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ASSESSING THE NATIONAL BROADBAND PLAN

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Panel Two:

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P R O C E E D I N G S

MR. WEST: Good afternoon. I'm Darrell West. I'm vice president of Governance Studies at the Brookings Institution. I'd like to welcome you to our forum on the National Broadband Plan.

One year ago, Congress directed the Federal Communications Commission to develop a National Broadband Policy, and the goal was to have policies that would be accessible and affordable, and advance the public interest in a wide variety of areas. And central to that legislative request was the idea that digital infrastructure is vital to the long-term economic, social, and civic development of the United States.

Yesterday, the Commission delivered its plan to Congress entitled "Connecting America: The National Broadband Plan." It is an ambitious 376-page strategy for moving our digital infrastructure into the 21st century. It seeks to unleash innovation in health care, education, energy, public safety, civic engagement, and consumer entertainment, among other areas. It is available at fcc.gov, and I recommend that you take a close look at it. I've read the plan. It is clear, comprehensive, and well documented. It has great footnotes. As a former academic I appreciated that aspect. I mean, just documenting the comments they got, the academic research they cited, it really was an important part of the effort and I think enhances the credibility of the effort as well.

There are a number of terrific recommendations in the report and I'm looking forward to hearing our discussion of how both the FCC, as well as some of our expert evaluators feel about it.

Among its key recommendations include the following: establishing competition policies for network services, devices, applications, and content; ensuring the efficient allocation of public assets, including spectrum; creating incentives for universal

adoption and the availability of broadband; and updating various policies to further key national priorities.

As part of those activities, the FCC proposes a number of specific ideas. They want to improve the information available to consumers by publishing market-by-market information on broadband pricing and competition; developing disclosure requirements for broadband service providers on pricing and performance; increasing spectrum for mobile and broadband use; improving right-of-way management; creating a Connect America Fund to support affordable broadband; shifting 15.5 billion over the next decade from the Universal Service Fund for broadband; launching a national digital literacy corps; improving connectivity to schools, hospitals and government agencies; supporting interoperable public safety mobile network with funding up to 6.5 billion; and establishing a goal by 2020 of 100 million U.S. homes with 100 megabits per second of speed.

And Blair, I apologize if I just gave your presentation for you.

SPEAKER: (off mic)

MR. WEST: But to help consumers understand their current service, the FCC also placed on their app -- or placed an app on their website that allows you to evaluate your own broadband service. And I actually did this this morning to test the Brookings broadband service. And our service tested at 47.8 megabits per second of download speed and 16.7 megabits of upload speed. So that means Brookings is about halfway towards the national goal.

Now, of course, what I want to do is go home tonight and evaluate my wireless service, which I know from painful personal experience is much slower. The average home service runs around 3 or 4 megabits per second of speed. So I'm personally looking forward to that 100 megabit per second threshold.

Today we are pleased to welcome a number of distinguished experts. We

have several members of the FCC Omnibus team to discuss the plan and what they put in; why they made the decisions that they did. We're honored to have Blair Levin, to my right, who is the executive director of the Omnibus Broadband Initiative. Blair is the executive director of that initiative. In that role he has overseen the development of the National Broadband Plan that was mandated by Congress as part of the American Recovery and Reinvestment Act. He rejoined the Commission in June after eight years as an analyst at Legg Mason and Stifel Nicolaus. Previously he served as chief of staff to FCC Chairman Reid Hunt.

Carlos Kirjner is senior advisor to the FCC chairman. Carlos led the policy work on the creation of a National Broadband Plan. He came to the FCC from the Silicon Valley where he led the global business development effort for Telegent Systems, and also he worked part of that with Vodafone. And he has been a partner at McKenzie and Company working in the telecommunications and technology industries.

Erik Garr is the general manager of the Omnibus Broadband Initiative. Prior to joining the FCC he was a partner in the public sector practice of Diamond Management and Technology Consultants and advised federal, state, and local agencies on a variety of strategic issues.

Phoebe Yang is general counsel and senior advisor to the Initiative. She helps to oversee a staff of over 50 professionals who worked on the plan, drawn from business, academic, and various policy organizations. Prior to her FCC service she worked as vice president of Corporate Strategy and Development at Discovery Communications.

So our format is as follows: each of our four speakers will offer brief comments on the plan. That will be followed by some time for questions. Then we will have a panel discussing and evaluating the plan. Dr. Peter Stenberg, a regional economist for the Economic Research Service of the U.S. Department of Agriculture is here with us. And also,

we will be joined by Dr. Karen Mossberger, who is a professor of Public Administration at the University of Illinois at Chicago.

So to kick off our discussion we will hear opening remarks from Blair Levin.

MR. LEVIN: Thank you very much, Darrell. Thanks for doing this.

I have to tell you that for the last 75 days since January 2nd or so, the four of us have pretty much worked every single day. So we did not put -- despite the wonderful reputation of Brookings, we did not put it at the top of our list to make presentations, but rather looked at this as an opportunity to just kind of reflect very informally about the experience and kind of what we were trying to achieve, and to what extent we did it.

I appreciate you particularly noting the fabulous footnotes or end notes in the document. I would just note that it is a rare thing actually for the FCC to actually have the document ready the day of the meeting, much less have it bound, having the footnotes all be correct. A lot of people deserve a lot of credit for that. We have four in the audience -- Joe Heef, Bashal Doshi, Kevin Bennett, Tom Brown -- all part of the team that this Omnibus Broadband Initiative that really did quite extraordinary work over kind of the last 200 days really.

I'm not really going to talk about the plan. I'm not going to talk about its recommendations. I think, you know, we actually kind of had a rollout strategy for the last three weeks. Pretty much every day we publicly discussed one element or another. And besides, thanks to our fabulous new media team, if you want to know the recommendations related to rights-of-way, you can just click right to it. If you want to know about spectrum, you can click right to it.

We really wanted the plan to be a call to action, and we think that kind of the reaction that we're now getting suggests that people are finally understanding the need for a plan and for the need for action. What I would rather do today is actually provide some

context -- kind of a Reader's Guide, if you will. You know, no agency had ever done a plan like this before, and so I think what's interesting about the coverage of it is very different levels of expectations.

Some people were expecting basically something similar to a notice of proposed rulemaking kind of document that would have very heavy details. But that's not really what a plan is. Some people were expecting just a pure visionary document to say here are some aspirations. We wanted to have a document that was both visionary and practical. But in doing that we wanted to hit a couple of goals. First, we wanted it to be serious; second, balanced; and third, simultaneously comprehensive and targeted. What I meant by serious is a serious document befitting what one would think of as an expert agency. And that it would, A, be very much data driven, which I think you would say it really did use a lot of data and based its conclusions based on that data.

SPEAKER: We like data driven.

MR. LEVIN: Yes. Data driven is good. We wanted it to be the kind of advice that companies would get if they had billions of dollars on the line. And it's not just a matter of money; it's a matter of the importance of the decision-making. We wanted to make sure the Commission and Congress and others in the Executive Branch had the kind of advice. But it's a document that understands what advice and data can do and what they can't do. There are certain decisions that really are important for policymakers to make because you're making essentially value judgments. Whereas what we wanted to do was provide the data necessary to make intelligent value judgments. And I think that certainly if you look at the responses, I think we achieved that goal.

