FEDERAL COMMUNICATIONS COMMISSION

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CONSUMER ADVISORY COMMITTEE

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MEETING

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FRIDAY
AUGUST 2, 2013

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The Committee met in Room TW-C305 at the Federal Communications Commission, 445 12th Street, S.W., Washington, D.C., at 9:00 a.m., Debra Berlyn, CAC Chairperson, presiding.

PRESENT:

DEBRA BERLYN, National Consumers League, Chairperson
CHARLES ACQUARD, National Association of State Utility Consumer Advocates
CHRIS BAKER, AARP
ED BARTHOLOMEW, Call for Action (alternate)
MARK DeFALCO, Appalachian Regional Commission
AMALIA DELONEY, Center for Media Justice*
CECILIA GARCIA, Benton Foundation
JULIAN GOLDMAN, M.D., Partners Healthcare
LISE HAMLIN, Hearing Loss Association of America
MITSUKO HERRERA, Montgomery County, Maryland Office of Cable and Broadband Services
ROBERT JARRIN, Qualcomm Incorporated
JULIE KEARNEY, Consumer Electronics Association
RAJA KUSHALNAGAR, Rochester Institute of Technology
IRENE E. LEECH, Consumer Federation of

America
LUISA LANCETTI, T-Mobile
MIA MARTINEZ, National Asian-American Coalition
KEN McELDOWNEY, Consumer Action*
TERRI NATOLI, Time Warner Cable (alternate)
ART NEILL, California Western School of Law, Media Rights Project
STEPHEN POCIASK, American Consumer Institute
STEPHANIE PODEY, National Cable and Telecommunications Association
DONNA RYNEX, Verizon Communications, Inc.
PAUL SCHROEDER, American Foundation for the Blind
CLAUDE STOUT, Deaf and Hard of Hearing Consumer Advocacy Network
MARGARET TOBEY, NBC Universal and National Association of Broadcasters (alternate)
DOUGLAS TRAUNER, Health Analytic Services
DOROTHY WALT, Helen Keller National Center for Deaf-Blind Youth and Adults
KRISTA WITANOWSKI, CTIA The Wireless Association (alternate)
ROBERT YADON, Digital Policy Institute (alternate)

ALSO PRESENT:

SCOTT MARSHALL, CAC Designated Federal Officer
BOB ALDRICH, Attorney Advisor, FCC
CAROLYN BRANDON, Senior Scholar, Georgetown Center for Business and Public Policy, McDonough School of Business, Georgetown University
MICHAEL CAROWITZ, Deputy Bureau Chief, CGB/FCC
ROGER GOLDBLATT, Outreach & Policy Advisor, CGB/FCC
KRIS MONTEITH, Acting Chief, CGB/FCC
JESSICA ROSENWORCEL, FCC Commissioner
MARK STONE, Deputy Bureau Chief, CGB/FCC
MICHAEL STEFFEN, Director, FCC Digital Learning
NICOL TURNER-LEE, Member, Board of Directors, Minority Media and Telecommunications Council
STEVE WILDMAN, Chief Economist, FCC

*Participating via telephone

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P-R-O-C-E-E-D-I-N-G-S

9:21 a.m.

CHAIR BERLYN: All right. So we are able to start. Sorry for the late start, but it does mean that our room is really full. So good morning, everyone, and welcome, and thank you all for being here this morning.

I'd like to do our introductions, as always. Let's try to be as efficient as possible as we go around the room, seeing that we do have a late start. But I do need to ask you -- and, remember, there's a couple of rules of the road as we go around. Please make sure that you are recognized by the booth so that the mike is on.

Welcome, Julie. You're over here. No, no, guess what? We just got started. We had a few logistical problems, so you haven't missed anything. And nothing like being recognized as you walk in the room.

So remember to make sure you're recognized by the booth so that your mike is on.

And if you could, speak very clearly and relatively slowly so that those around the room are sure to hear you, and Dorothy in particular, and the interpreters can make sure that they can catch everything that you're saying. And, you know, say who you are and who you are representing, please.

And I will start that process. I'm Debbie Berlyn. I chair the CAC, and I'm representing the National Consumers League.

MS. MONTEITH: I'm Kris Monteith, acting chief of the Consumer and Governmental Affairs Bureau.

MEMBER BARTHOLOMEW: Ed Bartholomew. I'm with Call For Action.

MEMBER BAKER: Chris Baker with AARP's Public Policy Institute.

MEMBER JARRIN: Robert Jarrin, Qualcomm Incorporated.

MEMBER TRAUNER: Douglas Trauner, Health Analytic Services.

MEMBER GOLDMAN: Julian Goldman

with Partners Healthcare.

MEMBER MARTINEZ: Mia Martinez with the National Asian-American Coalition.

MEMBER NEILL: Art Neill with California Western School of Law's New Media Rights program.

MEMBER WALT: Good morning. This is Dorothy Walt. I'm a regional representative with the Helen Keller National Center. I would like to remind everyone to please let me know if you have some difficulty in understanding me. I can repeat myself. Just raise your hand. Thank you.

MEMBER HERRERA: Mitsuko Herrera with Montgomery County, Maryland.

MEMBER PODEY: Stephanie Podey with NCTA.

MS. WITANOWSKI: Krista Witanowski, CTIA.

MEMBER RYNEX: Donna Rynex with Verizon.

MEMBER LANCETTI: Luisa Lancetti,

T-Mobile.

MEMBER TOBEY: Margaret Tobey, NBC Universal, alternate for Ann Bobeck from the NAB.

MEMBER POCIASK: Steve Pociask with the American Consumer Institute.

MEMBER NATOLI: Terri Natoli for Time Warner Cable. I'm the alternate for Fernando Laguarda.

MEMBER HAMLIN: Lise Hamlin, Hearing Loss Association of America.

MEMBER LEECH: Irene Leech, Consumer Federation of America.

MEMBER DEFALCO: Mark Defalco with the Appalachian Regional Commission.

MEMBER GARCIA: Cecilia Garcia, Benton Foundation.

MEMBER STOUT: Good morning. Claude Stout with Deaf and Hard of Hearing Consumer Advocacy Network.

MEMBER KUSHALNAGAR: Hello. Raja Kushalnagar with the Rochester Institute of

Technology.

MEMBER ACQUARD: Charlie Acquard, National Association of State Utility Consumer Advocates.

MEMBER KEARNEY: Julie Kearney, Consumer Electronics Association.

MEMBER SCHROEDER: Paul Schroeder, American Foundation for the Blind.

MEMBER YADON: Good morning. Bob Yadon, Digital Policy Institute. I'm the alternate for Barry Umansky.

MR. MARSHALL: And I'm Scott Marshall with the FCC.

MR. STONE: I'm Mark Stone, Deputy Chief --

MR. MARSHALL: Oh, Mark. My boss, no less. Oh, my God.

CHAIR BERLYN: Thank you. And I believe we might have some folks on the phone.

MEMBER DELONEY: Hi. This is Amalia Deloney with Center for Media Justice and Media Action Grassroots Network.

CHAIR BERLYN: Is there anyone else on the phone? Okay. We might have several others during the day; is that right, Scott?

MR. MARSHALL: Right.

CHAIR BERLYN: Very good. And I also want to thank T-Mobile. Luisa, I know you can't see me right now, but you are back there, and I just want to thank T-Mobile for sponsoring our breakfast and lunch today. So thank you very much for doing that.

So we have a jam-packed day, and I hope that everybody will find the agenda of value. We have several great speakers, both from within the FCC and outside the FCC, today on several different subjects and topics.

So here we go. So first up is Kris Monteith, our Acting Bureau Chief of the CGB. So thank you very much, Kris.

MS. MONTEITH: My pleasure. Thank you very much for having me and for having members of CGB and others from the Commission address you on important topics today. It's always great to have you here at the Commission. We very much appreciate your willingness to continue to serve and continue to advise the Commission on important consumer issues. It looks like you have, as Debbie said, an interesting and jam-packed agenda.

Shortly, you'll be hearing from members of the senior leadership team in CGB on CGB activities since we last met in April. Suffice it to say, it's been a busy time. I think we have six items teed up for the Commission's consideration, six items on circulation, many other policy matters that we're working on within the Bureau, both rulemaking and major projects that we will report to you on.

Rather than me addressing what the various folks within the Bureau are doing, I'm going to let them speak for themselves. So you'll hear from them shortly.

I did want to mention one important commitment that I made to you at the last meeting, your April meeting. You asked me to respond in writing regarding the status of your recent recommendations and how we had incorporated your recommendations into our actions and items.

I had hoped to have a document ready for your perusal today. I don't have the document quite yet, but I can commit to having it within the next couple of days. We've cleared some internal hurdles that we had to clear and are just putting the finishing touches on that, so you will see it shortly.

In a couple of instances, you may note that we haven't been able to completely address how we've used your recommendation, and that is because the item under consideration or the proceeding is still under consideration and information is non-public at this time. But I do want you to know, and I think, I hope I've said this in the past, that we do carefully look at the CAC's recommendations. They're important to us, and we appreciate your thoughtful consideration of the complex issues that we work on.

I hope you'll find the summary useful. And, certainly, we can start a dialogue on the summary, as well.

Now I want to turn it over to Mark, who is the Deputy Bureau Chief that oversees our Consumer Policy Division, and he will address what's going on there.

MR. STONE: Good morning, and thanks to all of you for being here today. I want to give you a brief update on some of the things we've been doing in recent months and touch on a few other areas of interest.

First, as we mentioned before, we've been hard at work addressing some petitions that ask the Commission to clarify the parameters of the Telephone Consumer Protection Act, or TCPA. We have several TCPA items on circulation that involve a couple of key areas of consumer concern. These include whether a consumer can give consent to receive a text message or pre-recorded voice call on behalf of another consumer, whether the TCPA's protections should apply to predictive dialers used to make informational calls to consumers about things like flight delays and credit card warnings, and whether the Commission has authority to require faxers to include opt-out information at the top of a fax that the consumer previously consented to.

We also recently sought comment on another petition from a company called uMail, which provides a software-based service that allows smartphone users to replace default voicemail options with customizable telephone answering functions, including automated text message replies to calls. So, for example, you could set your cell phone to send text messages automatically to anyone who calls you while you're on the phone. The text could say something like, "I'm on the phone now. Call you back soon."

uMail has asked the Commission to

clarify that its virtual receptionist software is not an automatic telephone dialing system, as defined by the TCPA, because the software does not have the current capacity to store, produce, or dial random or sequential telephone numbers but, instead, responds one time to a single input, a caller leaving a voicemail message, and only when instructed to do so by user settings and when adequate caller ID information is available.

Second, this company, uMail, asked the Commission to clarify that uMail does not initiate calls because it does not cause the call to occur, as defined by the TCPA. Third, uMail asked the Commission to confirm that callers provide prior consent to receive a responsive text when leaving voicemail messages to a uMail subscriber.

The comment cycle just closed on this petition, and we're reviewing the record. This is another case where we're asking commenters to help us balance these innovative uses of technology with Congress' directive that we protect consumers from unwanted communications.

Turning to another traditional area of CGB oversight, one that we don't mention too often and that folks may not realize remains a consistent consumer headache, is slamming. If you don't know, slamming is the unlawful practice of changing a subscriber's selection of telephone service provider without that subscriber's knowledge or permission.

The Commission has adopted authorization and verification rules that must be followed in changing a consumer's pre-subscribed carrier and liability rules that apply when a slam occurs. States may opt in to administer these rules. Thirty-six states, the District of Columbia, and Puerto Rico have opted in.

For some time now, CGB has administered the rules for 14 of the states that have not opted in. And the numbers are pretty remarkable. Since 2001, when the Commission's revised slamming rules became effective, the FCC has received approximately 28,000 complaints and resolved approximately 27,500 of those complaints. The complaints are resolved largely by the Commission either referring them to the partnering states that have opted in to enforce those rules or issuing orders. To date, and these numbers are a little bit dated, but, to date, the Commission has issued orders involving over 13,500 consumer complaints on slamming.

Next, I'd like to briefly talk about something that folks around this table may often wonder about, and that's how we work with the Federal Trade Commission in the many areas where the two agencies have mutual interests. We're often asked about the contours of our jurisdiction and how we collaborate to address consumer problems. The FTC is authorized under the FTC Act to protect consumers from "unfair methods of competition in or affecting commerce and unfair or deceptive acts or practices in or affecting commerce."

But their statute exempts from the FTC's authority common carriers and a number of other entities, including banks, savings and loans, federal credit unions, insurance companies, and air carriers. The FCC, on the other hand, has authority under the Telephone Consumer Protection Act to protect consumers from unwanted telemarketing and non-telemarketing without limit as to which entities it can enforce against.

Although the FTC is prohibited from regulating common carriers directly, we have worked with them over the years to review common carrier-related practices, such as deceptive advertising and telemarketing abuses. For example, in 2000, the FCC and the FTC issued a joint policy statement on common carrier print and broadcast advertising. And in 2003, the agencies entered into a memorandum of understanding on enforcement of the agency's telemarketing rules to avoid unnecessary duplication of enforcement efforts.

As many of you may know, the FCC, last year, updated its robocall rules to mirror those of the Federal Trade Commission's. On a more day-to-day level, we regularly talk to FTC staff to identify emerging consumer issues and share approaches for investigation. We also share complaint information, which Michael Carowitz can discuss in a bit more detail.

Finally, I wanted to highlight for you some of the work our colleagues in the Enforcement Bureau has done recently on some core consumer issues. Enforcement has been active on a number of fronts. Just this Wednesday, it issued a million dollar consent decree on slamming. In May, it issued more than $3 million in forfeitures for junk faxes. Also in May, it entered into with the Commission two consent decrees worth more than $30 million in total related to the Telecommunications Relay Service. We appreciate the efforts of our enforcement group.

So that wraps up my report this morning. I want to thank you again for your service to the Committee and wish you a great day here at the Commission.

CHAIR BERLYN: Thank you, Mark.

MS. MONTEITH: Yes, thank you, Mark. And now Michael. Michael Carowitz is the Deputy Bureau Chief that oversees our Consumer Inquiries and Complaints Division and our Web and Print Publishing Division.

MR. CAROWITZ: Hi, everybody. Happy Friday. I had just a couple of things that I wanted to mention to you today. About several months ago, I believe, my predecessor in this position, Bill Freedman, had talked with you about potentially making changes to the integrated voice recognition system that consumers encounter often when they call the FCC. That's something that we've been looking into all of this time, and we've cleared the final internal hurdles. And I'm pleased to announce that the recommendations that you made, after working with that system and getting back to us with your ideas for improvements, your recommendations we have implemented or are in the process of implementation, I should say.

I think probably within the next several weeks we're going to roll out a pilot that will run for a couple of months. We're not exactly sure on how much data we're going to be gathering, given sort of the ups and downs of the holiday period, this summer holiday period.

But the pilot will run for a couple of months. And then, based on that, we'll see if we need to do any tweaking. And then we expect pretty much to be able to adopt all of the recommendations.

And for those of you that weren't involved sort of in the recommendations, it's when consumers encounter the phone tree, it will give them more options. It will give them a little bit more specificity. It will make it much more clear to them up-front that they have the option to get a live human being on the line. It will also make clear that, in some cases, if they listen to the phone tree, they can get answers much more quickly by pushing another one of the options.

So we think this will please consumers. It will reduce the amount of time they have holding waiting for someone or just being confused about the menu. So we see it as a positive step. And, really, we owe it to you because you're the ones that sort of took up the task of looking into what needed to be done. You got back to us in a timely way, and we're getting back to you now with this good news.

The second thing that I wanted to mention to you was the continuing work that the Commission is doing to address the flow of stolen cell phones. This is something that you'll recall the Commission acted on, along with a lot of industry folks, last April, April 2012 that is. A number of the carriers, equipment manufacturers, and other stakeholders, including law enforcement, stepped up, got together, and said this is a problem that we want to address.

We've had a lot of cooperation, and I would specifically like to thank law enforcement, the wireless carriers, and the other stakeholders that have been participating in this. This is an ongoing process.

At the same time that this has been going on, you'll note that, oh, a couple of months ago, there was a spate of media stories about stolen cell phones and other wireless devices. Particularly in the big cities, there continue to be muggings and thefts.

So while we're making progress and I think we've had an impact on bringing down some of that activity, some of that criminal activity, we are talking with law enforcement on a regular basis and we're liaisoning with folks in the industry to see if there are ways that we can continue to shape our response collectively, all of us: the industry and the FCC. So that's something that is ongoing, and I wanted to make sure that you were all aware of that. You know, as you hear things, as you have questions, you know, you should let us know. That work goes on.

And that is all I have for you this morning, but it's an honor to be here. This is the first time I've presented at a CAC and hope to see you all again soon.

MS. MONTEITH: Great. Thank you, Michael. And now we'll hear from Bob Aldrich, who is a front office Legal Advisor, Legal Advisor to the Bureau Chief, who works on disabilities-related issues.

MR. ALDRICH: Thank you. The Bureau's been quite busy on disability-related issues, including a number of issues related to relay services for the deaf and hard of hearing.

In June, we released a major order on Video Relay Service, adopting numerous structural reforms to improve the operation of that service, including technological initiatives to enable consumers to switch more easily between carriers and to take advantage of the availability of off-the-shelf technology to access Video Relay Service. Also, revising the rate structure for that service and a number of other changes. More recently, the Commission adopted a report and order amending the rules for Speech-to-Speech Relay Service, in which we amended some of the technical rules for that service and requested comment on how to make that service more available to those who need it.

