeit a deeper discussion. I'm here representing not Cable One and The Washington Post Company, my employers, but the American Cable Association, who is headquartered in Pittsburgh, Pennsylvania. And I thought it would be useful to give a little bit of background about what the American Cable association is because many of you may not know what that group is.

The American Cable Association is an association of 900 small and medium sized operators that serve more than 7 million households, particularly in smaller markets and rural areas. And the A C A members included cable, phone, and municipal providers. And over half of the members of the American Cable Association serve less than 1,000 customers.

The majority of the membership of the A C A are family owned small businesses that built their systems and reinvested money to upgrade them or borrowed funds from local banks to upgrade them. And they provide advanced services with a real kind of entrepreneurial spirit. I think part of the message and part of the benefit of the A C A partnering with other organizations, with R U S and with NTIA and the FCC, is that A C A members are in a very good position to put loan and grant dollars to work to achieve the goals of these programs, particularly in unserved and in underserved areas, because A C A members already have financial, managerial, operational, and technical expertise in the area of providing broadband networks in small town and R I E S H L are rural areas, schools, libraries, fire departments, and homes. So the A C A could help to deliver broadband to unserved and underserved areas. The

A C A believes as a general proposition, and I think we'll get into some more detail and discussion, that definitions of unserved, underserved, and broadband should be simple, should be based on speed, and should be based on geography. And the A C A believes that it makes very good sense that in terms of geography, it be based on census tracts. And one of the reasons that the A C A believes in census tracts are the right geography to be looking at is that the CFCC and of course R U S, N T A I A and FCC are supposed to be working in a very coordinated fashion. The FCC already collects broadband availability data by census tracts. Let me stop there for now.

MR. GODIN: I know I want to do this quick so I'll be as fast as possible. My name is Sam Godin. I'm the spice Flagstaff Family Food Center. And you are probably asking why is the soup kitchen cook up here on this panel. I don't know. Because the mayor asked me. But I did a little survey of some of the people who eat at my joint. And I asked them not only if they have access, but if they want access to the Internet. And one-third of them said no, no, we don't want access. Everybody in this room is saying we need broadband, we need access. And I guess my question is why. And I would say I have the most underserved population because they simply can't afford it no matter where they live. And part of this program might be to educate that population about why broadband is important because obviously they don't

think it is. And if we were to go there, if we were to get broadband access to everybody, how are we going to do that especially to a guy who doesn't have a home or to a family that stays in one motel room week after week. What does broadband mean to them. So I think that is an interesting discussion and if we think about broadband, most of the access that my people get they get through the library. So I would like to give a nod to the young lady who mentioned that. Yeah, that's it. I said I would keep it quick. Thanks.

MS. PESHAKAI: Thank you. I am of the tan go people plan born from the Red House Clan. Paternal grandfathers are Cliff Dweller Clan and maternal grandfathers are the Clearwater Clan. Welcome to everybody here to the Indian country. And I work with a group called developing innovations in Navajo education. And I am with Sam here. We have a population that is unserved, unserved meaning most of them don't know what broadband is. And I work with a nonprofit that has -- is working with Native American farmers out in the rural areas of northern Arizona. We had a grant that provided laptop computers to some of our farmers hoping to get them into small business. However, if many of you have seen the movie The Gods Must Be Crazy, it's like when somebody throws a laptop off a helicopter it lands on somebody's head and they don't know what to do with it and they're cooking with it using spare parts for here and there that's what our population is doing out there with these laptops. So when it comes down to funding for broadband and these type of things, I think what the first panel said, that the infrastructure should be the foundation for many of these people because this

is how you spread the butter real thin. And then also partnering with all the different entities that are out there. And another thing which comes back to my farmers is providing training for how to use broadband. What does communication think for us. And specifically for our farmers on the Navajo reservation that I work with, this is an issue of homeland security because our farmers are raising livestock, they're farmers bringing up organic food products for consumers. It's homeland security, it's also addressing health, bringing back traditional foods helping people combat diabetes with the Public Health Service. And then also broadband for some of our people also means keeping culture and tradition among our people. If we have Internet for our young people that are being raised in urban areas such as Phoenix, Los Angeles, or even maybe the eastern part of the United States, it's a way for them to be connected to their own culture and to their own people. So this is the population that I represent. And also when the definition of unserved, that's the folks that I think about. And then underserved is the people that have a hard time accessing broadband because of costs. And then the infrastructure and the communities that they are living in. And then I'll leave it up to the feds to come up with a definition for broadband because that's too big for me. And also I am the host of Native American News From Northern Arizona. And it's kind of funny because I'm sitting on this Flag News Dot Com and putting out good news about Native Americans and I'm just hoping and praying that somebody on the Res is listening to my show and somehow has managed to get BSH broadband or get connected to the Internet. So it's a big step for us. And being a veteran, having served in a foreign war, there's a lot of money going overseas. And for me I think that we need our money here. And this is a cyclical thing. If you don't have technology in your area, how can you get a job. And we've talked about that. A lot of our jobs are being outsourced. If somebody on the reservation had access to a laptop, they could do -- they could be