Secondly, I think we wanted to have a balanced document befitting the necessary balance in the broadband ecosystem. We started with the understanding that to have -- to achieve the congressional objectives you really need healthy networks, and

healthy devices, and healthy applications. And you need healthy competition throughout the ecosystem for all those things. The plan touches on them and tries to increase what we refer to as the velocity of commerce in all of those areas, and I think it is, you know, somebody wrote that the plan is meaningless because everybody supports it. I think if you actually read the commentary, everybody supports large pieces of it. And kind of we were joking. Our aspiration was for everyone in the ecosystem to love 80 percent of it, be marginalist at 10 percent, and really hate 10 percent. That would be a good balanced approach.

In an interesting way I think we actually succeeded in that. I think there are pieces that everybody will have objections to, but that's where they're strongest. Right? And into those markets where they wish to enter or in other ways are concerned about a barrier. That's the part where they're happiest about. And so what you saw in the commentary was a lot of support for certain kinds of things, but different among different interests.

What I mean by simultaneously comprehensive -- that is to say Congress asked for a huge amount -- wanted us to cover a huge scope and, therefore, you know, we wanted to do that. But also, it's the right thing to do. I mean, the way to look at this ecosystem is holistically, but also targeted to generate action on specific areas where there has been too long issues that were just lingering.

I think that we succeeded on the comprehensive side, and actually, I think 10 years from now you may look back and say the thing that got the least amount of coverage, which is the National Purposes section, may turn out to be the most important, the most transformative.

On the targeted side, the other day when I was presenting to the Commission I mentioned a quote that had a lot of resonance for me when I was in college

from a Benedictine monk who said crises are brought about by the failure to work in interstices. That is, the crisis is because you -- you have a crisis, you react to it, you don't do anything, and then you get another crisis.

We felt very strongly that there were certain things that we really needed to do. We really need to rethink spectrum. It's okay to have an ad hoc spectrum. You just -- somebody comes up with a technology, you give them some spectrum. In 1948, there are not many uses. But as we look out into the future it's obvious spectrum is going to be the lifeblood of the broadband ecosystem. We need a way to have more market signals so that if we're allocating spectrum not on the basis of history, but on the basis of where the technology is going and where the markets are going.

The fear of action in this regard has led to a lot of inaction. Hopefully, we will have broken some of those barriers. We think it's critical to start actually shifting funds in universal service and for the first time have very concrete recommendations how to shift those funds. We think there's a psychological fear of doing that, and hopefully we've kind of broken through that. We think it's critical to essentially end intermarried compensation. It's a system that was designed for a very different network, very different economics. It distorts investment and cripples innovation throughout.

You know, it's interesting. Commissioner McDowell noted that they were close to solving it last time, but we think it's just really critical to get it over the finish line and hope we set a framework that commissioners can do that.

Let me mention three things throughout the document that I think people may -- it's not -- the document's not organized this way so people are going to miss it. Theme number one, need for data. We said in the August meeting the Commission suffers from a huge lack of data. Had to improve that. Lots of recommendations about improvement of data collection.

Second, a need for bold, persistent experimentation. Lots of calls for pilots. You shouldn't commit billions of dollars until you have an idea of how the money is actually going to be spent, so whether it's lifeline, link up, or other things. It is unfortunate that there is not a pattern in that agency and others of experimentation because there's going to need to be. So that was another thing we did.

And then finally there was a need to have mutually reinforcing solutions. When you look at it, they're not all tied together because we didn't organize the document that way because it would have been way too long. But, for example, when we talk about how to upgrade the network -- we want to get to 100 affordable, actual by 2020 -- there are a number of things that do that. There's -- wireless obviously isn't going to provide that, but if you have competition coming from below for wireless you're going to push the wire line guys to have to upgrade. If you have transparency from consumers that'll help push upgrades. If you have rights-of-way reform you'll cheapen the cost of upgrading and that'll improve the business case.

But also, if you look at it from the national purpose perspective and also the idea of using military basis -- getting a kind of a gig connection to every barrack -- you have applications kind of pulling from above. So there's a lot of kind of reinforcing applications or suggestions throughout the document.

Another one is on rural wireless. We have a wireless mobility fund; we have a public safety network; we have spectrum back haul suggestions. All of those reinforce and improve the effectiveness of the others.

Finally, let me close by saying if I was handicapping the document -- as I used to do this for a living so I can't resist -- obviously where we make recommendations to the FCC, that's where it's most likely to occur. Right? I mean, we spent a lot of time with the commissioners. Now, I loved the line from TR Daily this morning that said it was obvious

that not all the commissioners fully endorse all of the proposals. Yes, that's true. Okay? And you can look at it that way. And if that was the bar, you can see from the one-page document that they did endorse, that would not have been satisfying as a plan. But what I think people may have missed is on the key issues affecting the FCC -- universal service and intermarried comp -- you actually -- there was a fair amount, I think, of acceptance both of the need to go forward and that there's a framework now to go forward. I think if you look at rights-of-way, the same way.

Spectrum is interesting because people did talk about that differently, but I actually think if you draw the Venn diagrams you see a lot more agreement about the need to recapture. And if you really think there's a need to recapture, there aren't that many ways to do it so I think that, you know, people are going to inevitably move in that direction.

Obviously, in the Executive Branch it's, you know, that'll be more mixed. But even there you saw the presidential statement that was supporting explicitly two of the most important proposals -- one on spectrum and one on public safety. And there's already activity in terms of public-private partnerships involving some Executive Branch agencies and private sector players. Congressional action, always more difficult to predict, but I would just say we didn't -- we designed the plan so that the core recommendations could be done without Congress for the most part. Incentive options may be the most important things that Congress has to do. We also talk about privacy, which is not something that I would have expected at the beginning, but it turns out that concern about private data is a big barrier to adoption and utilization. And even there I think a bill dropped today on the importance of consumer data in the energy field.

So I think the call to action is working. There will be a lot of stuff coming out of it and I think we're really happy about it. And with that let me turn it over to Carlos.

MR. KIRJNER: Thank you, Blair. I will speak briefly.

I think my first observation is on the coverage in the last day or so. Some people are saying that the plan is too detailed; others say that the plan is not detailed enough; some are saying that it does too much in one area and not enough in another and everyone is disagreeing. For example, some are saying that 100 megabits per second for 100 million homes is impossible, while others are saying it's going to happen anyway. So my conclusion is we must have gotten something right. (Laughter)

So I would like to talk about two things. First, a little bit about how we got an organized plan and how we didn't organize the plan so we can clarify some confusion. And second, about some of the topics that I think are interesting and important, but are not getting enough attention.

I think the three most important ideas of how the plan was brought about are following. Number one, you cannot think about this just looking at networks of connectivity. It's important. It's crucial. But the world is changing. Today when you walk into an Apple store and you buy an iPhone, Apple is getting a cut from AT&T. Right? People are using their phone more and more and that is requiring wireless network upgrades.