We also have on circulation a couple of items related to relay services. One is kind of a clean-up item addressing some longstanding waivers of the rules for relay services with respect to particular types of relay service, a relatively non-controversial item. And the other one of greater interest has to do with Internet Protocol Captioned Telephone Service where we adopted interim rules in January to ensure that only eligible users are using that particular service and to make sure that there are no abuses in the recruitment of subscribers to that service, and the right amount of circulation would propose to make those rules permanent in a number of ways with some modifications and request additional comment on other issues affecting that service.

I guess that kind of wraps up what we've been most active on in this area. Karen Strauss, if she were here, could give you a much more detailed description of everything that's been happening relating to the CVAA, but we've been quite active.

MS. MONTEITH: Great. Thanks very much, Bob. So those are some of the more pressing immediate projects and rulemaking activities that we've had underway. Certainly, lots of other things going on. In the outreach area, I think Roger Goldblatt is in the audience. Roger has got many activities going on in the consumer education and outreach front. As I started, a generally very busy summer and looks to be a busy fall ahead of us, as well.

Thank you again for giving us the opportunity to update you and happy to answer questions.

CHAIR BERLYN: Okay. For anyone who is new to the room, what we do is raise our cards so that the Chair can recognize you and then raise your hand after I recognize you, so they can tell in the booth to put on your mike. So Cecilia?

MEMBER GARCIA: Yes, Cecilia Garcia, Benton Foundation. I just would like a quick update, if you would, on efforts around Lifeline Awareness Week.

MS. MONTEITH: I'm going to point to Roger.

CHAIR BERLYN: So, Roger, can you come to a mike?

MEMBER GOLDBLATT: We're working on it. Actually, as you know, Lifeline Awareness Week is the first week in September, I believe. And last year's theme was the duplication, and we're still deciding what the theme will be. We think it will be duplication, as well, but we haven't finalized it yet. But as soon as we will, I'll let Scott know, so we can pass it on to everybody.

CHAIR BERLYN: Thanks, Roger. Dorothy? And, also, for the group of folks sitting to my left in the corner there, I apologize. I really can't see some of you, so, if you do have questions, in addition to raising your card, you might want to raise your hand and maybe stand up a little because I won't be able to see those cards. So I apologize. If you do have your card, particularly Luisa, I can't see you.

Do you have a card raised? Okay. You're not raising it. All right. All right, very good. Dorothy?

MEMBER WALT: Good morning. This is Dorothy speaking. I have a question for Bob. I might have missed some of your comments, so please excuse me if I'm asking you a question again. But you talked about relay services, and I'm curious, in terms of relay services, is there anything that FCC is working on to make sure that there is text-based relay services available for people who cannot hear or see very well and who needs text-based relay services on their computer? I'm not talking about caption telephones, but I'm talking about using a relay service for text-based, like a TTY sort of but in the computer. Have you addressed that issue? Thank you.

MR. ALDRICH: Yes, the Commission has addressed that issue. There is, currently, a service, IP Relay, which is, essentially, the IP version of the TTY service, the text-based relay service. And that's available today. And pursuant to the CVAA, the Commission also began a program of equipment distribution for people who have both hearing and vision disabilities to ensure that they have access to relay service. Does that answer the question?

MEMBER WALT: Thank you. Yes, it does, partly. But I'm curious, the companies that you are looking at to offer their service through IP, do they have the capability of enlarging the font size and the colors?

MR. ALDRICH: I'm going to have to get back to you on that one. I don't know the answer, but I will be happy to find out and get back to you.

MEMBER WALT: Thank you.

CHAIR BERLYN: Okay. I have a question, and it's for Michael. Michael, thank you for several things that you mentioned, particularly taking some of the recommendations from the CAC on consumer complaints and implementing that.

I want to also thank you for the stolen cell phone issue and raising that, and particularly the issue with smartphones. And I think that this might be an issue that we would want to work with you on. You mentioned working with law enforcement and the industry and, certainly, with consumer organizations. Consumers have so much information on their smartphones, and I think that education should be a part of that, as well, and informing consumers about how to protect that information.

I want to put a little plug in for the organization I represent. The National Consumers League has some information on their website about this issue, so I think we would probably want to work with you on this, as well.

MR. CAROWITZ: And I would like to say that you would be more than welcome. We would be delighted to have you involved in this process. It really is our attempt to get all of the interested parties together and to have the background, your background, and that of the CAC would be helpful. If there are particular things that you want to bring to our attention, it would be great.

I envision, you know, that, as we move forward, we'll be having some internal meetings here at the FCC to get a better handle on how we can work together. And at some point, there may be, you know, a consensus among all the stakeholders that we need to take additional action. So I'd very much like for you to be a part of that. That would be very exciting to us.

CHAIR BERLYN: Great. Very good. Lise?

MEMBER HAMLIN: Lise Hamlin. I can't see if Roger is still here, but I wanted to follow up on -- there you are. I wanted to follow up on the Lifeline question. I find that people with disabilities often don't know about Lifeline program, so I'm wondering if you're making concerted directed effort to -- particularly, people, I find, with hearing loss don't even know that it's out there.

MEMBER GOLDBLATT: I know the percentage is pretty low. And, actually, when I sat down, I was told one of our focuses is going to be on, we just did PSAs yesterday. We taped them. So, I mean, re-certification is going to be a big focus, as well, because people don't realize that they need to re-certify.

But your point is well taken. And, actually, within our office, we're broken down into different constituencies. And we have people that are supposed to be outreaching to people with disabilities; and, with Lifeline, that's going to be one of our major priorities. So, yes, that's actually a point that we're aware of.

MEMBER HAMLIN: Okay, great. Thank you.

MEMBER GOLDBLATT: Thank you.

CHAIR BERLYN: Any further questions?

MS. MONTEITH: Thank you so much again. And enjoy your agenda and enjoy your time in D.C.

CHAIR BERLYN: Thank you.

MS. MONTEITH: It's beautiful out there. I probably shouldn't say that. We're not encouraging you.

CHAIR BERLYN: Thank you very much. And thank you for getting us, keeping us on schedule, Kris. Is Steve Wildman here? Excellent. Thank you, Steve. If you want to come join us, come on up. Come on right over here. Okay. And give us a minute, and we'll just get set up for Steve's presentation.

Okay. Just to let everybody know, we have a built-in break time at 10:45. So hang in with us. We're doing real well now. We're on a roll.

All right, everyone. I'm really pleased this morning to welcome Steve Wildman, who is our Chief Economist at the FCC. And he has been kind enough to join us this morning and provide us with an economic perspective on the IP transition.

So we'll be talking at several different points this morning about the IP transition. And as you know, for the first time, we have an IP transition working group solely dedicated to that issue.

So we're starting to do our education process on this topic, and I'm really pleased, Steve, that you could come and join us this morning and talk to us about this. So thank you very much for being with us.

MR. WILDMAN: Thank you. And thank you for inviting me. And I think I won't have any trouble keeping you on schedule.

I'll note my slides depart, in part, from the topic that's listed in the agenda. I hadn't seen the topic listing. Sort of looked at the emails leading up to it, and it was copper-to-IP transition. Copper is -- for physical infrastructure, IP is the logical sort of software component that directs sort of the movement of information along the network. And looking at background emails, I put together material that covers copper-to-IP but less on the IP side, but also looking at the various ways that copper is being squeezed out of the network, which is a bigger part of my slides. And so I've added some material to be presented verbally dealing more with the IP component of the transition.

And as Debra was noting, we have a task force. The Technology Transition Task Force is looking at sort of the technological transformation that's converting, in a wholesale fashion really, the nature of the infrastructure that governs communications in the U.S. and in the world.

The task force can't look at everything, so what we're really looking at -- and if you look at a public notice that went out last May, May 24th, we announced three trials. We talked about the background focus of the task force, and the task force talked about three major transitions that are taking place. One is from copper to fiber. A second is from wireline to wireless, and I'll give you slides on that, as well. And a third then is from TDM, time division multiplexing, to IP, as the logical component or sort of the software-based component that directs and sort of governs the way that information is moved around the network. Most of my talk will deal with the first two, but I'll also, especially in the first component, talk about the TDM to IP transition, as well.

Okay. If we look at what's contributing to the shift, we have both demand side factors and we have cost or technology side factors. On the cost supply side, we can look at the cost advantages of the newer distribution technologies. And that's been something that's shifted over time, and that doesn't just include the movement from wireline to wireless or from copper to fiber. It also includes the recognition that, in some places, wireless technology is involved in such a way that fixed terrestrial wireless or even mobile wireless has become a preferred substitute in many cases for wireline delivery of services, originally for voice but increasingly, as we move to 4G wireless services, for broadband services as well.

And then satellite technology is involved in such a way that broadband services can be provided in real areas. And so part of what the Commission is doing is actually looking at the tradeoffs amongst the different types of services and costs that are involved because the budget for facilitating transition and especially adoption of more cost-challenged, which is more rural, lower population density areas, that budget isn't infinite. And so we have to look at the tradeoffs between these technologies.

So what we're seeing then is a shift towards wireless or a proposed shift towards wireless delivery of services in more remote areas. And in really remote areas, we'll probably have to rely considerably on satellite for a long time to come for delivering broadband service. Although for telephony, because you have the delay with the uplink downlink and sometimes a double hop, that makes telephony kind of difficult and then has to be supplemented in different ways.

Functionality. Fiber just has more capacity. It allows you to do things in a digital fashion, but it's really the information-carrying capacity of fiber compared to copper that gives you the capability of providing a dramatically expanded set of services at an expanded rate of delivery, as well. And so, just from a functionality perspective, fiber has many advantages over copper.

It also has sort of basic maintenance advantages. Copper is subject to wear. It depreciates it. Water in the ground, most of it is now buried, will affect copper. It will deteriorate over time. Fiber is not susceptible in such a way. And if you're looking at sort of future-proofing a network, there's limits to the capacity that can be built into a copper infrastructure, but fiber is viewed as something that has so much capacity that we don't have to worry about that once it's in place for continuing to provide advanced services and continuing advanced services for a long time to come.

On the demand side, because digital technologies and fiber make so many new things available and I assume almost everybody here is a fairly heavy internet user, these are things that really weren't available on the scale we have now with the old copper-based infrastructure. And consumers want this stuff. As the technology advances, it becomes cheaper. Following Moore's law and other related laws as the cost reductions in the network. Then people want more and more of what's becoming less and less expensive. And so fiber becomes the way to go.

Consumers also prefer mobility. And so fiber is something that's fixed in place. Wireless offers mobility. And what we're seeing is mobility, in many cases, actually trumps more data capacity. And so we're seeing a lot of substitution away from fiber-based or fixed wireline-based services towards mobile services, especially as the capacity of the mobile networks keeps advancing with advances like 4G technologies and later we'll see 5G.

If we look at the extent to which IP has permeated the network, we can see that, in a way, the U.S. is, I wouldn't call it an anomaly, but it hasn't followed worldwide trends to the extent we might expect. If you look at the public notice of May 24th, it observes that, while IP is becoming a pervasive technology for delivering services worldwide or it's on the path to becoming that, it has been less adopted in the U.S. and elsewhere.

And what we see is that IP is fairly prevalent in the network above the local loop or the local exchange services. But when we get to the local exchange, at least for the local exchange carriers, it's primarily a TDM, time division multiplexing-based network, which is the old technology used for more of a circuit switching type of system.

And where we see IP coming along most rapidly is with cable. Almost all cable systems that offer telephony services now use IP. And as of January of this year, approximately one-third of all wired telephone connections to consumers in the U.S. were delivered by cable companies.

In addition, we have what's called over-the-top services. So a company like Vonage will say, if you've got an internet connection, we can then use the internet and we can use this to provide a telephony service that is not based on a local exchange carrier at all. I just checked last night on what Vonage has. As of early this year, they had about 2.4 million customers. They're the biggest, but there are others. And I think as sort of internet delivery and broadband delivery becomes ubiquitous, and now about 70 percent of all U.S. households have broadband, that the movement towards IP becomes inevitable.

But the interim, the transition, from the TDM-based network that is primarily so dominated by the incumbent local exchange carriers to one that is IP based has become a matter of some contention. And so the public notice then has proposed a trial where we will look at sort of the technological feasibility and the coordination issues that arise for facilitating the interexchange of services, interconnection of services between TDM networks that are managed by the ILECs and the IP networks that mainly are competitive local exchange carriers and the cable companies provide.

And I should mention that when we're talking about the CLECs, well, originally, following the Telecom Act of 1996, we thought that competitive local exchange carriers would be providing mostly consumer services. By and large, they've evolved to serving the business community, and so much of what's offered to the business services is really IP based. Most new office phones, you'll find, are really IP-based phones, so VOIP, voice over internet protocol.

So the consequences then of these technology changes is that we are seeing ILEC, incumbent local exchange carriers, making requests to shift to what is a lower-cost technology now, which is wireless technology, in many rural areas. That's become a subject of, also, a proposed trial. We received comments through July 28th on that this year.

We see ILEC notifications of intent to retire copper, and that comes about for several reasons. Under Telecom Act of `96, as long as there is a fiber alternative, the ILEC can give notice and say, you know, within a certain period of time, we will be retiring local copper. And it's mainly the competitive local exchange carriers that purchase access, either through special access or unbundled network elements, to provide their own services that have been voicing concerns about that. That hasn't happened in massive amounts yet, and something the Commission is looking at is, to the extent that the commissions and the state public utilities corporations or commissions' pricing policies for unbundled network elements might contribute to the retirement of copper.

The other thing is that as fiber, rather, as wireless technology has become a cheaper and more effective alternative in more rural areas, then the ILECs are making requests to replace their copper-based services with wireless-based services in more rural territories. Again, this raises issues of transition regulatory oversight, and so one of the trials that were announced in the public notice of May 24th is also for a trial of the transition from a copper-based to a wireless service in more rural territories.

Now, if we look at the shift, from a consumer side, from wireline to wireless, it's actually been quite pronounced. My next four slides deal with that. It looks at the demographics of the shift, as well as the magnitude and the rate at which it's taking place. So this slide here just tells you what the next four are all about.

And the first one just looks at the growth of reliance on wireless service, as opposed to a fixed telephone service in the home. Now, I'm here from Michigan State, on leave from the University. Chief economists sort of rotate through. I've brought my cell phone with me. And most times, if you rent an apartment now, and most of you probably aren't doing that, but usually you're younger when you first move into an apartment or you're shifting around, apartments don't even have a fixed line built in them anymore. The assumption is that you're just sort of walking in with your cell carrier. Most people that graduate from college now, they never even give a thought to putting in a fixed line in their apartment.

And so we can see this in the chart I have here on slide five that 2009 -- and it gives two numbers. One is the number of people that rely entirely on a cell phone, as opposed to a fixed line in the home. And in addition, it identifies those people that, while they have a fixed line, they rely primarily on their cell, as opposed to the wireline service they have.

So in 2009, we had a little over 20 percent of people relied entirely on cell phones. By 2012, that's grown to about 38 percent. But when we add to that the number of people that rely primarily on their wireless service, that adds about another 20 percent. So we're up to about 56 percent of all people now rely primarily on a cell phone, as opposed to a wireline. And my wife and I are talking about moving in approximately two years, my guess is we will not pick up a landline service again once we move, just as we're finding we rarely use that fixed line in the home.

Turn to the next page, and we get into some of the demographics of this. We can see it does vary by ethnicity. Hispanics are much more likely to have cell service, as opposed to a wireline service at home. About 50 percent of all Hispanic households rely on cell. If we're looking at non-Hispanic whites, the number falls to about 33 percent. And for non-Hispanic blacks, it's about 39 percent.

Some of this is explained by income differences and also by age differences in the populations. Look at the next slide. If we look at adoption by age, it's about what you would expect. Almost nobody -- I shouldn't say this. If we look at the groups of people under 34, over half of them, regardless of the age category, are relying on a wireless service and don't have a fixed line at home. The highest percentage is those between the ages of 25 and 29 where we have about 62 percent that rely on, you know, getting close to two-thirds don't have a wireline service at home. And it starts to fall off, but even when you get over age 65, we're still looking at about 12 percent of all people rely entirely on wireless.

My own parents, in their late 80s, actually made that transition, mainly because they're cheap but also because they could. They really haven't noticed a disadvantage, and I think we're going to be seeing that increasingly.

Next slide looks at income. Clearly, it's more expensive to maintain both a cell, you know, wireless service as well as a wired service. And you'd expect then that, as your income goes down, the likelihood of relying entirely on wireless goes up. So for people living in poverty, the average is about 54 percent of households. As we move towards those near the poverty line, it's about 47 percent. And for people above the poverty line, it's about 33 percent.

And then if we look at the demographics, the Hispanic population has lower than average income, but also it's a younger population, on average, demographically than are either non-Hispanic whites or African-Americans. And so both income and I think the age distribution of the Hispanic population contribute to the fact that you see a much higher percentage of Hispanics taking cell phone rather than having also a wireline service at home.

The next set of slides are looking at more the broadband infrastructure, and there we're also seeing a shift away from copper. So there's more data on this, so when I asked various people in the bureaus to give me the data you have, more data came from that, and so you're getting more slides on this.