the ones calling all of you up as your creditors and calling you from their home saying, hey, you're late on your wireless Internet bill. You don't have to listen to somebody from a foreign country to tell you that. Thank you for listening to me tonight. Thank you.

MR. VILLANO: Thank you to all the panelists. We go back to the topic that we were supposed to try to get some input. And I'm very interested in hearing from the crowd and we get questions over the net and people are watching tonight out in rural and urban areas and actually listening in, too. But it is very difficult to come up with some common definitions that could be used throughout delivery of these programs. In seven billion dollars, when I first saw the amount of money, I mean last year in real utilities for broadband, we obligated a little over a billion and that was a very good year for us. And one of the advantages I have is that we had two loan and two grant programs, but that's also one of the disadvantages because I'm also managing four loans and four grant PROMZ and have to get this money out the door, too. So it's important that we come up with some good definitions and we get them out there timely. Listening to the panelists, it seems like speed seemed to be a way to define broadband service, and no one on this side of the table or beside the podium brought up speed at all. Do you think that speed should set the definition of broadband service?

MS. PESHAKAI: I come from that population that's unserved. Like I said, I can leave it to the feds for me. I was thinking I was going to be on the first panel. That was my wish list.

MR. SILVERMAN: As I tried to mention earlier, I think the definitions of unserved, underserved, and broadband all should have -- be based on speeds, you know, with an eye toward census tracts. In the earlier panel, there was quite a bit of discussion about the so-called middle mile development and fiber back haul and backbone.

That happens to be one of the biggest barriers in terms of speeds, to areas, however one might ultimately define unserved or underserved areas. The fiber back haul or backbone to small towns and to rural areas is a bottleneck. But it also increases the costs for the existing provider or providers. And in many small towns, by the way, there are half a dozen providers and even in small town America.

But the problem is that in many of these small towns, getting to kind of the national fiber network is very, very difficult if not impossible to do. And again as I mentioned, that drives down speed and it drives up costs.

Let me just kind of give one quick example if I may in that regard. The company that I work for happens to serve the lovely town of Page, Arizona. Page, Arizona, a great little town near the Utah border is about 90 miles from here. It also is regarded by many, not by me personally, I never quite said this, but I've read it actually in other places, maybe they even self describe as it is the most isolated community in America. Further from any other, you know, real population centers.

My company does provide Internet service in Page, Arizona. Page -- we also do in many other communities as well. Interestingly, the most isolated community in America for our company is the most highly penetrated community that we have in terms of Internet service. So they want it and they love it and they rate us very, very highly in terms of their customer satisfaction. But here is the problem in terms of both speed and costs. From Page, Arizona, those Internet subscribers have to come through multiple microwave links here, to Flagstaff, Arizona, before they can get it transported down to Phoenix, Arizona, and that has the obvious kind of quality and capacity and speed implications, it's also very costly. In order to do those multiple microwave hops to Flagstaff from lovely but little Page and isolated Page, Arizona.

And so one of the things that I would suggest that the agencies think very long and hard about

is that in many respects it may be the best use of federal money to improve the national infrastructure to, in effect, create an interstate highway system for the Internet, to get to extend the reach of the national fiber network into more rural and underserved or unserved areas. It doesn't necessarily mean that it has to go into every little nook and cranny of a state. But maybe there is, you know, a bar and cross system within states that extends the reach. I'll come back to what -- I know I'm kind of over speaking my time. I have some other things. From my perspective, speed is essential because usually the people I serve are using one computer. There's ten people that needs to use one computer at the library or at a local nonprofit, and so less time -- the quicker they can get their work done, the better. And so the more access that underserved and unserved population has to the Internet, and this is a completely off the topic question, but is it possible to use U H F and V H F bandwidths now that TV has gone to digital, is that a possibility to reach lots of homes? I would ask that of my more technically minded panelists.