If you go back to the '90s -- for some of us it's not that long ago -- but if you go back to the '90s, you know, it was when Mosaic came up that the Internet exploded. Right? The first browser. So you have to look at applications, devices, and networks -- stuff we're calling the ecosystem when I think apparently the term got some traction. And you have to look at it both in terms of the steps to take, in terms of the barriers removed for usage, and in terms of how you think about competition for value. Not just competition within markets, but competition for value. And the plan does that.

I think the second important ideas is how we thought about the actions we could take and the actions we would take. I think if I were to go to my 12-year-old and say

come up with a plan for something, with some guidance he would come up with the following thesis for a plan. What's the endpoint, how are things going, and how do I change things so I get to the endpoint? That is the most common way to do a plan. I would claim that in this instance it is the wrong way. It's fundamentally the wrong way because we cannot predict the endpoint 10 years out where the Internet is going to be, what type of innovations are going to occur, how firms are going to behave, and how customers will make choices. And even if we could, government does not have the ability of controlling the past of evolution from where we are to the endpoint.

So, what we did was think about it different. We said what are the levers that government has as a player to influence the ecosystem, referring back to my first point. And the levers are the four levers that are listed in the executive summary. The first one is competition and policy; the second is assets that the government influences that has an impact on the business case for investment and industry structure. I think the two most important ones are spectrum and regulation and management of assets, such as poles, conduits, and rights-of-way. The third one is universalization policy, which primarily is the USF Fund and ICC -- Intercarrier Compensation. And the fourth one are regulations and rules and behaviors the government has to -- that affect usage. For example, can a doctor in New York treat a patient in Alabama? Are there licensing rules that prevent that to occur with telemedicine? Can a teacher -- can a student taking remote classes get credit for those classes? So government does have a role in removing barriers that drive these demands.

And the way we talked about the plan was, okay, given these levers, what it is that we can do? How can we optimize the utilization of these levers to maximize consumer choice and attract them as a private investment? And then the trajectory -- the market and consumers will define how the ecosystem evolves. So that's how we thought about the plan.

And in terms of the two or three topics that I think are worth mentioning, first I would like to give a view on the 100 megabits per second to 100 million homes. I think this is both aspirational and realistic. It's realistic because there is technology being rolled out today -- fiber to the premise or docks history -- that is capable to offer the service to any given household. It's aspirational and ambitious because it's not clear that what is being offered today is ever going to be affordable without changes. And it's not clear that if a reasonable number of consumers take up that service, the service delivered will be 100 megabits per second. I think the knowledge I make is this -- that I'd actually like to make is the following. Forget about broadband and bits. Let's think about driving in Manhattan. Everyone can drive fast in Manhattan. Go by a Ferrari. In fact, that doesn't mean the Ferrari is affordable. And in fact, even if a Ferrari was affordable and everyone had a Ferrari, you could not drive fast on the FDR Drive at 4:00 p.m., unless someone builds wider roads. So the fact that any single person can have a service that allows you to drive fast doesn't mean that without material investment -- either in deploying fiber to the premise or in splitting cable nodes -- you have the performance that you aspire for the company.

The reason why I focus on that goal is because if the United States has 100 million homes with 100 megabits per second, it is going to be the market for which chip developers, software developers, application developers, device developers, will create -- will first create the devices -- will first target their devices and chips. No one is going to stop and say do I create a TDS CDMA chip or do I create a chip for the U.S. ecosystem. TDS CDMA is a Chinese standard. People are going to say in my roadmap I will put the U.S. chip, the U.S. software, the U.S. device first. That's going to be the most attractive market. So that's to clarify one misconception.

The second topic that I think is important is obviously the topic of competition. And the plan actually has several -- has quite a few -- I counted more than 20

competition-related recommendations. From a review of the framework for competition in wholesale, which in fact affects all the industry -- mobile, enterprise, consumers -- to giving consumers more transparency as Blair mentioned, which will allow them to really compare the service on performance, and, therefore, (inaudible) there was providers to compete on value and performance.

And the recommendation that the FCC collects more data, and in fact, benchmarks pricing in different markets. So, you know, it would be interesting if we could compare how high-end broadband is priced in a market where you have both docks history and FiOS versus in a market where you only have docks history. That in itself may have material impact on competitive behavior. And once we have the data I think no one can talk about specific remedies. I would suggest that if you walk into a doctor's office and before you fill out a questionnaire and before he orders any exams he starts asking you should I give you an aspirin or should I give you chemotherapy you would walk out. Right? And so you should. So that is how we thought about competition. We have enough data to take several important steps which we are taking, but there's more to be collected and analyzed which will allow us to do even more.

And I think the third topic is the whole topic of the national purposes. And I agree with Blair that 10 years out this is where people are going to look back at the plan and say this is, you know, that's when things changed materially. And the one I like -- I like many of them, but the one I really like is related to health care.

And when we were doing the health care work, I went home -- did not work one of the Sundays, I think it was in November or December -- sat with my kid and we were watching I think it was Frontline and they were saying, you know, in the '70s there was a very high mortality rate for pediatric cancer. And it's a real problem because you cannot run a trial on pediatric oncology. Who's going to take the placebo? Right? It's unethical. So

what pediatric oncologists did is they created a network or (inaudible). Right? It was a network of people, not a network of connections. And every child that was treated -- every child that was treated, the information about the child, the treatment, and the outcome was shared in the network. Every treatment was a trial. And because of that, mortality rates in pediatric oncology have dropped massively.

Think about this for a moment. With the electronic health records we will have the information about every patient, every treatment, every outcome. And if we can connect and aggregate that information, we will learn from each one of them what is effective, what is not. For every disease, for every demographic. And in 10 years, in part because of broadband, we will be able to aggregate the data to study. And that may lead to a revolution in health care. The same is true for education; the same is true for energy. And I think people will look back and will say, well, we argued about, you know, should we shift 16 billion, 14 billion, or 18 billion in USF. Should we, you know, should we do X or Y in this archaic but important topic? But I think some of the revolutions that we'll see in the next 10 years, if we remove the barriers and if we make the right investments, will fundamentally overshadow those small discussions.

MR. GARR: Just a couple of comments to add to what Blair and Carlos have said. And sorry, my voice is a little bit tired. It's been a busy few weeks.

I really just want to make three points. And the first one is kind of taking a step back and trying to set the context for how the plan was made. Because I think how it was made is often a predictor of how it's being perceived, and it also will help us think about where do we go from here? This was the most open and transparent planning process we could physically do. I'm sure there's a few more things we could have tried to do, but there were 36 public workshops, thousands of meetings, you know, tens of thousands of filings, I'm sure. Several of you in the room -- I think I see some familiar faces -- have filed things.

We read them all. And we had very open discussions about the ideas in the plan.

And I think that's the only way we could get to the balance that Blair described. You know, if you just sat in a room -- we could have sat in a conference room and kind of dreamt this up -- we wouldn't have had a balance and we wouldn't have had an understanding of how this would be perceived for the rest of the country. Which leads me to my second point, which is the transparency creates an obligation for all of us, both people in the FCC who are going to have a lot of work to do over the coming years to do a lot of the implementation, as well as people from industry and other stakeholders in the community. And the obligation is to keep the level of discussion on facts and outcomes.