This next slide is just sort of a table of contents for the following slides, and I'll move on to those.

You know, what we mean by highspeed internet is sort of a variable target. If you remember back in the old days, the early days, when the Commission started looking at broadband and defining it, the original definition was something like 200 kilobits per second down. And then it moved to 800, and now we're talking about 4 megabits, but 4 megabits already seems dated and we're talking about shifting that to 10, but even 10 is already starting to look dated because most of us have more than that.

And so it's a continually moving target. Depending on where you are, though, that target looks either closer. It may be receding your rearview mirror, or it may still be out in front of you. The more rural you are, the more likely you are to have lower-speed service.

If we look at the primary technologies for delivering broadband to the home, we have cable. And the cable television industry, or now they call it, you know, they actually changed the name of the association from the National Cable Television Association to the National Cable Telecommunication Association a number of years ago. And that's actually reflected in sort of the shift of their own subscriptions, which is becoming increasingly driven by broadband subscriptions, as opposed to the video subscriptions.

But, nevertheless, cable is still, by and large, the largest provider of broadband services in the U.S. They got out there quicker.

Fiber to the premise. And I should say cable is a mixed copper fiber architecture where you have the basic cable technology is an insulated copper pair, which gives you more capacity and less interference. But they paired this then with fiber in the network, as well. So it's a combination.

Pure fiber to the premises is coming along. The best known example, this is Verizon. And Verizon has actually been very successful with their FiOS service, becoming one of the largest providers of broadband services, as well as video services, in the country.

And then DSL, digital subscriber line. The digital subscriber line is a way to enhance the capability of the twisted pair coming into the home by putting different equipment on each end of that loop that increases the throughput. There are limits to how fast you can go. But, nevertheless, for a long time, DSL has managed to, well, was managing to keep up but now seems to be falling behind. And we can see that in the rates of growth of the different technologies.

What we have here in the slide is average annual two-year rates of growth for cable. And we list this by speed tier. If you're looking at speed tier as 25 megabits and above, two-year average growth rate over the last two years has been nearly 40 percent. About the same for greater than 50 megabits. You can see a shift towards higher-capacity services and that the real growth is 210 percent for above 100 megabits per second.

Fiber to the premises. We see, actually, smaller numbers, but this is a technology that's starting from a smaller base. And relative to its base, it's actually growing faster, as I show in following slides.

And then DSL is actually starting, in the last year has started to lose share. It's starting to lose total subscribers.

We see this on the next slide where we're looking at average annual growth rates with a different characterization of the technologies. DSL, again, from 2011 to 2012, has declined by almost six percent in terms of total homes reached.

Fixed technologies, in general, you know, that number is going to be small, only 1.3 percent in growth rate. But remember that what we're looking at is people that are reached by cable, reached by DSL, reached by satellite, reached by fiber. And so you put all this together, and you've already reached about 95 percent of all households. And that means that you can't grow much beyond that. We were already at 94 percent in 2011.

Cable has expanded from about 85 percent of households in 2011 to about 87 percent now. DSL has started to fall. This is the first year we've seen a year-to-year decline in the fraction of households reached by DSL.

I included the category of the copper, and this comes from one of the Commission's reports. And I find the number, even though we're starting from a small base, small numerical increases from a small base will look, percentage-wise, larger. Nevertheless, other copper, which includes T1 lines, most homes don't get a T1 line, and ISDN, integrated services digital networks. It's an older technology for delivering digital services over the older infrastructure. That shows a fairly substantial, percentage-wise, growth, and I find that rather anomalous. I can't offer you a good explanation for that because we are looking at penetration of older technologies. I did a little bit of exploring with the bureaus, and I'll go back to them again. If you want me to come back with what I found later, as I explore this, I'll be happy to do that. Just call me back.

Fixed wireless, which has declined as a broadband, as a means of providing broadband, although I'm not sure this is going to be the case for the long term. If the ILECs request to deliver broadband services in rural areas, to deliver basic telephony services using fixed wireless in rural areas are accepted, it would make sense to expand capacity. We're likely to see broadband there. Once you've got a 4G network in place, and Verizon and AT&T are saying that, in the next year or two, they will cover 98 percent of all households, then, basically, if you've got wireless and broadband already, you can build on that to create a fixed component that gives you more capacity. So I wouldn't be surprised to see that growing more rapidly. And then fiber has been showing a rather dramatic increase, although, again, it's starting from a small base.

The next slide is just the same thing on a chart, you know, that I presented in a table before. And so I won't spend additional time on that.

The following chart looks at, again, combining the data in different ways to give you another sense as to the growth in the different technologies. And so we look at the technologies and ignore the different tiers of speeds that are being offered. What we can see is that ADSL, asymmetric digital subscriber lines, they've been growing slowly but from a very low base from 2010 through 2012. And, actually, the 2011 - 2012 is a small decrease.

Fiber to the premises is actually fairly high now, but Verizon, through FiOS, which is the primary provider, has not been expanding, and we'll see to what extent. As we get more people like Google Fiber and Google is expanding greater or going into more cities, I think we'll be seeing that number come up in the future. And then, in terms of pure numerical growth, the biggest is with cable.

If we're looking now -- again, this is the same numbers presented with a chart that we had maybe three slides ago looking at the annual rates of growth from 2010 to 2012. There's a barely perceptible growth in ADSL, and that reflects a small growth in 2010 to 2011 and then a decline after 2011. So it's a sum of those two.

From cable, starting from a fairly

high base, about a 6-percent growth. And FTTP, you know, fiber to the premises, about almost a 21-percent growth over those two years.

And the next slide, I think it really just presents, it's another way of presenting the same information. So I won't dwell on that, but it gives it to you in more of a chart, sort of a bar chart rather than a line chart. Different people ingest information in different ways.

The following slide, slide 16, looks at residential wired connections. Again, I mentioned at the beginning it depends on how we measure these things. How we measure broadband has changed over time, as what's been perceived as the sort of base rate or the base technology has grown over time.

If we look at residential wired connections and assume that a wired connection or we just look at those that are getting at least 3 megabits per second as the rate, we can see that the number of households receiving that has grown quite dramatically, especially if we look at cable. And it's gone from about 22 million households in 2008 to almost 36 million households currently, in the middle of 2012.

Starting from lower bases, we can see that fiber has gone from about 4.6 million households in 2008 to almost 12 million in the middle of 2012. And come back in a year, we can give you another year's worth of data.

And if we're looking at, basically, digital subscriber lines, that number hasn't gone up by very much at all. It increased from about two and a half million, 2.6 million to about 5.6 million. So a 3 million gain total over this four-year period. You can just see which technology is sort of declining relative to the others in the marketplace.

Paired with this, we can look at what's happened to the number of households that are connected with slower technologies that are getting slower speed connections. And it's been a fairly dramatic decline, as the number of households relying on connections that give them less than 768 kilobits per second has declined from about, well, for cable alone, for example, about 4 million households in 2010 to about 1.8 million households in 2012. And we still see similar declines for both fiber and for DSL. We're seeing a phasing out of the older and the slower technologies, the slower networks.

And I won't spend much time on this next slide, slide 18. It's similar to what slide 16 was showing you. Rather than looking at 3 megabit connections and above, it's looking at 768 kilobits per second and above. And what we can see is we've had slow growth in that, but a part of that growth and a part of what we've been seeing is the transition from something that's less than 3 megabits per second but above 768 kilobits per second, so we're transitioning from the slower speed to the higher speed within the same universe. And then we have those that are getting the higher speeds, as well. And so it doesn't show growth being quite as dramatic because we're looking at substitutions among technologies, as well as new adoptions of technologies.

If we're looking at the average annual growth rates for the different technologies, DSL, cable, and fiber to the premises, from 2010 to 2012, again, we're seeing ADSL at about 5 percent, but most of that was 2010 to 2011. It's fallen since. Cable has been growing at an annual rate of about 6.6 percent and has fiber to the premises, although, again, starting from a smaller base. That has been growing at almost 21 percent.

And that pretty much, that's my data overview. I'm happy to take questions on this.

CHAIR BERLYN: Oh, no questions. First of all, Steve, that was fantastic. You know, we asked Steve if he had any statistics. I realize asking an economist for statistics, it's like turning on the tap and getting a full blast.

MR. WILDMAN: Well, I can say, I

mean, I have to think that people, especially in the Wireline Bureau, that I said this is what I need and they pulled it together.

CHAIR BERLYN: Yes, that was fantastic. And I apologize. Commissioner Rosenworcel will be walking in at any moment, and I see we have a lot of cards. I don't want to cut questions short, so we'll just see what we can do, how many we can get in. And a lot of cards went up at the same time, so put your cards up, keep them up. Paul, you have a card up, and we'll just go around the room. Sorry, Chris. That puts you last. But they all went up at the same time, so, Paul, start there.

MEMBER SCHROEDER: Hi. Paul Schroeder, American Foundation for the Blind. A couple of quick questions for you. You didn't talk about cost to consumer, and I'm just curious if you've looked at that, as, in this move, it strikes me, with the move away from copper, good for consumers and speed and all that but bad in the sense of high barriers for competitive local entry as a competitive means. So have you looked at cost to consumer, as well as competition and how that impacts cost to consumer, for IP broadband?

MR. WILDMAN: I should say these are issues that are being investigated. I can't give you any direct responses. It's not clear to me that the barriers to entry are any greater now than they were before, you know, that much of the cost of putting in, especially a wire-based network, is either hanging wires and poles or it's putting facilities in the ground, and those are pretty much the same, whether you're looking at copper or whether you're looking at fiber.

I think where we're seeing changes is that wireless services are becoming a much more acceptable substitute for many people. And if anything, it depends on what we define as a substitute, and what different people consider a substitute will vary amongst them and their needs. But I think, at least at the margins, we're seeing greater substitutability. And if anything, I think wireless is offering us options we didn't have before. So that's becoming, effectively, I think, a more competitive marketplace.

CHAIR BERLYN: Irene?

MEMBER LEECH: I'm curious, as you give us the penetration numbers and so forth, about some of the definitions that are used. I know that we had some problems with if one person in an area had it then they considered everybody did and so forth. Have those definitions tightened up sufficiently to really measure where we are?

MR. WILDMAN: Yes. Actually, the data you're talking about is not the data I was providing. What I was providing was actual penetration, as opposed to what's available. So what you're talking about is does an area actually have access to broadband service or not and how do we measure that? If one person within a census gets it, we used to count that. And we're moving now towards better ways of measuring this, but that's an ongoing activity and something that's in process.

MEMBER LEECH: Okay. And what's happened with satellite? As you were looking at cable and so forth, are you including satellite with cable, or is satellite a separate technology?

MR. WILDMAN: Satellite is really a separate technology. And I could come back with some satellite numbers if people wanted to see those.

MEMBER LEECH: I'd like to compare them with the others.

MR. WILDMAN: Yes, sure. And then it's going to be really the broadband rather than telephony, right, because aren't getting much in terms of the way of telephony via satellite because of the delays up and down.

MEMBER LEECH: Yes. And one more thing. Do you know what percentage of the area has more than one set of fiber going to it?

Because we've had a lot of places where both the telecom and the cable put fiber in, and I'm just curious how that, what percentage has that.

MR. WILDMAN: I'd have to go back and see whether we actually had systematic numbers on that. And you're talking about purely fiber, as opposed to using coaxial cable or hybrid fiber coax. My guess is it's not very many places that have side-by-side fiber facilities available, that when Google comes in, they're really, you know, they're overbuilding in a situation where you've already got, I think it's Time Warner is the major cable company, but they aren't using pure fiber. But the headroom they have, actually, to expand with cable technology, given DOCSIS 3.0 and future generations of DOCSIS, is actually quite high anyway.

CHAIR BERLYN: Okay. So Commissioner Rosenworcel is in the room. So let me ask you, Steve, if you have any flexibility? I hate to do this to you, but would you be willing to stay in the room and join us after the, stay and join us back at the table after the Commissioner has spoken for the rest of our --

MR. WILDMAN: Yes.

CHAIR BERLYN: -- questions?

MR. WILDMAN: I can do that, sure.

CHAIR BERLYN: Because we have a break. But if everyone doesn't mind, we'll eat a little bit into our break to continue this and get to our questions.

MR. WILDMAN: Sure.

CHAIR BERLYN: That would be fantastic. Thank you so much, Steve. And now, Commissioner Rosenworcel, if you could come up here and join us. Thank you so much, Commissioner, for coming this morning and speaking to us. We have heard from you before, but it's always a treat when you're in the room to share your thoughts with us. And so welcome.

COMMISSIONER ROSENWORCEL: Thank you so much. It is nice to be here, Debbie. Thank you for having me. And thank you, also, to our chief economist for letting me run in here between meetings and take a little bit of his time. It is great to be here and to see so many familiar faces around the table.

So I just wanted to give you some of the things that are on my mind today. And I think it is important, but it bears repeating: consumers come first. Everything this agency does is really about consumers. But the bulk of our activities that involve consumers, they take place behind this proverbial regulatory curtain because, after all, consumers may not be interested in spectrum management. But at the end of the day, they really do like having a lot of bars on their phones, and they like it when their calls go through.

And consumers may not be interested in retransmission consent negotiations, but they sure know how to contact us when they turn on their television set, find they have a dark screen, and they can't watch the news, their favorite show, or, perhaps even worse, a football game.

Consumers may not be interested in the mechanics and law surrounding just and reasonable rates and terms and conditions. But they really do want their bills to be fair and transparent. So I could go on, but that's just for starters.

And the way I see it, this agency has two critical links to consumers. The first one is actually all of you around the table. The work you do is really important. The guidance you provide this agency, please know that it matters. And as you proceed, I want you to let us know how we can help you, what resources this agency can provide and, on a more personal level, what help I can provide.

Now, the second big link to consumers, I think, is our consumer complaint and inquiry process. I might have surprised you with that, but here's a fact you should know: the Agency receives, roughly, 400,000 complaints and inquiries every year. That's 400,000 consumers writing us, calling us to tell us that they think something is not right.

Now, I think that volume tells an important story, and it's not actually about dissatisfaction. That volume is about how important communication services are in the day-to-day life of everyone in this country.

On average, households spend about 4 percent of their income on communication services. That can be thousands of dollars a year. To be clear, we are getting a lot more value from these services. We have more channels than ever before. We have faster broadband. We have mobility and, with it, the expectation that wherever we go the ability to connect will follow. And we have a revolutionary world of connectivity in the smartphones in so many of our pockets and the tablets in so many of our laps.

But as you know, consumer wallets are not without limit and pocketbooks have their bottom. So we should look at the complaint process as an opportunity. It's an opportunity to be more responsive and more helpful because we want consumers to get the information they need in a marketplace that's growing and, let's be honest, even I find dizzying to navigate.

It's also an opportunity to reach out to providers and make them aware of what they're doing well and where they could use a little improvement. And, finally, I think it's a really good opportunity for this agency and for all of you to look at trends and see how they can better inform our policies.

Now, in short, I know you have a lot of big tasks before you: consumer protection and education, consumer participation and our process, access by people with disabilities, and consideration of new and emerging technologies. Every one of them is really, really important.

But I hope, as you proceed, you will keep an eye on how the complaints and inquiries we receive can inform your deliberations. And while you're at it, perhaps you can give us some thought on how we can improve our complaint and inquiry process, too.

So that's my idea for today. But please know that everyday I want you to have access to this Commission and its resources, access to my office. Apropos to us being the FCC, my phones usually work, and I am actually fairly good at responding on email. So I just want to invite you to reach out, let us know how we can be of help.

CHAIR BERLYN: Thank you. And will you take a couple of questions?

COMMISSIONER ROSENWORCEL: Sure.

CHAIR BERLYN: So, everybody, remember your cards from our last round with Steve Wildman. And now if you want to ask the Commissioner a question, please raise your card, your hand and your card. Okay. So, Raja, you had a question for Steve Wildman, right? Right, okay. So Mitsy and then Art.

MEMBER HERRERA: Good morning, Commissioner. Thank you for coming down.

Mitsuko Herrera from Montgomery County. I appreciate the statement that consumers do come first, and it was very helpful in sort of linking together how these bigger items really do affect consumers.

I just would like to encourage you -- Kris Monteith was here this morning. The CAC did provide recommendations to them. They are still in the process, a year later, of implementing those.

I would also remind you, respectfully, that last, we're coming up on two years in November that we recommended that the FCC report out the consumer complaints they receive in all the categories, not just the top five, so that it was possible to track those trends. Some changes do -- I work in a government. I know that there needs to be a process. But I just encourage you that moving forward on those things would be important.

And, lastly, I just want to raise the notion that within the Verizon, particularly in the Fire Island, a lot of the discussion focuses on that IP will be cheaper, these things will be cheaper; and, yet, here you have a case in which people are being asked to replace their copper line service with wireline service that costs them more. The discussion about what happens to that old copper network that's largely depreciated, the ability for other providers to be able to use it to do innovative things, and the ability to use that space on the pole, those are also kind of government regulatory things that will have impact for consumers.

So, again, I do thank you for coming down here. I appreciate the emphasis on consumers and just encourage you to just keep trying.

COMMISSIONER ROSENWORCEL: Okay. So we started with an incredibly sophisticated set of issues. Let me say, with respect to what you just said about consumers, yes, I am aware of some of the work before. I think your work on this is fabulous. I think we need more attention on that process, and I hope that this agency will budget more money to improve that process.