MR. VILLANO: I'm not an engineer so I don't know the answer to that one. But maybe when we get to the question and answer. I know Gaylen had a comment but I also want to bring up on this side of the table, cost was brought up as an issue for defining unserved and underserved. And as one of the people back in Washington that has to come up with the nope pa and the process for evaluating these applications, how would I write that as the competitive factor, how would I factor that in in comparing applications in terms of

which one is one that should be funded. And that kind of dovetails a little bit into the next panel. But I'm kind of interested in your take on the cost issue.

MR. UPDIKE: Let me answer that question first and make my comment. I think that you can write one of the criteria of comparing responses to an area based on a fire or a fee if that's how it's going to be done or maybe if you have two competitors looking to cover a similar or set area, then one of the criteria that you ask is what will be the final cost of a megabit, of per month of spectrum to an individual entity. And then, of course, associated with that is what is the quality of service that will also be provide. And then you have a number of shall we say bona fide and objective standards by which you can compare. And if we're competing, and I get the sense that there will be some competition for the providers in these particular areas and you might get more than one or maybe two or three applications for a same LAR or same area, that should be I think -- could be easily written in as one of the criteria.

And so we'll have further input on that. But back to another very important point, and it was touched on a little bit, and I think that we can gain a lot of insight on how a network works if we just go to our water engineers who do plumbing systems and who do water systems for cities and municipalities. And that is if everybody flushes the toilet at the same time, how much water is left in the system and how are you going to get that water to meet those high peak capacity times, and I often use this in my Flagstaff, Arizona -- it used to be when you knew exactly when the kids turned on their computers at the school because all the surrounding businesses in Flagstaff, Arizona, lost their speed and their access to the Internet. It took them four or five or six minutes that normally took 30 seconds or so. So capacity of an area is very, very important. And that should be part of the capacity that's being provided into the area, that should be part of the

equation or at least a consideration for underserved. And we really need to concentrate on that. And the gentleman is correct, middle mile is the key issue. Off ramps to that middle mile is the probably the -- one of the major cost components and also distance to a tier one site. And all of those need to be carefully considered as these applications come to whatever body is going to view them as being the ones that get passed on to the federal government as being best. So I think that is -- those are some criteria that really need to be considered regarding underserved, what's the XAT Is in the area.

MR. VILLANO: I'll ask her to answer another question with the cost issue. If there's going to be competition based upon cost, how do you ensure that somebody doesn't underprice something and threaten the sustainability of a project?

MS. JERDEN: Well, David, you bring up an excellent point because it links back to what Gaylen is saying, the funding is designed to build the project, the cap X, it's not the op XEKS, it's not the ongoing operating expense, if I understand the act. I am not a lawyer, but in reading it, it is for building it. The real key you're going to have to look at is to make sure that STLZ AE financial viability of the companies and, in fact, the sustainability to provide the service at a high enough speed. And I do agree that the middle mile cost is a critical component. And perhaps to the prior panelist questioned about the libraries, I think she was referring to actually ongoing operating expense. And that is actually not part of this grant and loan program, if I understand it correctly, David. But I think you do have to have a criteria to say that the actual bandwidth coming in needs to be sufficient or else everything we define in unserved, underserved and definition of broadband is almost a moot point, because I can say that I'm giving 15 meg to every customer. If I only have a T-1 going out to the world, I can

tell you that's physically impossible. If you don't have that connection, it doesn't work. And you don't have to be an engineer to figure that out.

MR. VILLANO: We'll take people from the --

MR. JAMES: While he was making his final comment, if you want to line up for comments, and as I like to tell me staff back in Washington, don't bring me your problems, bring me your solutions.

MR. JAMES: Let me just add to that what Gaylen and Evelyn spoke about, the affordability links to ongoing costs, the expense. But look at the act and what is it trying to do in general. It's a reinvestment in our country. It's a stimulating economic development, for example. We need to spend the kinds of money that can bring the kinds of speeds that can solve unemployment, that can solve educational issues. All this results in money to pay for the kind of infrastructure to support these needs. If there's the money and you build the infrastructure that goes out to the populations that are very rural and are very undeveloped as far as the economy, then how can the people improve their statute, how can they become more educated, how can they become more employed, how can that happen if they can't afford it to begin with. So it seems like we're spinning our wheels. I get very passionate about this.