One of the things that I noticed as someone new to Washington when we arrived is that there is a lot discussion about broadband. There weren't enough facts. There wasn't enough talk about, you know, what's the actual performance of the network? What are the actual needs of different industries or different government functions? And our hope was that through the planning process we would do, you know, the best job we could physically in the time that we had to try to vet all the data, share it publicly in a way that we can all now use it and make decisions. And I think that's an obligation that we should all carry forward because what's really important about the plan is what happens next. The plan is great. Everyone should read the plan. We love the plan. We hope you love it. But it's really about what happens next. And I think it's important that we all share that obligation to kind of keep the level of discourse about facts and about, you know, what the outcomes are because there's a lot at stake here.

And that kind of leads me to my third point. And I think Blair and Carlos have both sort of highlighted their favorites and I'll take the opportunity to highlight mine so that maybe some others in the audience will pick them up and run with them with us.

I also agree with the notion that the national purposes are kind of the

hidden gems in the plan. In particular, Carlos mentioned my favorite, which is health care, so I'll not repeat it. And all recommendations are created equal. Everyone should understand that. We love them all. They're like children. We love them all. None are better or worse than either one.

I think energy is another area, particularly around personal control of your energy data. That is a really important thing for the next 10 years as the country starts to think about the smart grid and think about ways to manage our energy plant more efficiently. Putting that information in the hands of consumers so that we can all make choices about our consumption -- that could be a very powerful thing that could really change how that industry works. It's a small thing, but could have very great consequences.

A second area to just highlight as you look through the plan that really hasn't been mentioned is what this means to government and civic engagement. And I think the plan itself is kind of an embodiment of that, which is to say that if we do have very open and transparent government and we work together on really tough problems in a very data-driven way, kind of recognizing that there's always politics involved, but we can't let the politics drive the analysis, the analysis has to kind of stand on its own, I think that's another big side effect of having more broadband to more Americans.

And, you know, some of those things -- some of those recommendations in the plan all seem kind of small, but, you know, imagine if we had the video content of the government available for people to use. Teachers could use, you know, so if a teacher were teaching science they would have access to video from rocket launches or any other types of content that the government has. Those are things that may seem small now, but could be really remarkable as the plan goes forward to just make us all more engaged, more connected to each other, more involved in our government and in our society.

That's my last comment. I just want to remind everyone we do share the

obligation to kind of take the plan forward, read it, and make decisions based on what's in it, and improve it. I think that it would be a tragedy if there were no good ideas after the plan. And part of the thing that the plan can be and what I hope is its legacy is that it's a forcing function for more dialogue and more action based on what we've done and what we can learn going forward. And with that, Phoebe.

MS. YANG: Thank you, Erik.

So, Blair and Carlos and Erik have pretty much told you what is in the plan. And I'll just try to wrap up with a few sort of observations and reflections about the plan as we sort of start to look back on it and think about where it could lead for us all.

The intention has been for the team to really set out to put together both a visionary document, but also be responsible to the American people. The vision really kind of came out in a number of areas, but I'll hit sort of a handful of buckets here. One is in terms of anticipating the sorts of crises that Blair and Carlos mentioned, but also addressing potential crises in the national purposes arenas.

Secondly, to be responsible on budget impact especially in times like these where we are struggling as a nation to ensure that we have a strong economic recovery.

The third is just to make sure that we fulfill the American idea of not leaving people behind and enabling the less fortunate.

The fourth is that we actually put together a plan that is implementable -- if that's a real word. It's not a real word, but we're not writing the plan anymore. (Laughter) And, you know, we spent a lot of time ensuring that we set in place a ground -- the groundwork to make that happen.

And then finally, we really wanted to walk the walk. And what I mean by that is we talked about the openness and transparency of government that Erik just mentioned, but we wanted to be that. We wanted to show that it could actually be done

because I think a lot of folks who observe the government think it can't. And we wanted to prove otherwise.

We hit on a number of the crises that have been mentioned -- spectrum, USF, public safety -- that could happen if we don't act. We endeavored to make the plan revenue-neutral, which we did and probably will be revenue-positive if the analysts are correct and we're able to treat the spectrum in the way that we would like and manage towards that. There are robust adoption recommendations. If you all have taken a close look at them, but there's a recognition that the government alone cannot solve this problem. And the private sector has an important role in that. And we directly address that and some of the recommendations are geared towards that from the public-private partnership, as well as thinking about, you know, how to use a digital literacy corps and other inputs for all Americans.

I'll sort of build upon what Erik shared about the process because we consulted with over a dozen Executive Branch agencies as well as Congress during this. And we spent a lot of time with them learning form them, but also ensuring that because our recommendations would actually impact on the work that they did that, you know, that it would be actionable for them. We have over 40 FCC proceedings that will probably be taking place in the next 12 to 18 months, and some of those are already being planned and are under way. About half of those cover competition issues, wholesale competition that Carlos mentioned, devices, consumer transparency. About a quarter of those cover USF and then another quarter cover public safety. And then there are number of other sort of important issues that we've covered that are embodied in several of the recommendations as well.

And then finally, as Erik pointed out, you know, walking the walk was really important to us. We did want very much to involve not just the Washington community, but

the general public. We went out all over the country. Workshops and field hearings. We made it possible for people to file ex partes and to even, you know, the average American to log comments on the blog which they actually did, and we were very pleased by that. We put ourselves on Twitter and we had over 330,000 Twitter followers, and we very much wanted the public to be involved.

But we didn't want that to be the end. We wanted to empower the public as well going forward, which is why we launched the consumer tools on our websites. We are putting together and launching today the spectrum dashboard, which will enable Americans to see how spectrum is used and search and manipulate and do all kinds of interesting analysis around that. So, you know, all and all we very much wanted this to be a strategic and visionary sort of document that could be concrete.

And I'll just leave you -- since we're in the business of quoting college -- people who made an impact on us in college. I had a professor who was -- who is named Michael Smith who was an international political theory scholar. And he once said to me, you know, Phoebe, at some point you think that you are being neutral, but, in fact, in the public discourse it's impossible to be neutral. Deciding not to make a choice is also making a choice. And so what we wanted to challenge all of us, as well as the American public to do, is to make the choices that are important for all of our future.

Thank you for letting us be here.

MR. WEST: Okay. Thank each of you for your comments. Three hundred and thirty thousand Twitter followers. Now I'm impressed. (Laughter) That's major league right there.

We have time -- we have time for a few questions. I'll start with one and then we'll open the floor to people from the audience.

Blair, I mean, you mentioned how spectrum is the lifeblood. And of course,

the report spent a lot of time talking about that. It talks about needing 500 megahertz for broadband and 300 of that for mobile. Talk about space for unlicensed spectrum. Where is this going to come from? There's some talk about TV white spaces and perhaps we could make much more effective use of that. So if that's true, it's not necessarily a zero sum game, but yet already the TV broadcasters are complaining about shifts coming out of their current allocation. And then the report also talks about this notion of incentive options. So I was just wondering if you could talk a little bit about that as well.

MR. LEVIN: Sure. Though I would say that all the questions are actually answered in the spectrum section. There actually is a chart that talks about where the 300 megahertz would come from and actually gives a timetable for how the FCC should act on that.