So I am on a slow crusade, and I think the ideas you've contributed to date are pretty fabulous.

With respect to the other big issue you mentioned, Fire Island and the evolution of networks and technologies, I think the points you raised are all good ones. I have consistently said, when we deal with network evolution, I think that the existing laws we have before us, they don't naturally fit in the world we live in. But if you stand back far and you look at them, I think it's important to see the values that are in the Telecommunications Act of 1996 and the Communications Act of 1934.

And I think, for decades, our communications laws have been built on four essential values. The first is public safety. It's right there in the first sentence of the Communications Act. It really doesn't mean anything if our networks aren't resilient and available when we need them most. If you needed an object lesson, Hurricane Sandy really provided us with one.

The second thing is universal access. And by that, I mean traditional universal service policy which makes sure that networks are deployed everywhere, including the most remote areas of this country. But I also mean universal adoption and making sure that we think about how everyone in this country has access to those technologies and adopts them, so that is an issue that affects low-income consumers and the disabilities community, as well.

The third issue would be competition, which you alluded to. We don't just like competition for its own sake, but, ultimately, we know that it is a tremendous spur for innovation and lowering prices.

And then, finally, consumer protection, which is why you're here. But I think our policies always have to keep an eye on how consumers use these services and how we can help them navigate what's becoming a very complicated marketplace.

So as we look at IP transition issues, network evolution issues, those are the four values I think we should focus on: public safety, universal access, competition, and consumer protection. I know there are others out there that have their five fundamentals or six essentials, but I think, at four values, I'm the most efficient of the bunch. And I think that covers the bases. So whether it's Fire Island or anything else, I think that's a really useful prism for thinking about these issues.

CHAIR BERLYN: Thank you. That's great. Art?

MEMBER NEILL: Thank you so much for your comments, Commissioner Rosenworcel. My question was specific to a working group that my colleague, Mia, and I chair, the Broadband Working Group. It's probably going to discuss the issue of the E-Rate overhaul and ConnectED overhaul today, and I just was hoping maybe to get just, I know you had been in the news talking about that overhaul and how important that was, and I was hoping you could share with us maybe some of the key aspects of that overhaul and why you think that it's so important.

COMMISSIONER ROSENWORCEL: Oh, I love it. It's almost like I just planted that question. I didn't. I didn't. Some months ago, I started looking at the E-Rate program. And I should say, by way of background, I used to work for Senator Rockefeller who is one of the architects of that program.

It was created in the Telecommunications Act of 1996, which, if you think about it, it was actually, in internet age, a long time ago. In 1996, about 14 percent of our public schools were connected to the internet. Today, that number is much greater. On a classroom level, it's about 95 percent. But I think we make a really big mistake if we look at those numbers and think that the job is done because the issue now isn't connection, it's capacity.

So in thinking about this, we took a look at some of the survey data of E-Rate participants, the schools and libraries across this country. And we found that 80 percent of our E-Rate schools said that their current bandwidth does not meet their instructional needs. And then we found a Harris survey that said that about half of our E-Rate schools currently get broadband at 3 megabits or less. Now, 3 megabits or less is not enough for the most innovative teaching tools. It is not enough for high-definition streaming video, and it is, by no means, enough to teach the next generation of students the kind of science, technology, and engineering, and math skills that are necessary for this digital age.

So we decided that E-Rate needed a revamp, what I started calling E-Rate 2.0. I think we can take this program and we can reinvigorate it. And it's my hope that over the course of the next year this agency will be able to do that. I think the first part of that is we need to have an honest conversation about existing funding and if we should grow the funding we have right now or make adjustments even within the funding we have at the moment.

I'll give you a quick example of that. Today, the service pays for old-fashioned things like paging. I think we should give fresh thought to that, about whether that's necessary in the broadband age.

In addition to funding, I would like to see us have clear capacity goals. I would like us to dream likely and then dream big. So dream likely: by 2015 school year, I'd like to see us have 100 megabits to every school in this country per thousand students. And by the end of the decade, I'd like to see us have a gigabit to every school in this country per thousand students. I think we have to move capacity goals like that into our regulatory structure.

And the third thing is I really think it's important to do that because, if we create this opportunity and if we do it at scale throughout the country, we just sent a signal to markets more broadly. Anybody who provides content or develops devices will now have new opportunities at a scale that did not previously exist. And I think those new opportunities will bring devices and content within traditional textbook budgets, and it could really be an important inflection point in digital education in this country.

So I am thrilled about E-Rate 2.0 and incredibly jazzed that a few months ago the President decided to go to Morrisville, North Carolina and talk a little bit about the same thing, which is a luxury that, you know, the junior Democratic commissioner at the FCC doesn't always have, but I'll take it. And whether we call it ConnectED or E-Rate 2.0, I really want to see us do something with it in the next year.

CHAIR BERLYN: Great. Thank you. We have -- do you have a couple more minutes? She says no.

COMMISSIONER ROSENWORCEL: One more question, and then I've got to --

CHAIR BERLYN: Uh-oh. All right. I'm competing with one of our members. Did you have a question, Raja? Yes, okay. I will suspend my question. I'll just make a statement. I hope, in your universal access, the Commission continues to emphasize broadband adoption as part of the National Broadband Plan. It's so important.

COMMISSIONER ROSENWORCEL: I'll just bring up one more thing. I actually think with E-Rate students are the change agent. The economic literature suggests that households that have a student who goes to a school with high-speed broadband are 20 percent more likely to order broadband at home. So I think of the E-Rate program as being a really logical compliment to what you just described. While not a substitute in a comprehensive way, I think students can be an incredible change agent when it comes to broadband adoption.

CHAIR BERLYN: Good. Raja, I want to get your question in quickly.

MEMBER KUSHALNAGAR: Yes, thank you. I'm Raja from the Rochester Institute of Technology. With regards to the IP evolution, I think it's outstanding that there's more bandwidth being made available, there's more availability of these services, but we're also looking at changes from dedicated bandwidth to shared bandwidth. So sometimes when we make advances in apps that use multimedia and so forth, the delay is becoming more significant, reason being it's easy to send smaller packets on lower bandwidth than it is on higher bandwidth.

So it becomes an issue when we look at using multimedia because the delay causes a lot more problems when we're looking at shared bandwidth. I think it would be nice for us to address this issue, as well: the delay in communications when we are going through IP methods and looking at shared bandwidth.

COMMISSIONER ROSENWORCEL: I'm having a hard time responding to that in about one minute because there's so much in what you just said. I think you're spot-on. We're hungry for more bandwidth. We're facing a future, whether it's wired or wireless, where we are all going to be doing more things with IP capability.

I think we have to think about that on the wired side, and I think we have a very near-term need to think about it on the wireless side because mobile broadband is expected to grow by 13 times before 2017. And making sure that consumers are not frustrated when they seek to access all those services that they're using with their devices is something that this Commission is going to have to spend more time on, both as a function of technology but also as a function of our efforts to inform consumers about smart choices they can make, even simple things like accessing Wi-Fi networks and moving between them and guaranteed networks associated with their wireless provider.

So there's a lot in what you just described, but I really do think the Agency is going to have to spend more time thinking about those issues as we go ahead.

CHAIR BERLYN: Thank you.

COMMISSIONER ROSENWORCEL: That's my really short answer. It deserves a thesis.

CHAIR BERLYN: That was a great, that was a great short answer. Thank you so much, Commissioner, for joining us this morning. Thank you. That was great. Yes, thank you for all your time. Thank you.

Okay, group. So let me just tell you very quickly that that Steve Wildman has kindly agreed to come back because, as you can see, we have very little time and I don't want to get us too far off our schedule. So what we're going to do is we're going to take a five-minute break. We're going to come back to the room, and Art's question about the E-Rate is a great introduction to our next FCC speaker, who will be talking about the FCC's education technology initiatives.

So please be back in the room in about five minutes or so. Steve Wildman is going to come back at noon. On the agenda, there's a little bit of a typo. Actually, it's a huge typo. Our session at 11:20 actually ends at noon, and so Steve Wildman is going to come back at noon, so don't forget your questions for him. We'll take about 10 or 15 minutes for your questions then, and then we'll have our lunch break from noon to 1:00. Actually, it will be like 12:15 to 1:00 now. So we have plenty of time still for lunch, plenty of time for your questions for Steve. Very kind of him to come back.

Okay. Five-minute break now.

(Whereupon, the foregoing matter went off the record at 10:55 a.m. and went back on the record at 11:07 a.m.)

CHAIR BERLYN: All right. If everyone can get to the table, we're ready to get started. I think we're just all here. Perfect. All right, everyone. And I think my mike is on. Perfect.

Thank you, everybody, for getting back, and we're ready to introduce our next speaker. And as I mentioned, we're rolling right into Art's question about the education program and the FCC's education technology initiatives. This is Michael Steffen, who is Director of FCC Digital Learning, which I believe is a relatively new post, correct, Michael? And so we're very pleased to have you join us and hear about this, so thank you so much for being with us.

MR. STEFFEN: Thrilled to do it. Thank you all for having me. I'm going to sort of pick up right where Commissioner Rosenworcel left off and talk about the E-Rate rulemaking that we started at last month's Commission meeting. That's really the big thing going on right now with the Commission on digital learning. It's what I'm spending all my time on. But I thought I would start with a little bit of context about why we're excited about it, based on what's going on in education, rather than just diving right into the telecom weeds here.

So we think that we're at a real moment of transformation and opportunity in education. This is based on a lot of conversations that have been had over the last year and more with folks like the LEAD Commission, which former Chairman Genachowski worked with Secretary Duncan to create over at the Department of Education and others, to really understand what's going on in the education space because we're experts in telecom. We're not, traditionally, experts in education.

But what we've learned is that education is really at a transformational moment, that for decades, you know, the basic model of education has been unchanged. It's 20 kids sitting in a classroom looking at the same blackboard, more or less, doing the same thing at the same time. And a series of changes in technology are allowing some fundamental changes in that model. They allow you to help students move at their own pace, to give students access to the material that they need in the format that is most accessible to them at the time that they need it. They allow you to do that by having one-to-one device opportunities with students, to allow students to do things like watch video lectures at home and then come in and do project-based learning with a teacher circulating in the classroom and class has sort of flipped classroom model, as it's known.

And those kinds of changes are tremendous benefits to students. They're also a tremendous benefit to teachers who have, for a very long time -- that's always been your goal, in some sense, as a teacher is to reach each student where they need to be reached and let them succeed to their greatest potential. But technology allows teachers to do that. And it's great for parents who have much greater visibility into where their kids are, what they might be struggling with, where they're racing ahead.

We also know that changes in technology are allowing distance learning benefits. So if you're a school that can't offer Chinese or can't offer, you know, a second year of AP physics, those are now classrooms, particularly in a rural area, that you can offer. Or if you're a school with only one AP physics teacher, that physics teacher can learn, can collaborate with other physics teachers in other schools that are otherwise too far away.

The reason for these changes is a series of, or the reason for the opportunity for these changes in education is a series of changes that have happened really in the last five-ish years in technology. So the proliferation of very high-speed Wi-Fi that allows you to have every kid in a classroom have an internet or network-connected device in their hands without a physical drop at every table and without tearing out, you know, necessarily all the walls and all the wiring in the building.

The distribution of low-cost tablets and netbooks. So instead of having, you know, $1,000 or $800 desktops to have to have a device in front of a kid, you can have a netbook or an iPad. And the movement to cloud computing, which lets you have really powerful analytics about what students are doing and have huge libraries of video content and other content in the cloud that then you can deliver to students at the right time.

What those changes have meant is that, five years ago, we could not have done the kinds of things that some of the leading schools in the country are now doing in education. At the same time -- so five years ago would have been too early. At the same time, as we've looked at this, we've really come to the view that five years from now, to push this, will be too late.

We know that other countries in the world are moving very fast and very aggressively in this space. This is a many billion dollar market internationally, EdTech. Today, it is largely U.S.-based, but, you know, there's certainly no guarantee of that.

Those trends have led those of us at the FCC, including Commissioner Rosenworcel who's been a real leader on this to be thinking about this, it led the President, as she said, to announce about two months ago, at this point, a big national push around digital learning.

The Commission's piece of that push is the connectivity piece, which we will be doing by updating the E-Rate program. We adopted, the Commission adopted unanimously an NPRM, Notice of Proposed Rulemaking, at our last meeting on this. We will be seeking comment on three basic goals as we modernize E-Rate. One is making sure every school has access to the high-capacity broadband that they need to take advantage of these opportunities. Second is increasing the efficiency of purchasing in the program, which we think we need to do in order to make the first goal happen in a fiscally-responsible way. And third is to streamline the administration of the program.

And as the FCC often does, we ask a lot of questions around each of those goals and put out a bunch of options. In some cases, we have some very specific proposals. In other cases, it's a little more open-ended.

The initial comments for that are due in September and the reply comments in October. And we're really looking to get the widest possible feedback that we can get. And I'd encourage all of you to, you know, be in touch if we can be helpful, you know, in your individual capacities in facilitating those comments.

So we keyed the comments. They're hard set, so it hasn't been published in the

Federal Register yet. But the comment dates are the 15th of September, and the 15th of October is replies. So, basically, 60 days for comments, 30 days for replies.

The last point I'd make, and it echoes a point that Commissioner Rosenworcel made, is we really see this as an ecosystem play. That is, we know the bandwidth is the sine qua non of the kinds of things we're trying to do for our students and allow for our students. But we also know that the bandwidth is not, by itself, sufficient, and we want to make sure if we're helping to subsidize bandwidth upgrades across the country, that those are being put to good use. So the other two pieces of the ConnectED initiative are a big professional development push to help teachers take advantage of these new tools and a push on devices and applications. Those are going to be run, principally, out of the Department of Education and other pieces of the administration, but we're going to be working closely with them, just as we've been using their help as we put together our push on the connectivity piece. And, again, you know, I'm happy to facilitate connections there, if that's helpful to folks.

The good news there is that, you know, we have an administration-wide push on this. We have great support from the President. As I said, you know, also, Secretary Duncan is all in on this. Secretary Vilsack at Agriculture is going to be, has been a great resource because we know there's a big rural piece of this. And that, you know, that creates a real window of opportunity here, combined with the great support from Chairman Rockefeller in the Senate, from Commissioner Rosenworcel here.

So we're really excited about the next few months. We think it's going to be a critical time. This is a big rulemaking for us, and we're excited to engage with all of you on it.

So with that, you know, happy to answer questions.

CHAIR BERLYN: Claude?

MEMBER STOUT: Yes, thank you so much for your comments about E-Rate and the upcoming NPRM. Consumer groups in the deaf and hard of hearing community definitely will send to you comments. You will receive reply comments that we would certainly submit and share with you, but there's some ongoing concerns when talking about many public schools where there are deaf and hard of hearing students who attend public schools and often are isolated.

So public schools may have only one or two or just a handful of deaf and hard of hearing students in their entire school. And what is happening is those students are not receiving adequate communication services. So they may get interpreters in the classroom, but the interpreter may not be qualified or may not be up to standard. They may be someone who can sign but is not a certified or a trained interpreter. Oftentimes, if the students do not sign, they try to get assistive listening technologies, and those technologies are not adequate or don't come to pass.

And my point is that I want to say that I definitely applaud the efforts, but I want to make sure that the E-Rate funds are going to programs that will benefit students. And I know that you mentioned that, making sure that the money is well spent, so making sure that the equipment and devices meet the needs of students in those areas and also that the broadband connections and the capacities at those schools really meet the students' needs. And I know you mentioned that, as well, I just wanted to reiterate that. But also to ensure that deaf and hard of hearing students, in particular, receive the support that they need.

So whether schools are struggling to learn how to use apps that would benefit them or finding apps that fit the limited broadband access that they have. Using apps in the classroom may be great for most of the students but, oftentimes, those apps are not accessible to the deaf and hard of hearing students, so choosing wisely.

And I think that part of your compliance reporting from the schools should include information on those E-Rate programs and whether or not the services that are provided are benefitting deaf and hard of hearing students and how their needs are being met, in particular.

Again, I want to thank you so much for the information that you've provided us and for allowing us to participate. We will certainly be sending comments soon.

MR. STEFFEN: Thank you for that. It's an excellent point and very helpful. Certainly, to the extent that bandwidth to the school or within the school is a barrier, you know, that is sort of, foundationally, what we're trying to address here, and that will be core.

And then beyond that, you know, to the extent the apps or the devices are a challenge, I think our going-in hypothesis here is that education technology has the opportunity to be a real benefit to deaf and hard of hearing students and other, you know, other class of students who may have difficulty engaging in a classroom in other ways. But it also has the possibility of opening up barriers, and it's our job to make sure that we are seizing the opportunities and not creating new barriers. And we're really going to be looking forward to your comments to help us get that right.

CHAIR BERLYN: Mark and then -- yes, Mark and then -- Lise, did you have your hand up? Sorry, Lise and then Mark. I think you had your hand up beforehand, Lise.

MEMBER HAMLIN: Lise Hamlin here. Yes, and I'm going to just tag on to what Claude was saying, as well. One of the things we've begun to see is that, sometimes, and it's not clear to me how much, there are students who will get access to, say, video programming that is not accessible, that is not captioned. And so I'm wondering if, in the NPRM, there would be an opportunity to comment or to provide input on how that should be looked at when a school is providing access through broadband, when they're providing video access, that it also needs to be accessible to people, again, the deaf students or hard of hearing students who need that additional captioning or they need augmented hearing, need to be able to have the hearing augmented in some way.