MR. VILLANO: And we appreciate that. We'll take our first question here. My name is Ron warp nay R E WECHLT networks in Phoenix, Arizona. I have two comments I would like to make briefly. First, yesterday in Las Vegas our CEO, Jeff HOELT man, commented on the need to consider the sustainability and viability of deployments. That was the point that was just made on the panel. And earlier by the young lady who administered the grants for the Hopi Nation. We think that is important. Secondly, I want to commend the panel for the approach it's taking on the definition of served and unserved. In Las Vegas yesterday, the only definition, quantitative definition that I heard was MROE vied D by Mr. Jeff I think ER of the wireless Internet Service Providers Association. It was met by the rest of the panel

with a lot of debate regarding the undesirability of pegging such a definition, because things are rapidly changing. Certainly we agree with the concept that things change rapidly and that the definition needs to be flexible enough to accommodate the concept of load balancing or capacity redistribution to accommodate public services, emergency demands. But nonetheless there needs to be a clear and concise definition of the term served and underserved. And I think Mr. Updike set the tone when he said boldly we need to do that. I think the rest of the panel agrees. I'm sorry I didn't comment on that in Las Vegas last night but I want it to be clear and be on the record that we think this panel has got it right and this is what needs to be done. Thank you. Hello my name is care LEN. I represent Spark Line Communications. We are a wireless broadband provider in Arizona, and we service N A U, the distance learning application throughout the state of Arizona, we work with Indian Health Services, we provide applications to the community like in well ton, where we provided -- first worked with the community there to establish first responder services. We worked with the school to provide Internet and computers and those types of applications. And as Allen alluded to earlier, you know, we -- one of the biggest challenges for us is the middle mile. It's very costly to provide -- you know, the initial grants basically allow us to build out for a specific application and then really provide us very little flexibility down the road to provide greater type services. So we really do need to come up with a way to resolve the middle mile cost issue.

MR. VILLANO: Thank you.

AUDIENCE MEMBER: My name is men DIKT. I'm with mid at LAN DAL brings German capital over here to bridge that gap that lots of you have mentioned or to get that middle mile resolved by not putting fiber in the ground microwave back haul in place so that everybody in the rural areas can access the Internet. So all of those companies that have those capital needs, let's talk. I mean, there is capital out there and that's for the record even

in other countries to come in here where there is companies that are providing those kind of services to rural areas. You just have to make sure that you get in contact with the -- with the right people that have an ability to fund those projects. The solution to some of these issues, and that's I guess I put it a little more bluntly than they did in the question to the panel last night is for -- as you put these grants in place, focus on projects that are ready to hit the road within 45 days, when the studies are done when you are ready to actually start construction very, very soon, focus on projects where private equity is behind it, where you have capital partners or somebody that is willing to put up money as well alongside with the government grant because you'll stretch your dollars a lot further and focus on projects where you have -- in the rural areas where you have companies with a need to get the towers, to get something in the ground, being fiber, whatever, that have solid backgrounds, solid financial statements that can -- they can then work with companies like us that actually put the capital in place to get the tower infrastructure out to those communities. Thank you.

MR. VILLANO: I'm interested in making sure we obligate all this money in 18 months, I want to make sure that we get through everybody out there and try to get back to the agenda and get out of here on time. So if you can limit your comments to no more than one minute, we would appreciate it.

AUDIENCE MEMBER: I'm John Lose AK I'm the COI for Graham County. In the eastern part of Arizona we've been dealing with this issue for a long time. We have a distance learning lab out there in three counties that we do distance learning to schools. And listening to EFSHGS, WUFL big problems is the last mile, is really a symptom of the real problem. The real problem is the middle mile. The middle mile is a barrier entry to local I S P's. Basically if you're an I S P in Graham County, you have to pay four times the cost of an I S P in the mayor cope A county. Now, the I P

S' s in that whole area charge the same exact amount per month as an I S P in mayor A cope A county. So what is happening is three-quarters of their money is to make that last mile run. To be able to provide better areas, to expand, to let normal free market take its place, they can't function because they're having this barrier to entry and it also keeps other people from coming in because of the cost. And what I have suggested several times is it would help us as a county is actually -- right now there are three locations that you can pick up Internet which is Tucson, Phoenix and Flagstaff, so we have to go 120 miles to get to Tucson with all haul miles. \$3,000 a month just to make that haul for 45 minutes. I suggest we actually push these pops out into maybe the county seats with a smaller run and then move the off ramps out to the communities so they're not paying all that money to make the run back in again.