Just a couple of things. Basically, think of three different paradigms for how spectrum is -- how allocations of spectrum are done. One, exclusive licensing through auctions. Two, secondary markets. Someone has an exclusive license, but other people are allowed, either permissively or in some other way to utilize that spectrum. Third, opportunistic use. This is the so-called white spaces or unlicensed where everybody gets to use it, but it's based on certain protocols.

Those three regimes are competing against each other in some different ways. Right now, most of the use is unexclusive, but white space is unlicensed and just being used. Obviously, unlicensed. Huge in Wi-Fi. Huge opportunities. We don't know. As Carlos said, we're not predicting or mandating a technology, but we want to make sure that there is sufficient spectrum in all of these areas so the technology can evolve and develop and let the best technology win and let the allocation decision be based on the actual consumer demands.

So with the incentive options, which by the way the broadcasters -- there

are lobbyists who are objecting. There are a lot of private broadcasters I've talked to who think it's a very good idea. Why? Because they would get paid money when they don't need spectrum. So this is actually -- I think that debate will evolve in a very interesting way over the next 12 months.

But the important thing is we need to make sure that -- and by this way this is not just about broadcasters; it's also about mobile satellite services. And it's about the government -- that there are market mechanisms inside the allocation decisions so that when various aspects of the government have spectrum, they're recognizing the opportunity costs of not selling it. So that's the way it works. Obviously, key to making sure that we have a healthy broadband ecosystem in the years to come.

MR. WEST: Okay. Let's open the floor to questions from you. There's a microphone right there in the aisle. And if you give your name and if you're with an organization.

MR. ALTMAN: I'm Fred Altman. And I have a speculative question. What all this will do is give everyone much greater access to all sorts of information. Is that information likely to increase the gridlock that we're seeing today because there are even more ways of distributing it? Or are we going to maybe get by that?

SPEAKER: I'll give a quick answer, but, you know, in the late '90s, Excite @ Home famously turned down an opportunity to buy Google. Right? Because they felt they had everything they needed to make -- to give meaning out of information. It turned out Google was a much better means to create meaning out of information. There will both be gridlock and then someone will figure out how to solve it would be my guess.

MR. WEST: Right there.

MR. PROCTOR: Alan Proctor. I actually used to be an antitrust lawyer. I'm very interested in the competitive aspects of this.

One of the keystone recommendations is around -- not kind of building on quality of access that people already have, but getting access for those who don't. Rural America, for example. The market kind of takes care of the other people in a lot of respects over the long-term.

And I'm struck between the contrast between -- you know, kind of a situation where you have competition working in some modes and not. You're deregulating or the FCC has deregulated much of the Internet and backbone. And yet, you know, you've got rural areas that -- there was an NPR story the other night about a county in Northern California -- 70,000 residents -- an AT&T piece of Internet backbone going by and they're not interested.

I know you've got special access rates or something like that, but that seems like it's old style regulation and kind of incompatible with where the FCC has been heading. How do you deal with this issue where, you know, you really do have a market failure? Subsidies are, you know, help get people to do things they don't naturally do. But I'm not sure I've heard you talk about ways in which you kind of pry open access where the existing vendors are working in a competitive environment doesn't necessarily mandate that.

SPEAKER: You mean the special access market in particular?

MR. PROCTOR: Yes.

SPEAKER: There is a little section on special access. The plan didn't go into that in part because there is a proceeding on special access. Special access -- I mean, it's obviously very important. We do analyze the importance of the middle mile aspect, and we say both as universal service and otherwise that that's a really important issue. But special access is so fact specific. All the plan can fundamentally say is this is a really important topic; the FCC ought to evaluate it. But it was not -- in terms of a planning process, you know, giving the metrics for saying that that market in California -- we ought to

bring back some kind of regulatory regime as opposed to that market in Alabama where we don't need to -- which is what the FCC is effectively going to have to do in that proceeding.

MR. WEST: Over here is a question.

MR. IRELAND: Gary Ireland from Ireland Communications.

Mr. Kirjner and Mr. Garr, you both made mention of what the next 10 years will look like or what will happen 10 years from now. I think, Mr. Levin, you've also talked about it taking 10 to 13 years I think I really you saying to just get some of the spectrum back.

Can you give us any kind of a prediction of what parts of the national purpose pieces -- what the roadmap might look like for health care, for environment, for education, over the next 10 years? I'm really interested in 10 years from now what we'll see in 20/20.

MR. WEST: Go ahead.

MR. KIRJNER: These are not predictions. These are opinions. Right? Because I'm not about to contradict myself saying I can predict what's going to happen.

I think you'll see -- I think it varies a lot. Let me tell you what I would like to see. Right? And I think based on the recommendations of the plan it's possible. Right? And it's plausible more than possible. I would like to see a world where a teacher can go online, find digital vocational content. That is -- that the teacher can, in turn, customize for the students. The teacher can find the best fraction/addition lesson there is. And it can have it in remedial or in advanced. And then he can have it in Spanish, Chinese, Tagalog, and English. The teacher can assemble the language and then send an e-mail with a link to each student based on where the student -- what's best of the student. And each student is going to have a customized set of materials to learn how to add fractions that the students' teacher chose. That is possible.

And there are several recommendations in the plan that try to accelerate that. It will be great if the student then did not have to carry a 25-pound backpack to school and got that (inaudible) and sent some type of e-book. But, you know, these are different things, but, you know, I think that can happen and that should happen.

I talked about health care. There are many more elements of health care that could and should, and possibly will happen.

And Eric talked about energy. If we can allow consumers, businesses, and their appointed third parties, to have access to their energy use on a real time or near real time basis, there are so many positive implications. Number one, you will see potentially the emergence of all kinds of services where someone will pay you, for example, to pay your electric car to the grid at separate times. Someone will be able to -- if you have a business and the business has a cooling system, you can have a service with someone and say you need to do maintenance now because if you don't, in two weeks your cooling is going to fail. I can tell you from the energy use pattern.

So there are all kinds of new services and innovations that will emerge -- that are about to emerge. And I think it goes back to the issue of can we let the data flow. Can we make the information free? Right? And the recommendations of the plan, both in terms of connectivity in terms of standards, in terms of buyers to use, in terms of regulatory changes, they all seek to allow the flow of information that will in turn create all these new opportunities.

MR. IRELAND: If I could follow up on that. I mean, in the plan you notice a lot of possible new applications: health care, education, energy, public safety, and so on. But the one that you appeared to privilege in the sense of suggesting 6.5 billion was public safety. Why that one as opposed to some of the other applications?

MR. LEVIN: Oh, well, for a simple reason. That's a network. With health

care, for example, a lot of the barriers -- there are barriers to connectivity, and we do have some reforms about how to do health care connectivity financing. But with public safety there is a perceived need in the public safety community and among a lot of other folks for having a national interoperable, mobile. How many adjectives? There were many.

SPEAKER: Many.

MS. SPEAKER: Seventeen.

MR. LEVIN: I think this broke the record for the most number of adjectives for a single noun. Interoperable, seamless -- well, anyway. But the point was that's a network build. The federal government -- and government entities, generally -- understand that they have to pay for public safety. So that's why that's the big ticket item there.