MR. STEFFEN: Yes. So it's certainly something we ask about and are interested in the NPRM. I think the framework in which we ask about it in the notice is, you know -- our primary funding in this program is for the connectivity. To a certain extent, we've historically funded a few services over the top, but mostly it's about getting schools connected.

And so the question for us is, with that funding and with this push, what are the things we should be doing to encourage or even, to some extent, require schools to use it in ways that we think are beneficial and where would we be, you know, reaching too far in trying to do that? And there may be a range of interventions we can make, sort of things where we wouldn't impose a hard requirement but we might encourage schools to take into account.

And so on all those sorts of questions, I think we'd be very interested in your help on what, you know, what are the high-impact and appropriate kinds of requirements, interventions that we might make.

CHAIR BERLYN: Mark?

MEMBER DEFALCO: Michael, Mark Defalco at the Appalachian Regional Commission. It's good to see you again.

MR. STEFFEN: Good to see you again, Mark.

MEMBER DEFALCO: E-Rate 1 or the first time we did this, for rural areas, had a tendency to create a disincentive for the communities in terms of investment for community broadband. And really what happened was you put in a T1 to service the school. Under the existing rules back then, it had to be for educational purposes. You took a whole large hunk of demand that was in the community, you pumped it out over the private T1 line, and the rest of the community had to scrape to try to get enough demand together to get another provider to bring in a new facility.

So, as you now look at going into E-Rate 2 or ConnectED or whatever it is, and you want to increase the capacity by probably bringing in a bigger line or a bigger pipe or however you're going to do that, just keep in mind, I know that the rules did change to the point where in off-school hours the schools were allowed to be used for community involvement and things like that, but structured in such a way that that pipe that's being brought in could be used for other community issues, as well as just the education, because, in the past, that was a missing factor in there, and it actually did cause some trouble.

MR. STEFFEN: Got it. Thank you.

CHAIR BERLYN: Irene?

MEMBER LEECH: In my work life, I teach at Virginia Tech. And it's exciting to hear discussion of classrooms at the secondary level and so forth having all kinds of connectivity. Today, Virginia Tech is comparatively well provided for in terms of support. But I have found that if I try to get a whole classroom of students, and there I'm speaking of 30 or so, on the wireless at the same time, it's a challenge. And so if it's still a challenge for me in that environment, I can imagine that we're a long way from -- and so I thought it might be useful to be sure that you knew that that is a challenge.

My understanding then, in secondary schools, what's happening is that they've got computers and a couple of kids at a time can use it. And how you teach makes a big difference whether you can get everybody on or not.

MR. STEFFEN: Right. And I should be clear, we're very interested in connectivity. We sometimes have a bad habit or just emphasizing the connectivity to the school because it's an easier thing to talk about, but we, in this proceeding, we're very interested in connectivity to the school and then Wi-Fi within the classroom because we think you need both in order to do the kinds of things we're interested in. And I think you're right: it's a big challenge.

I heard a great statistic the other day from one Wi-Fi provider who said that classrooms are their densest use case, their hardest-use case, so more than airports, more than Starbucks, more than anything. And so we know this is going to be a challenge, but it's something that we think, you know, it's the challenge that this program was created to solve fundamentally, even though we're now looking at the, you know, 15-year later version of it. And so that's our job.

CHAIR BERLYN: And -- oh, Art?

MEMBER NEILL: Hi. Thank you for your comments. A quick question about how the E-Rate overhaul might interact with Lifeline. I had spoken to a couple of my colleagues about the overhaul, and that question came up repeatedly. In some of the comments of Commissioner Rosenworcel, in terms of in the news reporting about it and also in the news reporting about what the President had said about ConnectED and the E-Rate overhaul, there was some mention of Lifeline savings being reallocated to the E-Rate overhaul. And so I was just curious how you see the interaction, funding-wise, working between E-Rate and Lifeline.

MR. STEFFEN: Right. So let me, let me start with something sort of prior to the funding, which is, and I think you just heard this from Commissioner Rosenworcel, is that this is an ecosystem, and the home access and the school access are, they go together. And that's true in the way she described, which is that increasing access to internet and connectivity in classrooms helps close our adoption gap.

The converse is also true, which is we need to be focused on our adoption challenges if we're going to seize the benefits of digital learning because it's very hard, as a teacher, to flip your classroom and ask your kids to watch video or do other bandwidth-intensive activities at home if even, you know, ten percent or two or three of your kids in your classroom don't have that connectivity.

So on the funding point, you know, it's a highly multi-variate equation, and I would be getting way out ahead of the Commission if, before we even got comments back, I did too much speculating about how the Commission is going to be thinking about that math down the road.

But I will say I think everyone here recognizes the importance of connectivity, you know, individual connectivity and connectivity within the schools.

CHAIR BERLYN: Thank you. Mitsy?

MEMBER HERRERA: Mitsy Herrera from Montgomery County, Maryland. I just want to echo the comments made by Mark. We have a community broadband government network. We're providing standard 100-megabit service to schools, to libraries. We have some technology improvements coming that will shift that to a gigabit very shortly.

But what I like to think of it as is, at the schools, it's sort of a three-legged stool. There's the infrastructure build-out, there's the operating costs which become more efficient as you add more sites to the network. But the last and hardest hurdle is the actual access within the school itself so that that media resource room remains available or open after school hours where it could be used for parents. A lot of those elementary schools are deep in neighborhoods. They're very easy for people to get to.

And so if the FCC and Department of Ed can focus on not just the sort of end point of getting it to that school but really looking at how you can fund those additional barriers. And I would mention that Rhode Island has a very good program in which they've developed and they use the schools as a sort of initial learning place, and then they have other tiers that they move to.

But I think that's, just Mark raised that point. It's not enough that the technology reaches there if we don't start to address the ability of how you keep that room open, how you get access to it without having to go through the main school grounds.

MR. STEFFEN: So in 2010, as you probably know, we did some initial reforms to this program, and one of the things we tried to do is to make it easier to allow after-hours use of connectivity. Now, we did that in terms of our program rules. The school still has the question of, as you say, keeping the doors open and the staffing and so on and so forth.

We asked a number of further questions about that topic and this NPRM, including about whether we should think about extending what we've done in terms of after hours to off-campus. You don't particularly need to be near a campus, right? But if you have a wi-fi network, it sort of goes off the edges.

So it's something we're thinking about. It obviously raises some tricky questions, but it's top of mind. And if you have thoughts about things we can do in our rules or ways we can incent schools to keep facilities open for community members, it's something we're interested in.

CHAIR BERLYN: Great. Excellent. Well, thank you so much, Michael, for coming and talking about this and this program at the FCC. It's a great topic, and I'm sure our working groups will be talking about this further. So thank you very much.

MR. STEFFEN: Thank you.

CHAIR BERLYN: All right. So don't leave your seats. We're on to our next presentation. Carolyn, do you want to join us, and Nicol? You have a PowerPoint. Nicol, why don't you sit right -- I'm sorry. Carolyn, why don't you sit right there? Nicol, do you have a PowerPoint? Okay. So, Nicol, you can be here.

All right. And, Steve, do you want to take it away? Steve Pociask, who's our co-chair of our IP Transition Working Group.

MEMBER POCIASK: Yes, thank you. Just taking off on what Steve Wildman said, I think the next two speakers will be very helpful. When you take in context just, you know, three decades ago, 100 percent of the connections in the marketplace were the ILECs' TDM access lines, whereas, today, when you consider, as Steve was pointing out, the increase of wireless and broadband and now VOIP, today the ILECs' TDM accounts for only 14 percent of those connections, paid connections to customers.

With that in mind, I'd like to introduce two speakers. First will be Carolyn Brandon and then, second, Nicol Lee Turner.

Carolyn Brandon is the senior scholar of Georgetown Center for Business and Public Policy at the McDonough School of Business at Georgetown University. And after we hear her, then we'll go to Nicol Lee Turner, excuse me, Nicol Turner-Lee. She is the member of the Board of Directors for the Minority Media and Telecommunications Council. And so, with that, let me turn it over to the experts. Carolyn?

CHAIR BERLYN: And before they speak, I just want to tell our speakers that we have someone on the phone, Ken McEldowney from California who's with Consumer Action. Ken, sorry we didn't, we were told no one was on the phone, and now we hear that you have joined us. So thank you, Ken, for joining us, and we apologize. We didn't know anyone was on the phone. So welcome, Ken.

MEMBER MCELDOWNEY: Okay. Thank you.

CHAIR BERLYN: So we'll make sure to include you in our Q and A, and I apologize. We didn't know you were on the phone. And, also, Carolyn and Nicol, when you speak, make sure your mikes are real close so that we can include you for those who need to hear. So thank you for joining us again.

MS. BRANDON: Thank you very much for having us. And quick question: do I need to press a special button so that what's here -- okay.

Good afternoon, everyone. Steve, thank you very much for the kind introduction. So I was asked to come in and just give an overview for this group on what some of the issues are that are teed up when folks are talking about something called the IP transition. So I wanted to just walk you through, from a consumer perspective, what's actually happening out in the marketplace because I think, very often, in some of the policy discussions that we engage in inside the Beltway, we sometimes lose touch with what's actually happening outside the Beltway.

So I am going to provide a copy of this slide presentation to be distributed to anyone who is interested in having access to it. And I would just note that the citations, because I am trained as an attorney, there's lots of footnotes in here, but they are all in the endnotes. So to the extent anybody is looking for the resources, they're here, you just need to go to the bottom of the screens.

All right. So the slide presentation is called "Upgrading the Country's Digital Infrastructure: A Technology Upgrade that Leaves No One Behind." So I want to start out with a very basic premise, which is, and I think most Americans would agree, as a general matter, upgrades are good. And so the picture that we're seeing on the screen right now, for folks like Ken and others, is you have the equivalent of a transition and upgrade from the days of a horse and buggy to a very nice, fast American car that is extremely fuel efficient. That's the new Corvette, for anybody who's into cars.

So as a general matter, that's what we're talking about is an upgrade to the country's digital infrastructure and wanted to just orient ourselves around the fact that, as a general matter, upgrades are good.

So what is it that American consumers are doing? What are they preferring in terms of their communication solutions? Let me just run down a few stats for you. Approximately 39 percent of American homes are now wireless, and I do want to note that my source here is not the CDC, it's a Merrill-Lynch Global Wireless report where they take a look at what's happening around the world. I mention that simply because some of us may have read the piece this morning challenging some of the research that the CDC has done.

Second, and this source is the CDC, the Center for Disease Control, they are predicting that 44 percent of American homes will be wireless only by the end of calendar year 2013. We can put aside for another day the debate over how you define wireless only.

What's interesting here is that consumers are cutting the cord three times faster than they were in 2007. So no one is debating whether or not consumers are transitioning away from traditional landline services, but what's surprising, at least to me as a researcher, is the fact that the transition is happening faster than folks were expecting.

Interesting also, more than one-third of U.S. households are now using wireline VOIP for their communications needs, replacing the reliance on the old plain old telephone service for voice. Interesting again is more than 500,000 Americans are leaving the old, what we call the POTS system, Plain Old Telephone Service, switch to access network every month in favor of communications service delivered on wireless and internet-based broadband networks.

So, again, whether we are to agree or disagree on the policy implications of that, I'm here simply to note what is actually happening.

There's a group called the Internet Innovation Alliance, which is estimating that consumers save an average of $8,870 each year when they use services delivered over broadband connections. So then the question becomes are these variety of options, which are available to consumers who no longer prefer POTS, are they realistic options? Well, let's check the data and see what it tells us about what American consumers are doing.

Ninety percent of Americans can choose from three or more mobile broadband providers. Eighty percent can choose from four or more mobile broadband providers. By comparison, in 2008 and 2009, 76 percent of

Americans had a choice of three or more.

So what do those stats tell us? The stats tell us that there are more folks competing for the American consumers' telecommunications' dollar, more rather than less. That's a good thing.

Interestingly, and this is more of a reminder, and perhaps Steve Wildman covered this when he presented to you, there are approximately 7800 ISPs, internet service providers, providing service in the United States. This is a huge number when you compare the number of total ISPs recorded around the world are 15,000. That means that more than 50 percent of the ISPs in operation right now are operating and providing service in the United States.

Companies like Netflix, Hulu, iTunes, HBO GO, Roku, Xbox 360, PS3, and others are all examples of ISPs who are providing what we call over-the-top solutions to consumers who are not satisfied with traditional cable or other traditional ISP offerings.

So then back to my original question, which was are these options realistic? And I come at this, yes, trained as an attorney but work with a ton of economists at Georgetown, and one of the questions we're always facing when we talk about "the consumer perspective" is there might be a lot of choice in the marketplace, but if you cannot afford to exercise the choice, it is as if there is no choice at all. So the question then is are the options realistic that I just laid out? Well, let's take a look. The stats, thus far, that I've laid out are this significant shift away from what we would call wired connections to wireless.

So then what is going on with wireless? Wireless prices are continuing to fall, which is a hallmark of the industry since its inception. From 2010 to 2011, the annual wireless telephone services consumer price index decreased by 3.6 percent while the overall

CPI increased by 3.2 percent. So what is relevant about that comparison? That general CPI is, essentially, an index recording what consumers are paying for "general consumer goods." So as a general matter, in the U.S. economy right now, consumers are paying more for general consumers' goods but are paying less for their wireless service.

Voice revenue per minute, sometimes a metric that Wall Street follows to track what is happening with pricing, has declined in the industry over the 18 years to the current, rough, about 0.05 cents per minute. Interestingly enough, the price for a megabit of data has also declined to, roughly, the same price as a minute of voice.

As of December 2012, the country had 102.2 percent wireless penetration. That means that there are more wireless connected devices in the country than there are consumers.

The United States has 69 percent of the world's LTE subscribers, Long-Term

Evolution. It's simply a term to describe a technology path for wireless networks. Why is that stat relevant? It is relevant because we are the global leader, which makes the United States and, hence, American consumers a test bed for LTE applications and devices, putting us in a global leadership position and arming American consumers with a great deal of control over the future of what this marketplace, the services, and apps will look like.

Interestingly, 67 percent of new mobile devices purchased in 2012 were smartphones. Why is that relevant? That's relevant because a typical smartphone has more computing power than Apollo 11 when it landed a man on the moon. These smartphones also consume a lot more resources on wireless networks than their analog brethren.

Mobile now accounts for 12 percent of Americans' media consumption time, three times more than in 2009. Relevance of that? Maybe not all of us around the table are spending our hours when we get home from work and the kids are in bed watching our favorite TV programs on our iPhone screens. However, there is a growing percentage of Americans who might be a little bit younger than us and maybe doing different kinds of things with video on their devices, but more and more are using what the traditional media markets would view as prime media entertainment, and they're getting it through their mobile devices.

Twenty-three manufacturers offer 266 different wireless handsets in the U.S. That's a stat that reminds me, years ago, when I first had the pleasure of meeting Deb Berlyn and one of the concerns among certain constituencies was it's almost as if there's too much choice, it's almost too confusing as to what device to get, what applications to get. I would argue that's a good problem to have.

More than 80 percent of smartphones sold today throughout the world run on operating systems developed by U.S. companies, up from less than 25 percent three years ago. Why is that relevant? Again, it goes to the U.S. leadership position which, and I will explain why that's relevant to the average consumer in a minute.

The number of apps in the Apple store exceeded 700,000 in September 2012, up from 425,000 in June 2011. The number of apps in the Google Play store increased from 200,000 to 265,000 in one year, between May 2011 and September 2012. The 50 billionth application was downloaded from Apple's app store this year.

So it sounds to me and the data seems to indicate that there is a shift going on away from the plain old telephone service, what we would call the copper infrastructure, moving towards wireless broadband and IP-based services. There seems to be a plethora of different providers and sources of providing both the services, the devices, and the connectivity. Prices appear to be coming down.

So then the question becomes, if we

are to continue that reality, assuming we all agree that it's a good one, then we need to understand what is driving that, what is producing those sorts of statistics. I would argue that private investment is a huge driver and lots of it.

According to the White House, in the report they released just last month, since 2009, nearly $250 billion in private capital has been invested in the United States wired and wireless broadband networks. Two-hundred and fifty billion dollars. That is a tremendous, tremendous investment, but it's also not an investment that can rest. That has to be a sustained investment going forward.

So not only do we need private investment, but we need a regulatory environment that fosters investment and innovation while enabling consumers to exercise choice and vote with their feet. Going back to my comment before, it doesn't matter if there is a lot of choice if consumers don't have the ability to exercise it.

So let me go back to explaining why all of these stats, rolled in together, are actually incredibly important for the average consumer, and that has a lot to do with the economics of what broadband connectivity and faster, bigger pipes for our digital infrastructure can produce for the overall economy, beyond just telecom.

In that same report that I referenced released this summer, the White House estimates that every American who goes online experiences what they call a consumer surplus that equals two percent of their income. That's a big number. As of July 2013, there are over 752,000 app economy jobs in the United States. These are new jobs that came into being once the first iPhone was introduced. App economy jobs grew approximately 40 percent in the last year, and that's based on a study published by the Progressive Policy Institute.