MR. VILLANO: Mr. Silverman, Just responding to go that, speaking personally as a citizen, we keep hearing over and over again that one of the best ways to spend federal money is extending -- is addressing the middle mile and extending the Internet interstate and intrastate highway. From my personal perspective just as a taxpayer, it seems to me if in fact federal money is going to pay to extend the interstate highway, Internet interstate highway, then there also ought to be open access. Let all comers use it. You know, it's -- there's the free federal money to build it. Let them come. Competition will be one of the ways to keep costs down. I think the point about costs playing a role in kind of decision-making about unserved and underserved, I think there are so many extraneous variables you could get lost running around in a circumstance the without ever coming up with a definition that will apply fairly in all situations.

MR. UPDIKE: There is another criteria opportunity there. Whenever a last mile provider makes a bid or some kind of a presentation to the decision-makers about viability of their project, they probably should also indicate, number one,

where the middle mile is going to come from and the cost of that middle mile and the assurance that middle mile will be available or that long haul broadband available for the project. That leads to another very important statement that I was appreciative that Mark mentioned this morning. He called The White House and said what are we going to do about these problems of right right-of-way which your chances of having a right-of-way issue in Arizona are about 8 percent because 80 percent of the land is owned by the either the tribes or the federal government.

AUDIENCE MEMBER: I'm NEEM gram. Two suggestions for your criteria. One, you might consider the cost, cost per pop normalized for capacity. And second, when it comes to the technology, I think Mr. Silverman very aptly described some of the problems that we have. I think one of these we have to do is make sure that we don't fund equipment going on towers or in the ground that's already obsolete when it goes up. So look for new technology.

MR. VILLANO: Thank you.

AUDIENCE MEMBER: Hi, Darrel Griffin, LA County IT Department Director. I think you're asking for solutions, and so I won't give you our spiel. But I will tell you it seems pretty simple that if you look at a fiber map, which I don't think we have a truly accurate one yet,. But I think that's part of this, is to create an accurate map of where banded width is and where it isn't. We need to finish THOR is those circles because we're missing redundancy so if we don't have these fiber loops in place, and I think once you start creating those circles and you start seeing sTHOS those loops come around, I think you're going to start seeing that you're serving underserved and unserved communities just in and of itself. So I think redundancy is very important and I think that we need an accurate map to see where it is and let's start finishing these loops and getting into these rural areas. MOEB MOEB My name is George Rich. I'm CFO with Space Data in Chandler, Arizona. I'm here to ask you to make sure that an innovative technology can be offered under this

program. Prior to my position with SPASZ state data, I was actually the head 6 fines here at the Flagstaff School District and I know some of the challenges with the connective issues. The district has a school out in the Navajo Nation that needed to have some definitely disproportional funding put in place to be able to offer them the same kind of connectivity that kids here in the local community get. Earlier you heard the comments from Peterson SA about the program that we have up and running. Even now as we stand here tonight, there is a tower in the skies. We would like to put it up in the sky, providing this diabetes program monitoring under the telemedicine service. We are very close to completing some of the CD M. A. E V D O platform work that we're doing that will provide 100 percent coverage to the 5 million or so Americans that today still don't have coverage like that. We can provide -- that's one of the real differentiators. We have 100 percent coverage. Very economically, very efficiently over an area of about 120 miles for service like that. 120 miles diameter. We're very eager to integrate a 4-G platform into our system. And that will probably be L D E. Again we will be able to cover 100 percent coverage, we'll be able to offer that to the same kind of devices that work in urban areas. We don't need different frequencies unlike perhaps a satellite system might need. And that's a real differentiator for us. Again quite economically done. My question to you is what can we do to make sure that a technology can be made eligible for these kind of funds and these kind of grants. Here is why I think we have to ask that question. The 700 megahertz auction rules allow the largest winner of that auction to build out to 70 percent of population which is really only 11 percent land mass. The next -- some of the other winners in that auction are -- yes, they have the requirement to build out to 7 percent land mass or geography over time. But there is no -- that can be a long time hence. We can actually be up and running almost from the get go. So that is why I say to

you that the kind of technology we turn on the nightly news programs right now, we hear on innovation, will dig us out of some of the problems we're in tonight and space data has some programs like that. Can we count on you guys to help us become eligible for some funds like this and also to encourage some of the licensees to work with companies like ours.

AUDIENCE MEMBER: Thanks for your comment this evening. I am serving on the Navajo Telecommunication Regulatory Board, and I have a couple comments, in regards to the unserved and underserved. My definition really encompasses a little broader than what was proposed. It should include in my estimation, you know, the health, the health disparities and education. The reason why I say that, you know, is because I think the earlier panel alluded to that. They all sort of go hand in hand, these problems. So if we're going to fix health problem you know, with having broadband, you do it, you know, the point of attack will be to deal with these people. I'm talking about the last mile people. And so that's what I'm proposing as far as my definition added on to what was proposed as far as costs. I think that's important, too. And as far as the underserved, if you look -- if you go to any cell phone store, you know, they'll show you a map, which area is covered and so forth. The northeastern Arizona and southeastern Utah and northwest New Mexico, there's a black hole. I think the intent, intention of this stimulus package should be to light up those black holes. That's my input. And I think speed is important.