MR. IRELAND: Okay.

MS. YANG: But I would add to that, Blair, that if you develop a public safety interoperable network, wireless network, there are benefits as well to the energy system that we have because there's a critical infrastructure challenge as well that the nation faces. And those are not mutually exclusive, but they actually could work together. And so -- and in addition, some of the other national purposes recommendations are -- they're currently being funded. We just want to make sure that we update the way that we're funding them and that they're targeting them in a way that is future-oriented. So, for example, the health recommendations. There already is a pretty substantial fund out of HHS. We also have a pretty substantial fund at the FCC that supports connectivity to health care facilities. And so we want to make sure that we're leveraging government resources in such a way that we're not duplicating efforts. That's part of being responsible.

For the education sections there is a very successful E-rate Fund that the FCC overseas and manages through Universal Service Administrative Company, USAC. And there, you know, again, we want to target it. It's been successful because it's

connected to an unprecedented number of schools. However, as Carlos said, you know, we want to make sure that that connectivity is being used and streamlined in such a way that kids are able to learn. So, you know, it wasn't a deprioritization of the other purposes; it was really more to think responsibly about how we use government resources in such a way that is beneficial across the board.

MR. WEST: Okay. I think we have time for one or two more questions. Over here.

MR. OSA: Hiro Osa, Entity Corporation . I have a question about the Connect America Fund, which is to support the provision of affordable, broadband, and voice with at least four megabits. So I would like to know how you came up with this figure, which is significantly lower than 50 or 100 which the FCC recommends to target for the year 2015 and 2010, respectively. Thank you.

MR. KIRJNER: The first observation is that's the figure of minimum connectivity that needs to be available in the most expensive areas. How do you get to four is the question.

Number one, I did the average or the median. I think the median's actual speed that the American household uses today is around three. If you look at the fundamental applications that someone uses today, it made a good web experience. Some videoconferencing -- some consumer videoconferencing or voice. Right? All of those can be supported with actual one megabits per second. All right? Actually one megabits per second will do quite a bit. It does not do high-definition video, but we said today with one megabits per second you can do quite a bit.

This has been growing at about 20 percent a year, which should mean it would take about 10 years to get to actual four. So we said, look, what people are using -- what 50 percent of Americans are using today can be supported with one. At the current --

at the recent past growth rate, it would take 10 to get to 4. So let's go with four. Let's take five years, which the plan says. In five years we will review it because it could accelerate; it could decelerate. We can't really predict the future. It's particularly hard to make predictions about the future. And we will then review. But it's based on what is required for today and what has been the growth rate.

MR. WEST: Okay. We'll take one more question over here before we move to our second panel.

MR. BOWEN: Okay, thank you. Thank you. Robert Bowen with the Corporation for Public Broadcasting.

And before I ask a question I have to actually say thank you very much. The FCC did do a lot of outreach and engagement with public broadcasting, public media. There's a lot for us to wrestle with and a lot of us will have to respond to that. But as a technologist, I was very surprised and very excited about some of the applications that you're putting out with the dashboard coming out and whatnot. It is a very interesting move, but it seems to me the FCC, crowd sourcing, lots of information and data -- how is that going to drive the way that you think about making policy into the future? Is there a role for this type of work inside of the way the FCC will be looking at future issues and making policy decisions?

SPEAKER: Yes. And actually, a number of the recommendations relate to creating clearing houses of information on the theory that it is actually in that activity that you'll generate better ideas. It is essentially crowd sourcing. Actually, Bashal, who is sitting here, worked on what we think of as kind of a high performance America: in health care, energy, and education. And how do we share the best examples? How do we take what some applications that maybe come out of the military bases if they're all fiberized? And how do we do that? I think this goes to the theme of the bold, persistent experimentation.

But sharing the results of that experimentation across the board in a very pragmatic kind of way.

MS. YANG: It also expanded the sort of base upon which we gather data. So no longer are we just gathering data through providers and carriers, but we're actually empowering consumers and businesses to contribute to the data gathering, which then will feed into a broader process. And the bureaus and officers within the Commission, for example, are already planning to use the results of the spectrum data.

SPEAKER: I think we need to be much more entrepreneurial in how we think about gathering information about broadband. And I think some of these few things that we've launched in the last week or so show that. Because not all data is created equally. I mean, we've got to have to look at all of it and then make choices about what data is useful in different situations. You know, it certainly doesn't replace the formal data collection that the FCC does. That stuff will still always happen. And that's important and has a role. But, you know, if you have these tools -- I mean, these tools, while tricky to me, are not impossible to make. So why wouldn't you have -- why wouldn't you want other ways to gather that information so you could validate it against other things. And, you know, I'd expect to see more of that.

MR. WEST: Okay. In a minute we're going to bring Peter and Karen up. But before we do that I want to think Blair, Carlos, Erik, and Phoebe, for sharing your thoughts. And we will look forward to the implementation phase of this. (Applause)

SPEAKER: Thank you very much.

MR. WEST: Okay. The next phase of our forum is going to feature an analysis of the National Broadband Plan by two experts. Peter Stenberg is a regional economist with the Economic Research Service of the U.S. Department of Agriculture. And his research focuses on economic development, physical and human infrastructure, rural

telecommunications, and science and technology policy among other issues. He is the author of a 2009 study entitled, “Broadband’s Internet Value for Rural America.”

Also joining us is Karen Mossberger. She is a professor of Public Administration at the University of Illinois in Chicago. Her research interests include urban policy, information technology, and e-government. She is a co-author of two books with Carolyn Tolbert and Ramona McNeil, “Digital Citizenship: The Internet Society and Participation” published in 2008 by MIT Press, and “Virtual Inequality Beyond the Digital Divide” published by Georgetown University Press.

And she recently completed a study of technology use in Chicago with Carolyn Tolbert of the University of Iowa that includes neighborhood-level data on broadband access. So, for each of you I will ask the questions: What’s your reaction to the plan? What should we like? What should we not like? Are here issues that need to be addressed?

Peter, we’ll start with you.

MR. STENBERG: Well, thank you, Darrell, for our invitation to join or participate at the forum.

(inaudible) reaction basically, it’s to understand what the value of the Internet is for rural America. This plan is -- well, broadly speaking, is very impressive, very comprehensive. I was very pleased to see an action plan to increase broadband in rural American as well as increase the quality of broadband or the speed of broadband in rural America.

Now, as you know, the problems with rural America and some of what I’m going to say is in the report that Darrell just mentioned, which I think I left some copies outside that you may take. And obviously, broadband has been less available and less used in rural America, even though real households themselves have been online as much as --

ordinarily, as much as urban households. And the evidence that we were doing in our study suggested that this was in part, at least, involuntary broadband (inaudible). But the impact has been on a number of things. And our research showed that it does have a positive impact on employment growth, income growth, population growth, and in communities that had broadband at earlier stages than other communities.

And a number of things that were emphasized in the report and were talked about in the previous panel are very important to rural areas. Telemedicine -- you have a lack of primary care in rural areas or lack of critical care in rural areas, and telemedicine will help to address that to some extent. Also, distance education is very important to rural areas. The rural schools, especially ones that are small and in more isolated areas, do not have the full course spectrum. And the distance education offers them course offerings that they could never offer on their own.