U.S. wireless providers, in

particular, directly employ 238,071 workers at the end of 2011, which is up from 184,000 in 2000, which is a trend that is contrary to what's happening in the overall economy where jobs are shrinking, despite that little one percent growth we were reading about earlier in the week.

An independent research firm, Recon Analytics, estimates that the wireless industry in the United States was responsible for 3.8 million jobs, both directly and indirectly, in 2011 and accounted for 2.6 percent of all U.S. employment. At $195.5 billion, the wireless broadband industry would rank as the 46th largest economy in the world, as measured by GDP.

So beyond just the obvious economic benefit of having large companies investing in the infrastructure but then also enabling job creation beyond the direct sector because of the kinds of economic growth it provides, you also have the upside of an informed and active democracy, something also highlighted in the White House's report. But let's take a step back to the FCC's own National Broadband Plan, where the FCC, Blair Levin and his team, indicated that having access to broadband is an important part because it informs communities and increases the level of citizen participation to strengthen local communities and the fabric of America's democracy. Examples of that: making government data more available and easily accessible online, enabling government officials to interact directly with constituents and we've seen examples of that in spades in the last several elections. It also helps to modernize the democratic process, pulling more Americans who perhaps did not feel they had a voice, giving them a voice through Twitter and other options. Also note that 34 percent of adults have contacted a government official or have spoken out in a public forum via online social media, which is an interesting phenomenon.

As of April 2012, half of all seniors, defined in the report as adults aged 65 and older, were online. I personally found that statistic surprising. I was under the impression it was a lot lower, but, in fact, according to the White House, half of all seniors are online. That is a good thing.

We also will experience improvements to productivity in areas like agriculture and cost reductions through remote monitoring of crops and realtime adjustments to watering and keeping track of different livestock. We are also expected to see improvements and cost reductions in the provision of education, improvements and cost reductions in healthcare, and then also, and critically, connecting rural entrepreneurs with the global market.

So these are all very positive, in and of themselves, also somewhat economic benefits, but also the idea of having a more educated and active democracy is a huge outcome of, again, having this very big, very fast digital infrastructure.

So then what would I argue is the call to action? Number one, I would suggest that we need to clear the regulatory underbrush and free up more capital for investment in broadband infrastructure. I think it is time for regulatory humility. And, also, we need to be informed consumers. We have to be part of the solution, and we have to be part of the conversation.

And I would encourage us, we need to use the tools, whether it's tools to track our services, to protect our privacy, to learn how to use software for educational purposes with our own kids. There is a lot that we, as consumers in the digital economy, can do to control our future and, I would argue, in partnership with the regulatory structure that embraces and understands the need to balance consumer protections with investment. I think the future is incredibly bright.

CHAIR BERLYN: Back to you, Steve.

MEMBER POCIASK: Now let's hear

from Nicol.

DR. TURNER-LEE: Good afternoon, everyone. So happy to be here to address this esteemed group, and thank you, Carolyn, for laying out the infrastructure piece, so I won't have to speak more on that.

I was brought to actually talk more about the implications on different demographic groups. So I hope to share some of that data, as we look at the IP transition, and where there are opportunities and potentially where there might be some hiccups, right, that we have to pay attention to as we migrate to bigger, stronger pipes and faster broadband for our nation.

So very happy to see that this important topic is being addressed. And for those of you that may not see, I'm using my own technology as one way to actually do this presentation, which is a little different, I think, for many of us in this room over the years. So bear with me. This is an experiment with my own technology here.

So happy to present on this topic and potentially the impact on people of color that also happen to be disproportionately low-income, seniors, as well as those that live in geographically-isolated populations. And it is no secret, as Carolyn actually already mentioned, that people continue to do cord-cutting when it comes to landline services. I read a statistic that, from 2000 to the end of 2013, providers will have nearly lost 62 percent of all traditional phone lines and 70 percent of residential phone lines.

So, simultaneously, what we are seeing is that people are making their own decisions, in some cases, in other cases having no choice but to do more rapid cord-cutting. But I think the good news story is that we are seeing people adapt to more wireless, which is, actually, as Carolyn mentioned, an area that for many of us in this room have seen burgeoning over the last few years.

Mobile traffic continues to

experience an exponential rise in use, especially among consumers where cost still remains a prohibitive factor. Mobile use is also expected to triple, according to the Cisco's study on IP global traffic forecast. So I think that that conversation is going to continue to happen, and I think many of the things that we are seeing happen here in Washington, D.C. are going to have a huge effect on capturing this insatiable use of mobile as we progress.

So where are we today? I mean, I think the FCC has been very progressive in seeking comment on proposed trials of IP technology. So, clearly, we're seeing now a process of gathering factual data to determine the efficacy, pricing, and levels of investment needed for this technical evolution and the resiliency of this technology.

I don't know about many of you, but I was doing a presentation the other day and just talking about this shift on the Hill. For example, in the music industry, from records to what we see now of cloud gathering of your music. And many of those advances have happened so rapidly that we have to be clear, as I am one of those people with tons of boxes of records in my garage and CDs that I don't know what to do with, right? But a lot of that is, again, sort of this conversation of where the technology and innovation is just so exciting but, at the same time, for the purpose of this committee, something that we need to look at the impact on consumers.

And those trials that the FCC have put into place I think are going to be a good way to ensure consumer protection. And I know MMTC, as a Board member, has publically supported the AT&T trial, as it looks at cost-related and technical concerns related to a full IP transition.

It's also fair to say that we also need to be aware of people that could potentially be left behind. So according to recent studies, you know, one in every five Americans do not use the internet. That's the opposite of what we hear in terms of the good news story. There are still people who do not use the internet. And we have to be mindful that, among those that do not use the internet, disproportionately, they're of color, they're low income, and they're seniors.

Forty-six percent of Hispanic households now live in wireless-only households, and that's according to Pew. Thirty-seven percent of African-Americans also live in wireless-only households. And I'm not going to delve too deeply in the adoption research, but some of that, again, is related to cost factors and the ability to get beyond some of the other barriers. We've seen mobile as a good news story for these populations that have been left behind.

And while all these are promising, NTIA's recent report on "Digital Nation" shared that, still, African-Americans and Hispanics are still under 60 percent when it comes to broadband penetration and lack in computer ownership. I think it's West Virginia is at the lowest of the list when it comes to computer ownership and, you know, equally low when it comes to broadband adoption.

So we need to be clear, as we go to more of an internet-enhanced protocols that we're not putting these statistics aside because it's almost like a two-edged sword when you look at adoption, in terms of the opportunity as well as the challenges. And, clearly, I think there are three factors that I'd like to speak about, and then I'll leave with summations in terms of what Carolyn talked about, call to action on this side of the equation.

There are three areas that I'd like to kind of leave you with as we think about this next generation of high-speed broadband networks. One is, obviously, around reliability being one of the factors when it comes to this transition. Cost of services on an IP network will be a factor; and, again, those FCC tests I think will help us look at cost-related issues.

And honestly, folks, what we will see in these enhancements I think is a lower-cost entry for communities, just because of what IP networks can provide. But we need to make sure that that reliability in terms of cost and the reliability in terms of the infrastructure in place.

We are looking at a variety of new technologies that are in play that are still being tested and the extent to which those networks are resilient and can operate and be modernized in a way where you don't have a breaking coverage I think remains to be a question around reliability. So, for example, if I told my ten-year-old son that we didn't have internet at home for some reason and he couldn't play his interactive games, I think there would be a mutiny in my household, right? So imagine, in our nation, if we don't have those tests and we're not able to look at the reliability of those networks, similar to what we saw with the digital TV transition, right? We're actually going to see some level of concern around that.

Affordability is another measure and factor that we need to pay attention to. Again, we need to ensure that the low-income groups, people with disabilities, minorities, that there's enough for them to pay to be able to be on an enhanced IP network and embrace the transition, for one, and, for two, that they're not overburdened in terms of other costs that may come with their participation on this network.

As Carolyn mentioned, even though we're seeing more people kind of opt in voluntarily to this device ecosystem, the extent to which we can complement what used to be the old landline model, right: you got the line and then you were able to pick up a ten dollar phone back in the days, right? That they're able to actually participate and engage on the network with the appropriate devices.

And, obviously, continuity. We want to be able to ensure, and I think this is one of the real great promises of what we're going to see with an IP-enhanced network, that we can get to those places that we've not traditionally been able to reach with wireline.

And I think that's a really key point in terms of the continuity of this network for a variety of reasons, both from an economic development perspective of which Carolyn already spoke about so I won't, but also from a perspective of the challenges that we have with regards to the build-out that we've tried to create over the years when we have put, for example, the National Broadband Plan, our goal of a more ubiquitous network.

And, obviously, in terms of that continuity part of it, as well, is this preservation of our 911 system and our homeland and public safety measures to ensure that we can actually run that, as well. You know, again, I think having those priorities of reliability, affordability, and continuity at hand and in mind I think are some of the key factors that will remain at play as we migrate to a more enhanced network.

But with all those factors in mind, I just want to leave you, again, as Carolyn, with just a couple of call to actions and next steps just to think about as we move forward in this conversation and, hopefully, entertain questions.

Improved consumer experience with this multiplied benefit of technology use under an IP network I think is exciting. The ability to have a network where you can do multiple things in terms of, you know, audio, video, and other areas in terms of what Carolyn already mentioned in terms of the plethora of applications is an exciting pivot point, I think, for our nation to be able to do that. So I think it's one that we should embrace and, with those three factors that I previously mentioned, just figure out how we don't put consumers at harm when it comes to that transition.

I think the ability to deliver more public and social benefit applications over an IP network are also very interesting and exciting. Improved telehealth as a result of having an IP network system I think is a direct benefit to not only the well-being of our nation and our consumers and our citizens, but also helps us to have a more continuous and ubiquitous experience when it comes to how healthcare is currently delivered. And I'm looking at Robert, who we've had several conversations about, you know, how do you make telehealth much more agile, much more mobile for people who have geographic concerns or concerns in terms of access to, you know, specialty providers, etcetera. By doing that over an IP network I think is a really exciting piece.

Improved educational attainment that can be enhanced as a result of an IP network transition. Having the ability to offer more seamless access between the home, the school, and the community I think is very exciting. And to be able to open that up so that we improve educational outcomes I think is one of the goals of this country.

Enhanced open government, which Carolyn has already talked about, and our ability of consumers to be online versus inline when it comes to the provision of public services and social services. And the enhanced ability for people with disabilities to receive enhanced services so they can live at home I think is also -- and I've been a fan of Deb Berlyn for a very, very long time and the advocacy that she does. And having an enhanced IP network will also be very helpful to deliver those services right to the home.

Third, a more seamless communications protocol that ensures our public safety I think is a key thing. And we obviously know that there have been challenges with that, that, you know, we will continue to delve into and discuss as a nation. But, most of all, having that ubiquitous experience around public safety I think is very critical, as we've witnessed in the last recent months and years several national occurrences.

And, finally, and I'll close on this, this transition to an enhanced IP network, and I think this is a critical thing that we've not seen discussed as much, will also help us provide a gateway for more innovation in entrepreneurship in this country. And I think the ability to have a new network which will require the innovation of new devices -- I sit on the FCC Digital Diversity Advisory Committee and chair a subcommittee on the use of unlicensed devices and wireless spectrum for minority entrepreneurs, and I think that there's something to be said for what could be developed as a result of developing a different gateway where we can overlay, I think, the possibilities that Carolyn spoke about through an enhanced IP network.

So, again, I close with there's a

good news in all of this, right? And there are obviously areas that we will need to ensure that consumers operate within a level of protection. And we obviously, as Carolyn said, want a system, a regulatory system that supports both innovation, while, at the same time, looks at how levels of investment will ensure that we have a more seamless, reliable, and continuous development of this network. Thank you.

CHAIR BERLYN: Thank you, both. Thank you so much. It was great, great. Okay. And thank you, Steve, for the IP Transition Working Group and supporting bringing these folks in.

Wow. Okay. We've got Steve Wildman behind me, who came back. Thank you so much, Steve. I tried to email you and say we were running a little late, so I don't want to hold you up, as well. We're going to get to Steve's questions. We want to have a couple of moments for questions for Carolyn and Nicol, as well.

So, Steve, bear with us. We just want to take a couple of moments to get some questions for these folks, as well.

So questions for Carolyn and Nicol. Let's be efficient. Charlie?

MEMBER ACQUARD: I was fascinated --

CHAIR BERLYN: Charlie, wait for your, got your mic --

MEMBER ACQUARD: -- this is for Carolyn. This is for Carolyn. I was fascinated with the use of the term regulatory humility. What does that mean?

MS. BRANDON: So, very often, conversation around consumer issues can involve folks who are not necessarily fully informed as to exactly what is the digital consumer doing, what are their needs, where are they vulnerable? I think there are certain issues, such as privacy, for example, in a digital world that are enhanced and different than privacy issues that were posed, if any, under a plain old telephone system 25 years ago.

So when you are thinking about the kind of regulatory framework for an all-IP world, you know, an all-digital world, both wireless and wired, I think it behooves the regulatory to acknowledge what it might not know, information that perhaps it has been using, is very comfortable with, but may not be the most relevant at unearthing what are some legitimate consumer concerns. And unless you are able to put aside some of those foregone conclusions and look at the reality with clear eyes, you may not be able to create a regulatory structure that is going to function and balance all of these competing needs in an effective way.

CHAIR BERLYN: Mark, you have a question?

MEMBER DEFALCO: I'm not sure if this is really, I guess this pulls us into a tube, but, as I listen to the discussion, it seems that we're spending a lot of time talking about the wireline-to-wireless conversion, if you want to call it, and we're doing it under this umbrella of the IP transition. But I don't see it fitting because the wireline-to-wireless, it's a separate issue. It has nothing to do with TDM to IP, and, over the cellular network right now, you could either have under, I think it's a 3G it is not IP. And under a 4G, it might be IP. But that just seems to me like it's a whole separate issue relative to: does it make sense to replace central offices with soft switches and does it make sense to put more fiber into the network to be able to do quicker internet kinds of things relative to, you know, we used to have a POTS network or PSTN that was predominantly a voice network, and this I don't understand the concept of trying to upgrade that so that we could do faster things over the internet.

But the whole talk of the wireline to wireless seems like it's a separate issue that we're lumping together. It seems to me that that's an economic issue for whether an ILEC wants to continue to maintain a copper network relative to a technological issue, which is the IP transition. So that's one area where I get, I guess, a little confused in my own head.

And then the second thing I just want to point out, you brought out all the wonderful things that are happening and all these tremendous investments that have been made since 2009, and most of it, I think, has been made in the wireless side of things and that investment was all market-driven by the companies where they could make a rate of return, an adequate rate of return for their companies to be able to put that investment in.

So from that concept, the marketplace drove the investments, and it's working. It's working as it should. Where we need the safeguards is to make sure that, as we continue down the road, that there are certain consumer groups in rural areas that don't get left behind in all of this.

So I guess, you know, I don't know that there's really a question in there, other than it just seems, in my mind, like we're combining a whole lot of things under this umbrella of IP transition when, in reality, there's separate things going on here. That's the way I see it anyhow, but I'm not an engineer, nor am I an attorney.

MS. BRANDON: And I run the risk of trying to pretend I'm an economist here, especially in front of Steve behind me, which is absolutely mortifying. But let me take a stab at clarifying because I understand absolutely where you're coming from in terms of the confusion. If you're talking about IP transition, why the heck are we talking about the switch, the consumer movement away from, you know, what we'll call wired connections to wireless.

And here's why I think they're actually unbelievably integrated, and it's very important to be thinking about both of them together. If you think about it, the consumer these days does not seem to care what their connection is or where they get it. They want their content where they are, wherever they are, whenever they want it.

So the fact that more consumers are choosing to hang off the network through a wireless connection does not mean that the efficacy of the wired part of those connections isn't incredibly important, right? Because when data traverses the networks, sometimes it's going across a wireless network, other times it's going across a wired network. All pieces of that impact the timing and quality of the delivery of those bits.

So the argument for thinking about these wireless and wired issues together is it all needs to be super fast, big, fat pipes that are all moving towards the next generation of capability. So you cannot have a fully successful experience in a 4G wireless network world if you don't also have a commensurate improvement in the pieces of the wired network that are connecting to that wireless network.

So they are actually integrated, which is why you have a discussion about the switch from wired to wireless in a consumer space when you're talking about these issues of IP transition, number one.

Number two, in terms of the total investment 2009 to 2011 was simply an example that the White House decided to focus on. But if you take a look at the last ten years, you know, some of the companies who are investing in both wireless and wired-line don't necessarily break down to a fine level of granularity exactly how many shekels are going into their wireless properties versus what are going into wired. But if you look at the aggregate numbers, there has been a tremendous investment on the wireline side for many years, as well as wireless.

DR. TURNER-LEE: And if I could just jump in, I think I want to echo Carolyn's point. I mean, it's all interconnected. There's a paper that I just was on a panel last week around this hybrid and interconnectedness of wireline and wireless and how they all actually come together, Ed Berlich's paper which actually was really good about that.

But I think the key thing and to your question, you know, why we're all talking about this now is sort of this multiplier factor of what these networks are going to be able to deliver in terms of content and the ability to understand that it's no longer about broadband as a tangible discrete item but for all of the things that it can do. I think that's the reason we have this discussion.