AUDIENCE MEMBER: Thank you. My name is did hes Ri tone. I'm with the Navajo Nation out of window rock, Arizona. I do want to let this panel know that the Navajo Nation has formed a broadband work group and most of the members are here. And one of the definitions that we come across under the current

writing of the Department of Commerce and agriculture is definition on community, which describes it as a town, a burrough, or a village. We would like to offer a suggestion that that be expanded to include tribal communities, chapters which we call on the Navajo Nation, we have 110 of them, and just to expand it so you include definitions of tribal regions, not just for Navajo but other tribes as well. So if you could do that, we appreciate that. Another thing we understand the R U S and NTIA is going to be looking at proposals and the goal is to grant a proposal or grant one award per state of all 50 states. We would like to also expand that to the tribes being given consideration in that respect as well. Thank you.

MR. VILLANO: Thank you.

AUDIENCE MEMBER: My name is bran Don aims. I am founder and owner of Strategic Technology Communications and C E O of Bell Information Technologies. We've been serving in rural Arizona, providing telecommunications solutions and I T solutions for school districts and state and local governments for a long time, and served with Gaylen on the right-of-way and easement issues that plague this state. I would like to see that we tie eligibility to these funds, to waivers on the right of ways, because the largest majority of the dollars spent have nothing to do with the I T infrastructure, they have nothing to do with the bandwidth costs. They have to do with the cost to provide the right of ways.

And this thing is dead before it starts if there

isn't a fast track for the environmental impact studies, something to the tune of 60 days in which to be able to authorize a tower or authorize a right-of-way throughput. And oversight from the USDA and the FCC of making sure that that goes through and happens with an immediacy that will allow this program to go forward. That's my only comments. Thank you.

MR. VILLANO: Good point.

MS. JERDEN: I echo that sincerely. I will give you a very specific example. In our New Mexico property, in New Mexico you cross every agency. You start and you cannot go from one point to another without multiple agencies you're dealing with. And David, I will give you an example. I am not going to name the agency because I don't think that would be good. They came to us, they said they needed an expedited circuit. We said you get us the approval, we will do it very shortly. It took them six months to get the approval so we could build the facility. So that was their expedition. Again I'm not going to name it. That is so key. If we could somehow shorten that, the fact is that we have to do archeological surveys, we have to do environmental studies on existing routes. To put something right where there's an existing facility, we have to redo it. Those studies are time-consuming and expensive. And I am not against the study, I understand that there are very, very important studies. But you've got to figure out something to work through this process. And then the price, I totally agree with the gentleman who said that.

AUDIENCE MEMBER: My name is Jay Preston begin. I'm from western Montana. I have an incumbent telephone company background and we're now getting into some wireless type enterprises. And I guess I have a question on these. I lack perspective from Evelyn and Vernon and also to Mr. Silverman from the cable perspective who mentioned rural competition which is something that I've had quite a bit of experience with. I think ten years ago I would have told you rural competition was a crazy idea and I think among many of the eye lack community, there is still that thought, kind of a

conventional wisdom. But I found in my company that the competition I have experienced, I have probably two or three or maybe even four new broadband competitors and a whole bunch of voice competitors and it's really made our company a much better entity. But in the -- it seems pretty easy to define unserved. I mean that's pretty simple. But underserved, Evelyn said 12 megabits or less is underserved. Boy, everybody is underserved in that case. But how do you reconcile the contradictory part to this bill that essentially in one sense gives the incumbents sort of a preference for money and also give competitors a preference for money. How do you reconcile all that.

MR. VILLANO: That's why we're here. From the toe solution from his you. It is interesting that there is -- there are the two parts of the statute and there are differences between the two. And we're trying to come up with one solution to get the best bang for the bucks, you know, back in Washington. But we really need the input from you to help us get there. Do you have a question?

AUDIENCE MEMBER: Yes, please. My name is Susan ma LOI. I live in a small community that's very rural and very remote, east of Snowflake, Arizona. And the people with whom I live have been -- have had our health damaged by electrical or chemical exposures. And we have moved to the neighborhood where we are to basically to hide from all the rescue and keep out of the line of fire. And this is hard for me to explain, but I'll do the best I can.