And we do have evidence that the rural businesses have been getting into the Internet much more than -- well, have been finding much economic value on the Internet, including retail operations. Some places had been required by their suppliers to provide or do their purchasing online, requiring again a broadband Internet connection.

Rural farms are very isolated in regards to rural areas. Farm businesses have been increasingly using the Internet to do purchases as well as sales. But one of the problems with rural areas, of course, is there's demographic differences. Not everyone chooses or understands what broadband has to offer. In the program or the plan that was put forward by FCC does have some proactive elements into it? And that's one thing I really appreciated -- having those proactive elements.

One thing I did -- and again, as the plan is going forward, I would like to see that it was omitted from the plan -- was a group that had been instrumental in rural development for a long time. And that's the land grant institutions. The 1862 land grant

institutions were the original ones. The AT -- black -- predominately black institutions were added in 1890. And in 1994, tribal land grant institutions were included. And what's important about the land grant Institutions was their mandate, which was to do a research, education, and what we call extension (inaudible) bringing it out into the community.

And land grant institutions have been from the beginning involved on the Internet. I guess my bias comes from this. I was educated in the engineering program at a land grant institution. And the first time I used distance education or I was actually a teaching assistant in a distance education program was as a sophomore.

The land grant institutions have been involved in both sides of the issue of bringing out the Internet, as well as educating people. You may not even recognize some of the institutions as being land grants. In the local area, the University of Maryland at College Park is a land grant. Its sister, University of Maryland at Eastern Shore is an 1890 land grant. Virginia Tech University is a land grant. Virginia State is an 1890 land grant. University of District of Columbia is a land grant.

Now, just for an example of some of the activities that have been going on in outreach activities, Virginia State has a mobile lab that brings out into communities around the state essentially what is a digital education-type program. Showing the local communities what they can do on the Internet, how to communicate on the Internet. This mobile lab is connected through satellite to give them broadband as (inaudible).

And with that, I would like to conclude.

MR. WEST: Okay. So Peter talked a little bit about the rural side. Karen has more urban interests, so I'll turn it over to Karen.

MS. MOSSBERGER: Thanks. Let me start about what's right. And I see a lot that's right and welcome with this.

I agree that this is an effective call to action. The FCC speakers said before

that this was the intent. And I think the plan's really effective. And moreover, as a call to action on some really important national purposes. So I think they've done well in achieving that. But it's precisely because technology can generate these really significant social benefits and it's precisely because being online is increasingly necessary for social inclusion, for full citizenship, for individuals to participate fully in society -- that this is really an important document.

I think there are other reasons that this marks a historic shift in policy on broadband. And in part that's because it puts forward policy to promote home access for the first time, as well as the more traditional support of public access that was mentioned, for example, through the E-rate program. And as someone who has done a lot of research on digital inequality, I think this is one of the problems that we have not done well solving as a society.

Home access is critical because it fosters the frequent use, the familiarity with the technology, the skills that people need for digital inclusion or digital citizenship. And people with home access enjoy more autonomy. Many use the technology to experiment with it. And we also know from research that home address is a significant predictor of technology use for things like job search, health information, education, or other human capital-enhancing activities. And these are precisely the kinds of goals that we see set out in this National Broadband Plan. So I think that it marks an important watershed in a lot of ways.

But I want to address the FCC's plan in terms of urban needs in particular as Darrell mentioned. National averages for urban residents and even citywide averages -- some of the data we've seen coming out recently in the FCC survey and in the current population survey from 2009 -- these sorts of averages or even citywide averages can obscure some of the really stark disparities that exist in poor neighborhoods in central cities.

There tends to be more geographic concentration or clustering of these disparities.

And in this recent study that I did with Carolyn Tolbert in Chicago, we used geo coding and multi-level models. We were able to look at neighborhoods and even down to census tracts. There are high poverty census tracks in Chicago where there's well under 10 percent broadband adoption. There are many, many more where we see much less than the 40 percent broadband adoption that the federal government has been using as its definition for underserved.

So generally the infrastructure exists in urban areas. Availability isn't the main problem. But we see if we look at surveys of urban residents, for example, also, that they're less likely -- the national averages or rural averages -- urban residents are less likely to say that they simply aren't interested or that technology lacks relevance for them. So I think there are a lot of opportunities to connect urban residents who are disconnected today. And we should be careful not to squander that opportunity.

But the primary problems in urban areas, of course, are cost and skill barriers. Affordability is a major factor for low income African American and Latino residents in particular. And we can see in our Chicago study that living in a high poverty neighborhood magnifies the importance of cost as a barrier for technology adoption -- broadband adoption in general.

Digital literacy is also very important, so I'm glad to see this idea of the digital literacy corps that I think is really creative. And we see especially for Latinos, even more for other residents, that lack of skills is a really serious barrier. But one of the things I think going forward with a digital literacy corps is that it should be very much rooted and responsive to different neighborhoods, to different communities. For example, in urban areas. Because we can see that the needs and problems in our Chicago study really differ comparing Latino neighborhoods, for example, to African-American neighborhoods where

residents in these low income African-American communities use public access and have more experience with technology, but where the hurdle is really cost and home access.

So I think it's also a great step forward that the Broadband Plan recognizes the problem of affordability and has some solutions. For example, like allocating the spectrum in a way that might be used as an incentive for more affordable broadband in low income communities. There are suggestions that state and local governments might do more through things like public-private partnerships or use of right-of-way. And I think that these are important solutions. But I also believe looking at the plan that it places most of its bets on the market for solving the problem of affordability. More competition and innovation are sorely needed. They should be encouraged, but I think that overreliance on the market has left us with expensive broadband in comparison with other nations and it's left us with problems that we still see in urban areas today.

Now, national plans are important as policy statements, but what counts in the end is how they get translated into policy. And I have some concerns. There are a lot of factors that will tend to orient implementation toward focusing more on availability or on areas where there isn't infrastructure. Now, this is important. It's an important market failure some have mentioned to address -- to connect rural areas where there isn't any infrastructure. But it's also in a sense a solution where, you know, progress is perhaps more tangible. It's also a solution that doesn't necessarily bring government into as much conflict with telecommunication companies who don't want to see encroachment or competition in their markets. And I think that this has been one of the problems with addressing costs in urban areas.

We've seen, for example, in the past as cities have tried to do things like municipal wireless networks -- we've seen attempts by telecommunication firms to -- through state and federal legislation restrict the abilities of cities to do things like wireless networks.

Municipal wireless networks. Also, if we look at the current implementation of BTOP, Broadband Technology Opportunities Program, we can see in round one that there was very little money that's been given for urban areas: a few small grants for public computer centers. But they haven't really addressed issues in cities. And, in fact, maybe I'll wait until question and answer to talk about this, but, in fact, for round one it was very difficult for cities to apply. There were many barriers that made cities actually often give up even submitting any application for round one.