And I think you're right. To a certain extent, we've kind of put everything in the same box, but I think that's part of the evolution of these networks to be much more adaptable to being able to have the platform to be able to run those public good and social good applications that I spoke about, as well.

And I think on the investment side, for companies that don't take a look at that type of investment, we're going to see similarities to what we've seen over the past in terms of the degradation of other services, which will then have a potential harm, I think, on the consumers that we both care about, right? Because for the price, they may go for a different copper service which would not allow for them to do these other things.

So, I mean, I think it's a conversation that's evolving, but I think part of this conversation today was just to be mindful that we need to somewhat embrace the fact that we all want to get to this certain outcome and goal.

CHAIR BERLYN: So there's a broadband provider who wants to jump in on the answer here. Terri?

MEMBER NATOLI: I just wanted to ask a question.

CHAIR BERLYN: Oh, okay.

MEMBER NATOLI: I just wanted to ask a question. Sorry.

CHAIR BERLYN: Okay, all right. So can we get to you in a moment? Because we're running down the line. I thought you wanted to jump in and address this. Okay. And, Steve, you might want to address this topic, as well. I don't know if you --

MR. WILDMAN: I can. Although, I mean I've been impressed by the quality of the answers you've already got.

CHAIR BERLYN: Okay, thanks. So Irene?

MEMBER LEECH: It seems to me that, as we are doing all of this, what we're saying is that rural areas have to wait longer to get the really dependable robust technology. I've been told that, to get what I need, I need to move, and I don't live in that out of the way kind of a place. But we don't have anything that tries to get everybody served. I live in an area that's not probably five miles radius that's being kind of left out.

And many of the places that need the technology the most are where they need economic development. And when you can't get a reliable and affordable line -- I'm spending right now $130 a month to get wireless internet, which is all I can get, that I can't even use fully because if I did have DropBox open and check in every time, it runs my bill up. If I upload photos, it runs my bill up. I'm not watching movies. I'm not watching TV. And I still, and as a university faculty member, I can't get fast enough stuff to grade things, and I can't afford to buy anymore than I'm buying.

I'm paying more for telecommunications than I've ever paid in my life. If you add it all together, I mean, forget wireless.

So my neighbors don't work at the university. My neighbors do a lot of -- and my neighbor kids can't get anything else.

So as you're thinking about all of this, if we really want the areas that nobody wants to provide to be economically viable, we've got to find some ways other than eventually wireless will get something to you or you need to move.

MR. WILDMAN: I guess I can speak to that a little bit. What you're really getting into, I think, are questions about how we allocate our Universal Service monies. We are in the process of actually revisiting that. The dollar amount we put out every year is quite large. It's well over, it's around $5 billion a year. And the question then becomes are we then putting it in various buckets for wireless services? You know, the Mobility Fund, we have the Remote Areas Fund, we have the Connect America Fund, and there are questions about whether we put the right amount of money into the right buckets. And so one of the issues that will be revisited is the question about how we move this back and forth.

And so what you're really asking a question, one is budget, how much money can we put into it? And the money we have comes from sort of fees that are levied on services that, you know, mainly long-distance services that other carriers provide. That gives us a budget each year, and then it's a question about how do we allocate that? And I think we can do a better job, at least we conceptually can. And, hopefully, that will be doing a better job of getting services to you.

But you had actually given me your card with a question on the back: how do we incentivize the provision of a more equal, more equality in the services provided nationwide? Now, we'll never get all the way there. It's more expensive to provide, the more remote you get, the more costly it will be. But that doesn't mean we can't do better. And I think, as we revisit this and continue to try to improve our methodology, I think that will get better.

But there's no quick, easy answer right now, and there will also be unevenness in the way that the various services come about. You know, Wes, you're probably using a wireless information service provider of some kind, internet service provider. And their speeds are going up, but the way to which they're rolling out the better technologies varies from area to area. And what we need to do is try to find ways to incent the speed of the rollout of the better stuff.

MEMBER LEECH: Right, right. And the pilots that are going on, too.

MR. WILDMAN: Yes.

MEMBER LEECH: The area is, geographically, so small, and it's not the most remote part of the county. It's just where things have come out to, and I'm concerned that nobody is going to ever be able to afford to provide because, in the 30 years I've lived there, the cable folks haven't even come, even as the population has grown.

DR. TURNER-LEE: And I think that's why this conversation that we're having today and the conversations I think that Steve is talking about in terms of the pilots and the reform in Universal Service Fund is I think we're all now getting this common denominator that having this access to high-speed networks, whether it's wired or wireline, are very critical to the delivery of our services. And to your point, I mean, none of us would have paid those services, but then, again, years ago, none of us were downloading photos or downloading music, right? We were doing, we were taking it to the local drugstore and having them do it on some other type of machine. And I think that's part of the experimentation of innovation that the FCC, I think, at least with the Universal Service Fund and what we're seeing in these pilots around the IP transition, are at least trying to collect factual data and evidence that allows us to reduce the level of harm while increasing the potential beneficial output to communities like yours, where we're actually not seeing that rate of development and growth that we'd like to see.

And being in Washington and having followed this topic for a very long time, I think we're now seeing some synergy between other departments and agencies that are starting to codify where broadband access is and where it's not so that we can make the case, I think, for the national outputs that were outlined in the National Broadband Plan.

CHAIR BERLYN: Okay. So I'm going to try and move quickly. And, I know, Chris, this is a leftover question from 10:00 this morning. I know. Chris has had his card up since 10:00 this morning. On the wrong side of town, the left side of the room. So let's let Chris go next. Go ahead, Chris. And then we'll go back to Lise and Terri. Terri, do you still have your card? Yes, okay. Lise and then Terri. Go ahead, Chris.

MEMBER BAKER: Thanks a lot. I appreciate it. Am I on? Yes.

CHAIR BERLYN: Oh, and, Ken, you also, I know you're trying to ask a question, aren't you, Ken?

MEMBER MCELDOWNEY: Oh, yes.

CHAIR BERLYN: Yes, okay. I know

there's lots over here. There's a lot of cards. We don't have to have lunch today. Forget lunch. Chris, go ahead.

MEMBER BAKER: My question, I guess, goes to Carolyn. Carolyn, I think we met when you were at the Wireless Association a while back. I liked your presentation. But it goes to your first picture with a Porsche, and I'm trying to think about how many -- oh, I'm sorry, Corvette, right, right. Still a very pricey car. And it goes to affordability. You know, just recently, the FCC came out with the data, broadband data collection order and didn't include price as one of the measurements of broadband data. And I think that was the question I was going to address to Steve was, in your presentation, which was excellent, the one thing we didn't address was the price. You know, how can we do that? And I guess the order, to be fair, said it was going to be left open, that they weren't, hadn't made a definite decision about collecting price data.

So how do we go about collecting that data or getting that information? Because, I mean, affordability is so important.

MR. WILDMAN: This is a question to me and not to Carolyn?

CHAIR BERLYN: We're going to ask Steve that question.

MR. WILDMAN: Yes, I'm not going to be able to give you an answer to that question because I don't think anybody has an answer yet. And part of the reason is that we see an increasing complexification of the set of services that are being offered. I have Comcast, which I think is the only option I have in Haslett, Michigan.

But, nevertheless, I have multiple tiers, and the tiers reflect both the amount of data I take per month, as well as the speed that I get. And there is no unified way to collect this, and the fact that it evolves over time means that, once we collect the data and we finally get it compiled, it's quite often out of date.

Now, that doesn't mean we shouldn't try. But all I'm pointing out is it's not easy to figure out exactly what the price should reflect, how we compare this across different areas and technologies, and how we weight the different components of the packages, these very complex packages you buy.

The other thing that makes it complex is everything is sold in bundles now so that you're buying simultaneously, at least we do, phone, internet, and cable television. Bundled prices differ just from the standalone prices. You can collect the standalone prices, but to what extent then should we allow for the discounts that go with the bundles?

All I'm pointing out, this is not to say that we shouldn't be making the effort, and I think you will be seeing more effort made in this regard, but it's a really tough challenge. I've worked on this as an academic and found it very difficult. Of course, we didn't have the powers that the FCC does to actually send out notices and make requests. But, nevertheless, it just, I don't want to understate the magnitude of the challenge of really getting reliable, useful, and especially up-to-date data.

CHAIR BERLYN: Thank you. Okay. Lise and then Ken McEldowney.

MEMBER HAMLIN: Lise Hamlin, Hearing Loss Association of America. I think one of the things that, as I'm listening all morning, so that includes all of you here, my big question is where are you looking or are you looking at or getting data about people with disabilities?

I can tell you, just anecdotally, I can tell you that what I see with people with hearing loss is they're using -- my fear is they're going to get left behind because we're dealing with people who are often age into hearing loss, so you're dealing with the senior group. You're dealing with people in rural areas.

So, for example, I use a captioned telephone, and, as we transitioned, so my sons can transition and have no wireline phones in their home anymore, but I need that wireline phone in order to be able to communicate. People in Delaware just adopted an analog phone, so they're way behind now. They just adopted this.

So now, when Sandy comes along and Verizon and AT&T say, oh, no, we're not going to give you analog services anymore, we're going to give it through, you know, over the air, and I don't remember the technology, how they use it, but I worry about those folks are going to get left way -- now, they can't communicate at all. How are they going to be able to understand a phone conversation if they don't get their captioned phones?

And where we should be going is mobile captioned phone. We don't even have a viable mobile captioned phone option for people right now. So are you looking at these groups of people who, you know, rural areas and seniors? And the affordability, actually, impacts this group, as well, with people with disabilities are faced with making the transition.

MS. BRANDON: Looking just at what the various companies have said, it would appear to me that one of the primary drivers -- well, first of all, let me distinguish between Verizon and AT&T again, just based on what I'm reading. I think the companies are pursuing two separate strategies about how they want to go about, you know, talking about and implementing the IP transition. Verizon, I think, was impacted much more directly through Mother Nature and was presented with a set of choices about what to do that are a little bit different than perhaps what AT&T is going through.

That being said, it would appear to me, based on the filings at the FCC around AT&T's petition seeking permission for market trials and several other things, is that is an activity subject to FCC oversight, which is intended specifically to elicit answers to exactly those questions as applied to these various communities.

You know, again, just looking at what the companies are saying as reported in the press, at least AT&T seems to be saying that they would like to implement this and partnership with the FCC and not leave anyone behind. So I don't know that, you know, the companies have actually figured out for themselves what the technical business and policy implications are at every step of the way. But, again, just based on what I've read, it appears that's the impetus for seeking to do market trials in certain rate centers around the country is to suss this out and actually figure it out so that we are ahead of an occurrence, like Sandy, where your choices about what to do are limited just because of natural circumstances.

CHAIR BERLYN: Ken McEldowney. Oh, I'm sorry, Paul. We'll get you --

MEMBER MCELDOWNEY: Hello?

CHAIR BERLYN: Ken, you're on the air.

MEMBER MCELDOWNEY: Thanks. I guess one comment and I guess a question. The comment is that I'm always bothered when I hear comments being made about the need to sort of balance consumer protections with investment in terms of the type of regulations that should be put in place. I think the role of the government is to always ensure that consumer protection comes first, and then, after that, the industry decides how to deal with that.

But I guess the larger issue to me is that I think it's as unrealistic to assume that the marketplace is going to provide broadband that's affordable and available to rural areas and low-income consumers. It's as unrealistic as to say that there's no need for food stamps for poor people because the marketplace will work in such a way that provides food that's accessible and low cost for everybody. It's just totally unrealistic.

Until you reach a situation in which there's a recognition that the government has to have a much larger role in terms of investment, in terms of infrastructure and devices, the poor and rural areas are going to continue to be left out for the foreseeable future.

DR. TURNER-LEE: Hey, Ken, this is Nicol. You know, I think that that's an interesting comment and interesting point. And I think, you know, I'm going to just speak as a person who is an advocate and evangelical on the behalf of low-income people and poor people, as well as people of color, that I think we actually are seeing, much like we're seeing with network infrastructure build-outs, some really good examples where we are seeing the investment and reductions of cost for low-income people.

I mean, I think, for example, and it's sort of out of turn with regards to this discussion, but, for example, the Comcast Internet Essentials program which actually reached out and combined with the National

School Lunch Program and the amount of people that that program has served is a really good experiment and example that led to, I think, some initiatives on the part of the FCC to figure out how to scale.

So I think there will always be attention between marketplace and the extent of government regulation. And, unfortunately, you know, and this is something that I've come to see, as a person who's been watching this debate like many of you in this room, the rate of advancement and innovation is so quick and the insatiable desires of consumers, as we heard earlier, you know, I'm downloading movies and music has become at a rapid pace of development that we have no choice but to figure out how both people are in the same marathon at the same time, both actors in a marathon at the same time, to keep pace with the demand that citizens want today.

But I think we need to also look at some of these examples that we've seen companies try to do, and I think not so much to come in, and to your point, you know, provide a band-aid solution to a big socioeconomic problem but to provide some level of experimentation and models and pilots that help us figure out I think the biggest question of them all, which is replicability and scalability.

And so I don't know about Carolyn, if you want to talk on the other side, but I think I've seen, you know, for a person who started in the community access movement, you know, so I'm kind of surprised with the fact you live near Blacksburg Village because I remember when there was a community network there -- oh, okay. Well, you should be on it, right? Okay. So for a person who's been involved with that debate for years, you know, seeing some of these examples where companies have decided to figure out, well, what can we do to help kind of, you know, bring this together, you know, if we brought those examples together, I think we can actually go back to the FCC and other entities to figure out the scalability and the replicability and the level of investment needed to make those more sustainable.

MR. WILDMAN: Yes. Let me just speak to Ken's observation. It's absolutely correct that, when we're looking at Universal Service Funds, for the most part, what we're looking at is getting service to areas that are high cost and the cost of providing service to those areas puts them at a disadvantage for getting advanced to modern services.

So what we do mostly at Universal Service is find a way to incent the provision of the infrastructure. That, by itself, does not address issues about income and affordability. And for our programs to be effective then, we actually need to sort of recognize this separability of the income issue from that of the cost issue. And whether we do this under the umbrella of Universal Service or we have something else that is separate and addresses the income issue, which is not just a high-cost area issue, right? It applies to any area where you have people that have severely low incomes. So we need to separate out the two goals.

Ken is absolutely right. We shouldn't conflate the two.

CHAIR BERLYN: Okay. We have five more minutes. I'm going to take two more questions. Douglas Trauner has not asked a question this morning, so I'm going to call on you. And I know Paul has had a question for a long time. So go ahead and ask your question, and the we have to let these folks go.

MEMBER TRAUNER: This is Doug Trauner. A quick question for Steve. In the analysis you did, which was great, you always start with the 18-plus from a demographic standpoint, and I know that there's a lot of usage from, you know, under 18. And I was wondering if -- and most reports also talk about over 18. Clearly, it's a leading indicator, and there are programs now where it's $10 to add, you know, a family member. Have you done any analysis to look at that age of under 18?

MR. WILDMAN: To my knowledge, the Commission has not done that. That doesn't mean that there aren't commercial services out there that have looked at the extent to which children of different ages, below 18 people, individuals, we call those children, actually have access, but that's going to be highly correlated with, you know, the family because it's primarily a family adoption issue. By the time you get to 18, you're starting to look at people that are moving out on their own, and that's primarily the reason why we look at 18-plus in those various categories.

But you're right. When we come to the issues that were raised earlier about whether children have the ability to utilize the internet, to access homework and deal with school issues, then we want to look at the distribution, age distribution within families and that access.

There may be information within the

Commission. I haven't seen it, but that's probably because there's this huge amount of information that I wasn't asked to look before. And one thing I can do is to see if we've got that and see if there's something available.

CHAIR BERLYN: Thanks. And, Paul, you get the last word.

MEMBER SCHROEDER: Hi. Paul Schroeder, American Foundation for the Blind. I think we've probably said this over and over again, so let me say one thing is that I hope that one of our work groups, one or more of our work groups will be helping us bring some recommendations to the table for addressing affordability as we move forward. This is such a critical issue.

I guess I wanted to just underscore this issue by trying to get at what we know about affordability and how do we incentivize it, and you've already talked a little bit about this already, you know, that the provisions have largely, historically, driven infrastructure investment and that goes back to even the copper line and the ILEC/CLEC thing.

One of the things that hasn't been touched on, and I don't know whether it's important to look at or not because it's sort of a murky, it takes us down a murky path, and that is how much are consumers being informed about or how much choice do they have in looking at the level of broadband service available and can they make choices that would stress affordability for less bandwidth and greater affordability? Because I'm struck by Carolyn's point that some of the costs have come down. I certainly haven't seen it. It could well be true. But what seems to me is what's available has gone up and costs have driven up, and I'm wondering so, you know, is there a problem with up-selling to consumers? Is there a problem with pushing bandwidth as if that's the solution when, in some instances, it might be the ever-present aspect of broadband at a lower level of bandwidth that is sufficient to meet the need?

MR. WILDMAN: I can respond to that. You're actually touching on a fairly controversial point, and I'm not going to offer to resolve that controversy. But the question as to whether or not we should actually be offering people a menu of choices has been one that has been roundly criticized by many consumer advocacy groups, but others have supported it. And, I mean, personally, I do think that offering you less bandwidth at a lower price is better than no bandwidth or higher bandwidth at a price you can't afford.