It's a disabling health condition that means that the merest exposures to electrical -- to electricity and to some chemicals, cigarette smoke or hair products or things like that can make us incapacitated for weeks at a time. I'm the sturdiest person from our neighborhood. That's what I'm doing here. And my hope is that we don't greet wi-fi with open arms without looking at some of the potential health consequences. It's not necessarily a benign technology. I know that we need the computer help and to link up in northern Arizona. It's the most remote place. I

understand that. And people do need to have services like emergency preparedness and things like that.

But they are -- for some people there will be emergency consequences if there is wi-fi introduced into our neighbors in a significant way. So I am begging that you will think about ways to protect people when you're introducing these technologies. There are evidently quite a number of European countries that have put limits now on wi-fi. It's become a frightening technology for people who have been living with it for quite a number of years. And I -- one point I would like to make is that I've been studying the Federal Communication Commission, the FCC rules that govern radiofrequency exposures from telecommunications industry. They've been in effect since 1996. And from what I understand, they preempt any efforts by communities to protect people in different neighborhoods from telecommunication that could be harmful. And I would very much like to see them repeal parts of the FCC's rule that forbids us from introduction of concepts about health when we, by whom I mean people around the United States, have to ask that we not be exposed to wi-fi or to some other sorts of telecommunication technologies. Thank you very much.

MR. VILLANO: Thank you for your comment.

AUDIENCE MEMBER: Good evening. Thank you for allowing me to speak. My name is nor BEFRT NEZ. I am with the Nomination of Community Development as the I T Manager and I'm also with this -- the Navajo Broadband Planning Group that Mr. Did hes tone mentioned earlier. And I have some comments and a question. I'll try to be short. And I agree with what Mr. Tome said regarding, you know, the definitions and about the way that it affects any tribesmen, because sometimes if the definitions are very strict -- you know, I appreciate what the gentleman said up on the panel about making it very direct and to the point. But at the same time it should be flexible enough to reflect conditions on Indian lands, because

sometimes what makes sense on the outside world doesn't necessarily make sense where we live. So case in point with the USDA coming to connect. There are some issues with some of the definitions in effects on how service can be provided out there using the grants. So I would just like to make those comments. And then the question also is in regards to the USDA continuing to connect. I know that some of these funds are probably going to be used to expand that program as an existing program. But my question is are those existing policies and the procedures, the rules and regulations that govern those funds are through these series of comments sessions and all this stuff that's going on, are they going to be changed, or are they going to remain the same. I'm not really sure I understand how that works with these existing programs. I know for the NTIA program it's a new program so they're being developed now.

MR. VILLANO: I can answer that one question and we're still on the public comment period. One of the questions that I have from out in the public that came through the web is our ability to answer some of the questions and whether some of the questions that are coming through will be answered. We don't have the answers yet. That's why we're out here in the field, that's why we're getting public comment, that's why we're trying to get the solutions from you to a lot of these issues. So we will try to do that as much as we can. But in answer to your question, the program that USDA has under the stimulus bill is a brand-new program. It's not an extension of one of the existing ones. We'll have five programs that will be administering this year and enough of a community connect has already been issued. And this didn't change the rules for that program. And that was -- it's a very highly competitive, low funding program. So there are certain criteria that are put in it to kind of limit the funds and limit the communities to communities to get the biggest BAVENG FOMENT UKZ B but that would not be affecting that program. But it may provide us some input into how to make that program better

in the future after we get to the point of these funds. These are going to be our final two questions here. Member MB My name is EM A ROON horse and I'm employed with the Navajo tribe utility authority which is headquartered in Fort Defiance, Arizona. NTIA is currently -- currently has a fiber-optic plant that will eventually connect the land to rail. N T I A's plan is to string fiber on our existing 69 K V distribution lines to alleviate the right-of-way issues to develop a redundant loop. And NTIA is shuffle red and I looking for a helping hand to help raise the quality of life for the underserved and unserved on the Navajo nation.

AUDIENCE MEMBER: Just a brief question. I'm a satellite dealer here that sells Internet and most of our customers are concerned about the price of the Internet and most of them settle at 4995 a month for a half a megabyte. For \$10 more we double the speed if region won't do that because they just simply can't afford it and the economy the way it is right now, people are concerned about paying extra. If we mandate and it costs more to deliver it, can our customers actually afford to have it. That's our concern and question.

MR. VILLANO: I can't answer the questions. But it's a good point.