There have been some changes in round two. And so I hope some of the outcomes for that will be different. But in general, I think that for both urban areas and rural areas the real challenge is how are we going to address affordability -- that that's going to be critical for greater digital inclusion. And it's not only an urban issue alone. It's something that rural areas, which are often impoverished, are going to confront once there's availability to. And I think that this is a difficult challenge, but it's one that we can't afford to ignore. And I hope that there will be a commitment on the part of the FCC and also federal agencies to address affordability for all communities.

MR. WEST: Okay. Thank you, Karen.

We have time for a few questions. We have a microphone back there. Over there is a question. And again, if you can give your name and (inaudible).

MR. SELADON: Max Seladon, and I'm an independent freelance writer. I write a column for Business Week.

I just had a question in regards to your study in urban centers. I know that in cultures, especially in the Hispanic population, culture, language -- it's a big issue when it comes to access. But it's not necessarily that the computer itself is the issue. Some people in the Latino community look at it as an intrusion to the social family unit. And in a lot of studies, mobile devices are very -- the usage in the Latino-Hispanic community in America is

very high. And in fact, I actually just got back from a trip to Latin America. And in some of the most poorest neighborhoods I was just mesmerized at how many more iPhones I'm seeing.

So the question for me then to you is so when we're figuring this out and you're addressing the Latino neighborhoods, it's more efficient to say that maybe -- that research should be allocated to -- for mobile access? Or that you need to educate them. Because language itself is going to be a huge barrier. And to some people, having a computer is not -- it's not -- one, affordability will be an issue. The usage will be an issue, number two. And then eventually -- because I've seen homes where there's no computer, but there's a PlayStation.

Did you encounter that in your study? How are you strategizing this?

MS. MOSSBERGER: Okay. In terms of the results that we found for Latinos, there was a huge difference based on language.

SPEAKER: Okay.

MS. MOSSBERGER: We offered the survey in English and Spanish. And so those who took the survey in Spanish, only 39 percent used the Internet anywhere, even at a library or something versus 79 percent of the Chicago residents who took the survey in English. So, you know, I think it's not just language, but other things that go along with that. Recent immigration and attitudes and experience with the Internet and, you know, where people may have immigrated from. And you know, that all is wrapped up with issues of poverty in these communities, too.

So I think you're right. And what we found is that Latinos are the group furthest behind in Chicago and we know nationally that's true. Also, what we found were that there were multiple barriers to technology use. Cost was really especially important to Latinos, as well as African-Americans. But then there were other things like privacy and

security. And this kind of links with what you're saying about the home. And perhaps privacy and security, skills online, confidence, you know, ability to use the Internet. All of those multiple barriers came up more with Latinos.

In terms of strategies, we did find a little trending and some of the national data is showing this, too. That slightly more use among African-Americans and even a little more among Latinos for mobile devices. So I think that is one way to possibly engage people, although they have, you know, if you're talking about a smart phone, there are some limitations. I was just trying to read an article on one. There are limitations.

But that might be a way to initially engage people. One of the things that's happening in Chicago -- there's an initiative that's very much community-based. And in two predominantly or largely Latino communities, there are organizations who -- organizations where people are looking at how do we really engage the community? How do we use technology as part of our neighborhood revitalization strategies? And, you know, not making it about technology, but just a natural way to accomplish the things that we want to accomplish in our neighborhood and what we want our community to be.

And so I think that, you know, given the wide differences we found between neighborhoods, that approach, I would predict, would be the most effective way to let people in the community figure out how do you do this. And I think that's sort of a model for this digital leadership court, too.

SPEAKER: (inaudible) young kids to have access to computers at school? Is there a huge discrepancy there?

MS. MOSSBERGER: We -- our survey only included people age 18 and up, but I think that -- I know age clearly makes a difference for all of these people. You know, for all groups of any, you know, race or ethnicity or income or education. Age helps because young people are online more. So, but that's not to say that it erases the

disparities because there are still gaps, even when we look at younger respondents across groups.

MR. WEST: Okay. There's a question over here.

MR. GARVIN: My name is Eric Garvin. I'm with FTK5. One of the things I'm curious about in terms of how you looked at the National Plan. When I looked at it, I thought it was a little parochial in terms of only looking at the U.S. And not so much how we reconnect with the rest of the world. From a farming community, in terms of looking at pricing, commodity pricing, how farmers are actually looking at how they're running their business and their farms, and then in the urban areas where we have unknown numbers of people who are communicating with people in other countries and in some cases transferring money, keeping track with what's going on in their families -- I mean, how did you see the Internet and what we have here in the Broadband Plan -- how did you feel that it addressed how the Internet is being used and could be used relative to this plan?

SPEAKER: Did you want to start or --

MS. MOSSBERGER: Okay. I can probably just say this really briefly. When I think about why does broadband matter, not only at the individual level, but for communities. And how could it have an impact. I think urban areas have so many opportunities that the impact for global connectivity for trade, for businesses, for community development. You mentioned people of different communities. So in some of the communities in Chicago connecting up with people in other countries where, you know, they had business relations or relatives. For cities which are increasingly so global, I think that's why -- that's one of the arguments why we need to make sure that urban areas are well connected.

MR. GARVIN: You know, I'm not sure what you meant by parochial, but in regards to farmers, their markets tend to be really national. They're dealing -- like, I'm

thinking of an example of a hay farmer in Virginia, who was selling hay over the Internet to as far away as Texas. But you don't get too many direct commodity community trades from farmer to overseas. There may be some regards to Canada or Mexico because of certain trades where -- which is part of our NAFTA. But as far as that, that's as far as it goes.

MR. WEST: Okay. Any other questions? I think we have time for one last question right here.

SPEAKER: Thank you. I have to say I expected today's discussion to largely focus on issues of accessibility. And I think that's in part because accessibility is a much more comfortable subject. It's a hard subject to disagree on. Everyone should have theoretical access to the Internet. I think that the issues of affordability are much more concerning.

And I'm wondering if as the two of you have reviewed the plan in depth, do you have any real reason to expect market, you know, free market theories to actually address issues of affordability to broadband connectivity?

MR. STENBERG: Well, my reading of the plan was that it really goes towards addressing that. Whether it will address it fully, I'm not sure. I just have not had time to look at the depth that they have done -- there's a lot of detail in the plan -- to give a real definitive answer on that.

But it does free up spectrum. It should reduce some costs. It does -- tried to bring in competitors which, again, will -- especially in rural areas, that's an important issue.

SPEAKER: And then the Universal Fund Service idea of eventually shifting 15.5 billion is part of the effort as well.

SPEAKER: It's a key element.

MS. MOSSBERGER: I think that with the emergence of, you know, mobile broadband and some different, more flexible arrangements, for example, not requiring all the

time monthly contracts. Some of these things may make some difference in affordability or greater accessibility, but I'm pessimistic basically that the market alone can solve the problem and close these gaps.

Now, in fairness, the broadband plan does raise government incentives and government action and some government intervention. I still think it leans heavily towards depending on competition and innovation. And I think those will make some difference, but I think that if we rely -- that we can't rely too heavily on that. I think there's a need for government to look at how we can address affordability, especially in areas where there is infrastructure, but where people are excluded because of the cost.

MR. WEST: Okay. We're out of time, but I want to thank Karen and Peter for sharing their thoughts with us. And thank you very much for coming out.

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

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