AUDIENCE MEMBER: My name is RIEN ma cake. I'm the President AF KUCHL BHO who ha he employed large every mew 80 projects around the world providing telecommunications to folks in rural areas. A couple of comments. I'd like to thank Mr. Updike for his comments regarding the cost per megabyte of access. And the information age that we're faced with, the U.S. is currently 15th, arguably 16th in the developed world as far as

costs per meg and penetration. This is a real shame. In a world that we need global competitiveness in, we need to think beyond the provincial systems that we've put into place and include everybody in a broadband infrastructure. One of the biggest challenges in my mind is he had KAPGS. You read statistics and 45 percent of the American population arguably doesn't understand the benefits of going beyond broadband or beyond dial-up, excuse me, and to broadband. We need to make sure that the nation understands the value of broadband infrastructure like the railroads opened up the west, like the highways opened up interstate commerce. This is our highway system for the 21st century. The costs per meg for a long haul and middle miles are obviously critical. The issue in my mind is that we need too far additional frequencies available and made available through light license and his unlie since D frequencies so communities can have affordable distribution systems for wire and wireless communication. And lastly, the operating costs associated with these networks are not being addressed. And one of the critical things when you're evaluating these proposals and my recommendation is to look at how they're LEFSHG G the application that is THEMMENT to run on the network infrastructure, whether it is power metering, meter reading, whether it's public safety, municipal access, public education or public access, there are many, many things that this infrastructure can be used for that will help reduce the overall costs and get the return on investment. So as you evaluate these prose look for multilayered approach that uses the best technologies but allows the municipalities, the power companies and everybody who can gain and benefit from access to this technology to be a part of that ongoing commitment to use that infrastructure in ways that will help get the R O I back. Thank you.

MR. VILLANO: That's one of the topics that the next panel will be talking about and our final.

MR. VILLANO: I learned more every speaker as far as technology and things like that. And I have seen your show on the Internet. I come as a group of citizens brought together by the City meg ER to look into the possibility here of bringing local news and news programming or entertainment programming back to the city of Flagstaff because we lost our local television station last fall. We're about to make that presentation in the near future. We think it's yes viable to bring local news 12K3 programming back, but we think cable is one TV station format we're looking down the road to try to be a multiplatform presentation of local programming. And in the definition maybe this is the wrong place to do it but I didn't know where else to plug it in. I just hope the definition allows for local programming. I hope whatever you define as broadband is fast enough or whatever it is to provide that type of streaming videos or whatever may be allowing any community even on the Res to create their own news programming and information you can get out to your citizens and your communities. So I hope that can be a positive definition.

MR. VILLANO: Thank you. Anymore comments?

MR. GODIN: Pretty much everything I've heard is based on price and bandwidth and the people who need Internet the most still aren't going to get it because they have to pay for it. And they can't afford it. And I don't care if it costs 25 cents a month, they're still not going to get it. And I think that's part of this initiative, is to get Internet to people who really need it. And young families that have kids in school who are just eking out a living and trying to get by. I think part of the rent package or whatever says if you get money from the government, so many of your customers have to be, you know, at the underprivileged who can't afford the Internet. That's just my comment.

MR. UPDIKE: The last comment, I wrote down one of the things that I've written down on my sheet based on the comments here is perhaps there's a way to interweave the various applications that are available at the various speeds, and make that

some of the criteria. That's probably a next panel discussion topic, I hope. But as to the definition of broadband, it really doesn't make any sense to build a network without considering the applications. And most of the benefits that come from broadband are really how is it being used, what are the applications, and is it possible for us to tie back into some of the funding, if you will, some of the applications that are running on that transport we call the Internet. So just a couple thoughts.

MR. VILLANO: And our last commenter said he learned something every time somebody speaks. And I was going to say on behalf of USDA and NTIA and FCC, this panel, I appreciate all public comments. I really have learned quite a bit. Why don't we give a round -- did you have one final comment? Someone has to get the last word.

MR. JAMES: Affordability of broadband is an issue that is -- that has to be considered. Broadband -- let me put it in layman's terms. Broadband is a pipe. BSH, the size of that pipe is measured in bandwidth. The more bandwidth your application needs, the more it costs. If you're going to use it as an educational tool, you need to use more equipment on the pipe. But it's going to cost more. And it becomes an affordability issue in the end. And that's why I push for let's make this a topic of affordability because people who don't have money are the ones who needed indication, need training, need work. And our people will not be able to afford it even though we have it there. Thank you, Host. Thank you to all the panelists and the next panel will start at eight o'clock. Thank you very much.