But how those tradeoffs are addressed is a policy question, and it deals with issues of market power and it's fairly complex.

But, in principle, I agree with you absolutely. We do see some companies, like Comcast, that are offering sort of minimum bandwidth, you know, lower-bandwidth, lower-priced options. And whether that's done for their own, out of commercial incentive or to respond to regulatory pressure, I can't comment on that. But I just want to say that you're right on in raising this as a very, very important question, but it's also not one that is trivially, easily to resolve.

MS. BRANDON: And, Deb, I would also add that another piece to an answer, to build on something Nicol mentioned, is, certainly, the price of access and, you know, if you look at a per-megabit or per-minute, you know, the prices are coming down, but maybe the average bill is going up because people are consuming more so their ultimate payout might be more, even though the individual unit cost is going down.

But the other piece of it that's critically important is on the device side. Are the devices trending in the same way that the service and the connection pricing trends are headed? Because if you have devices that are capable of utilizing the efficacy in these bigger, faster pipes but no one can afford to buy them, then you end up in the same situation that

Steve is describing and facing a false choice.

So when we are looking at this broader issue, it's important to keep in mind both sides of the equation and how they impact the consumer.

DR. TURNER-LEE: Right. And if I can, Deb, just on that. And I want to add on the other thing that I think is also impacting costs that we should be mindful of as we go forward is taxation, as well, and the taxation that is attributed to the services and whether or not they also bring a burden expense on those people that are looking at this as more as a right versus a privilege when they're trying to engage.

But I want to also leave, in terms of the affordability question, and I know this has been echoed in work that I did at the Joint Center in my career there, as well as Pew has done, cost is a prohibitive factor, but there's also the other driving force of interest and whether or not people actually see the value proposition still for the internet. And I think that's also another question that has to sort of be brought into this equation of how do you drive people to see the internet in its form of this utility for a greater public good, as well as an individual benefit for their households.

And data, as a researcher, we still go back and forth with that conversation because, you know, there's either the cost, you know, what comes first, so if you're online you want more, or, if people had it available, would they purchase it because they just know that they need to have it? So I think that's another conversation for another time in terms of really going a little deeper into that.

MR. WILDMAN: If I could just jump on that a little bit and maybe plug some research we've been doing at Michigan State, as well as by Greg Rosston and a few other, and Savage have also done work on this. And that's sort of the demonstration effect. That is, if you don't have broadband, you don't know what it can do for you. And what we find is that, once people have broadband, then their demand for higher speeds than they thought they needed goes up, and they actually find that their self-assessment of the value they attribute to the service increases over what they did before they bought it. That means that the price itself and your prior expectation is not necessarily a good predictor of what the true value is.

So maybe the solution here is some sort of public involvement to help people gain access just to demonstrations of the technologies, so they can actually see what it does and to get a sense of what the true value to them really is. About 30 percent of people don't take it now. A substantial fraction of those actually say they don't want it.

CHAIR BERLYN: Very interesting. Fascinating. Thank you. Wow. This has been an amazing discussion, great statistics and information from all of you. Thank you all so much. Thank you, Steve, Carolyn, Nicol, and Steve Wildman for all of this. And join me in thanking them all. So thank you.

(Applause.)

CHAIR BERLYN: And, Steve, thanks for coming back and taking the extra time, extra time that you did. Before we break, it is now about a quarter of one, so we'll take -- the lunch is over here. Please remember that lunch is for CAC members only and are interpreters, and that's not just to be stingy, it is actually because of ethics rules. So please make sure that those of us in the room who are only CAC members and staff of the, staff of the Commission who are working with the CAC -- thank you for that clarification, Scott.

So let's take a half-hour for lunch. Scott needs his lunch. So if we could meet back here at 1:15, and then we'll go talk about our working groups. So meet back here at 1:15. Thank you, team.

(Whereupon, the foregoing matter went off the record at 12:44 p.m. and went back on the record at 1:29 p.m.)

CHAIR BERLYN: Okay, everybody, we're going to get started. We have about an hour and a half for our working groups to meet. Yes, I'm on mike. So we have six working groups, and I believe you will all meet this afternoon. And it is very difficult, seeing most of you are on at least two working groups. Some of you are on one working group. But I think it's probably best to try and divide up the working groups into shifts and group you all so that some of these working groups can split time, especially our large working groups, so that you can try and go to more than one working group. If we try and do that, let's see if it works. We'll try it and see if it works, especially our IP Transition Working Group and our Broadband Working Group.

So if we propose that the IP Transition Working Group starts now and the Broadband Transition Working Group starts in 45 minutes, that would give those of you who are on both of those -- and how many of you are on both of those? Okay. So that would give you -- and

I'm going to try that with most of these working groups but not all. So that would give you a chance to split your time.

Okay. So IP is going to start now at 1:30, and Broadband is going to start at 2:15. I had this all worked out, and now I'm getting a little confused.

Okay. Universal Service is going to start now. Health Working Group is going to start now. Consumer Working Group is going to start at 2:15, and the Disability Working Group -- how many of the Disability Working Group members are here? Raise your hand. And you've got to be, you're going to be in this room. How many of you also serve on another working group? Raise your hand. Okay. I was going to have you all start -- so if you would like to participate in any of the working groups that are starting now, you could have the option of starting at 2:15, as well. I'm going to leave that up to the Disability Working Group. Why don't you just convene and make that determination now? I'll leave that up to you all.

Yes, Luisa?

MEMBER LANCETTI: So, Debbie, if I'm going to do two, I probably need to know when Disability starts so I can --

CHAIR BERLYN: I can't hear you, Luisa.

MEMBER LANCETTI: I'm sorry. I'm just saying, if I were trying to double up, I would probably need to know what the plan is for Disability.

CHAIR BERLYN: That's why I'm saying I want to leave that up to the Disability group to figure that out on your own because it does involve making determinations with your room and that sort of thing.

Scott is going to give you the room numbers and directions because I'm not as good as telling you where these rooms are. So he's going to let you know. Disability always stays here in the Commission meeting room. And other than that, Scott is going to give you the directions.

Now, did everybody remember who's going where, when you are going to meet? Universal, Health, and IP is the first shift. Second shift: Disability, Consumer, Broadband, okay? And Disability, you know, I'm leaving it up to you guys to figure out the logistics on moving around, but Disability has this room the entire time. So if some of you want to start with Disability and those who want to go to a second group now and then join Disability later, you could run it that way, as well. That's another option. But I want to make sure that people have an opportunity to go to more than one group if you're participating in more than one group.

Okay. Now Scott is going to give the room numbers and directions.

MR. MARSHALL: Okay. Room numbers. Let me get on mike here. Room numbers. For the IP group, and you do have someone calling in on the conference bridge in this room, would be 402, which is right to my right, out the doors, go past the intersecting corridor, and it will be the first room on your left. That's 402 for IP.

Further down that hall and adjacent to 402 is 442, 442, and I would suggest that Health be in that room. Across the corridor, the same corridor, opposite 442 and 402, is 445, and that's Broadband.

CHAIR BERLYN: Do we want to make that -- I'm sorry -- Universal Servicing? That would round out our first shift.

MR. MARSHALL: I can't, I can't move Universal Service to another room. They have a teleconference going on, and the equipment has been checked and all that stuff --

CHAIR BERLYN: Oh, okay.

MR. MARSHALL: -- in 468.

CHAIR BERLYN: Oh, okay.

MR. MARSHALL: Okay.

CHAIR BERLYN: So Broadband is in 442.

MR. MARSHALL: 445.

CHAIR BERLYN: 445.

MR. MARSHALL: Correct.

CHAIR BERLYN: Okay.

MR. MARSHALL: And Universal Service is in 468, which is up out the door to your right, up the stairs, and it's the second door on the right. I'll have to accompany you because that door is locked. The other doors, the other rooms are open.

CHAIR BERLYN: And then Consumer is?

MR. MARSHALL: I'm sorry. Consumer, the final one, would be in this room, along with the Disability group, maybe in the back here so that you don't compete with each other since the Disability group will need to use the microphones to ensure that they have captioning.

CHAIR BERLYN: Okay. Paul has a question, and Lise has a question.

MEMBER SCHROEDER: Hi. Paul

Schroeder, AFB. I was just going to suggest, unless my co-chair objects, that Disabilities make the decision now to meet in that second group so that we don't have people scrambling around trying to figure out what we're doing. Why don't we just meet at the 2:15? That's the second shift. Unless Claude objects, I think we should just do that.

CHAIR BERLYN: Okay. Lise?

MEMBER HAMLIN: If that's the case, can I suggest that the Health group, and I don't remember if Claude is also in this group, but the Health group meet here instead? Because I'm on the Health group, and then I could have access to the microphones --

CHAIR BERLYN: That sounds like a very good idea. Excellent plan. Okay. Health is going to meet here, not in 442.

MR. MARSHALL: We do have some roving interpreters available.

CHAIR BERLYN: Yes, the interpreters are probably easier to move than the --

MR. MARSHALL: Right. The technology is set for 402 and 468 for the teleconferences.

CHAIR BERLYN: Oh. Well, Lise --

MEMBER HAMLIN: I missed that, I missed that. Is there a problem with the Health moving?

MR. MARSHALL: That doesn't affect Health. So she could still be in here.

CHAIR BERLYN: Health stays here, IP 402.

MR. MARSHALL: Right, correct.

MEMBER BARTHOLOMEW: Also along those lines, so the Consumer is not in here along with Disability, can we just keep 402 after IP's time slot, just so Consumer in 402 for the second shift?

CHAIR BERLYN: Sure.

MEMBER HERRERA: Is Broadband the second shift then in 445?

CHAIR BERLYN: Yes. Do we need to

clarify this? Because I could even be confused here. Okay. So Consumer is in 402 at 2:15. Health is in here at 1:30, right? Any other changes? Everybody else clear, I hope? All right. If you're confused, don't come to me. Okay, go. All right, everybody, let's start.

MR. MARSHALL: All right. Thanks very much, and see you all back here at 3:00, at which time we'll process one recommendation and have our report-backs, and that should almost get us out of here, maybe even early. Who knows?

(Whereupon, the foregoing matter went off the record at 1:39 p.m. and went back on the record at 3:11 p.m.)

CHAIR BERLYN: Okay, everybody. I think we're ready to get back started. We have a recommendation from our Universal Service Working Group. Okay. I hope everybody found their working groups productive. I know that some of you had to do jumping jacks to stay warm in your meeting rooms. It's a little chilly in some of those rooms, but thanks, everybody, for meeting and coming back here to finish up our activity for the day.

So we have a recommendation from the Universal Service Working Group. And, Cecilia Garcia, if you would, please?

MEMBER GARCIA: Yes, I'll begin. And I'm going to actually turn it over to Amalia, who should be on the phone. I think she's with us.

CHAIR BERLYN: Oh, is Amalia on the phone?

MEMBER DELONEY: I am on the phone, and I'm watching you all live.

MEMBER GARCIA: Oh, terrific.

CHAIR BERLYN: Great.

MEMBER GARCIA: Just as an introduction, you may recall that, during our last term, the CAC did approve a recommendation in support of reform of the prison or inmate cell phone, cell phone rates. So the Universal Service Working Group wanted to kind of underscore that recommendation this time for this meeting, and I'm going to ask Amalia to kind of take us through this.

MEMBER DELONEY: Perfect.

CHAIR BERLYN: This is in your packets, everyone.

MEMBER GARCIA: Yes, it's in your packet.

MEMBER DELONEY: So, hopefully, you can all pull out your document and we can look at it as I walk through it. To be honest, there's very few changes to the language. There's just some very simple additions, which I'll point out. But before I even get there, I want to suggest that there are two edits that we know are forthcoming and that, hopefully, people can help me work in since I'm not there in person.

So one edit that we want to make, and, again, I'll highlight it as I get into the document, is aware as that acknowledges that the FCC has actually taken steps to move this order to conclusion. So there is a report and an order that is on August open meeting agenda for next

Friday, August 9th, so we want to acknowledge that.

And then, secondly, from our folks in the deaf and hard of hearing community, we have a fantastic recommendation and some additional language we want to include around the unique needs for the deaf and hard of hearing community, which have come up all along and was very prominent in the recent workshop that the FCC hosted. So those two pieces are coming.

But if you move through the order, you know, it really just restates what we said all along, that this issue has been pending for far too long, that we had a previous resolution that we adopted as a CAC. Then the new pieces we added in were just the fact that, since that point in time, on December 28th, there was a Notice of Proposed Rulemaking that was issued; there's a further whereas that we added that just talks about the thousands of comments that were received from the public; the need for special support for deaf and hard of hearing; a letter from Verizon, one of our colleagues on the CAC, who submitted a letter saying that they urged the Agency to take action.

We added a small new whereas that talks about the July 10th workshop that the FCC hosted to collect further public comments and testimony. We would then add the new whereas about the pending order and the vote, and then we would move into the final language, which is the same, just the fact that this is a public issue, it's been pending for quite some time, and the therefores and the be it resolved pieces remain the same from before. So very light touches, more to track the history of progress, and then to just continue to show the diligence from the CAC and the Universal Service Working Group around this issue.

MEMBER GARCIA: Amalia, I'm going to read now the additional language that Claude and the Disabilities Working Group is recommending, which I think is very good. If you look down on, let's see, it would be in the third whereas, the proposed language now is, "Whereas, the FCC received thousands of comments from the public calling for reasonable rates for families of the incarcerated, including equal telecommunications access for those who are deaf, blind, or hard of hearing," that's the new language, that phrase. So that's one area.

And then they've asked us to add a few more points under the therefores, so let me read the second wherefore now would read, "Require ICS providers to proportionately discount rates for TTY and relay calls since they take longer than voice conversations." And then a new number five would then be, "Encourage prisons to proportionately grant more calling time for calls using TTYs or relay services." And then the last one is an additional, so it would be a number seven, "Require ICS providers to report all ICS-related complaints to the FCC, including disability access complaints." That's the additional language.

MEMBER DELONEY: Fantastic.

CHAIR BERLYN: Very good.

MEMBER GARCIA: And that's it for this discussion.

CHAIR BERLYN: Let's see. Can someone move the --

MEMBER LANCETTI: I'm sorry I'm not so familiar with this but --

CHAIR BERLYN: Can we move the -- we want to move it first, and then we will have discussion. So I saw Mark moved it. Second? Do we hear a second? And Bob seconded. Okay. Now we can have discussion. Yes, a question, and then Dorothy.

MEMBER LANCETTI: Thank you. Luisa Lancetti here. My question is ICS providers, can someone just be a little clearer to me? It's not something I'm familiar with.

MEMBER GARCIA: Thank you for asking about that. Claude also recommended that we spell that out the first time we use it, and I just ran right past it. It means inmate calling service.

MEMBER LANCETTI: But, in turn, is someone familiar with the formal definition of inmate, you know, is there some kind of defined term as far as what types of categories of providers it includes?

MEMBER GARCIA: Amalia, can you answer that?

MEMBER DELONEY: I'm so sorry. I'm trying to follow online. I can't hear it. Can someone just repeat the question?

MEMBER LANCETTI: Yes. My question is the ICS, the inmate calling service providers, can you define more what providers are within that category in terms of types of common carrier providers or otherwise?

MEMBER DELONEY: So I think you're asking the actual companies? I mean, inmate service providers or the ICS's are the ones that provide the calls. There are different or there's different companies that do that. So Telmate does it. Global Tel*Link is another one that does it. Securus is another one. Is that what you're asking for, the actual companies' names?

MEMBER LANCETTI: Well, landline and wireless or just landline?

MEMBER DELONEY: Landline and wireless. I mean, how they provide the service really depends on how the inmate makes the call. So the call, you know, originates within the institution, and then the family member or friend or whomever, the lawyer, receives the call on the other end, which could be to a cell phone, it could be to a landline phone. Sometimes, it's even over voice.

MEMBER LANCETTI: Thank you.

CHAIR BERLYN: Dorothy, you had a question?

MEMBER WALT: This is Dorothy speaking. I'm not sure if I heard the words deaf/blind. I heard deaf and hard of hearing, but I didn't see deaf/blind. Was that included?

MEMBER DELONEY: You know, that's a really good point. We hadn't particularly named that, and that's an oversight on our part, and we should definitely put that in.

MEMBER GARCIA: This is Cecilia.

MEMBER TOBEY: This is Margaret. I think the way it was supposed to be worded was deaf, deaf/blind, or hard of hearing; is that right?

MEMBER GARCIA: Yes. We'll make that correction.

CHAIR BERLYN: Okay. Does anyone else have any questions or is there any further discussion? Okay. Seeing none, all those who are in favor of the recommendation, please signify by saying aye. As amended.

(Chorus of ayes.)

CHAIR BERLYN: Okay, thank you. Say aye.

(Chorus of ayes.)

CHAIR BERLYN: Opposed? Any abstentions? So we are all set. Thank you very much, Cecilia. That's our only recommendation for today, so now I'd like to turn to the working groups and have you each report on your meetings today. So let's see. So let's start with IP. Our first set met today and start with IP. Steve?

MEMBER POCIASK: Yes, during our meeting today, I think the direction we've decided to move on is the development of principles, and these principles might include things such as the fact that these new IP services would have more functionality at equal or better price, that they might be technologically neutral or independent, that they be functionally equivalent or superior, some aspect of perhaps reliability, connectivity of public service to all.

There's a number of principles that we'll be laying out, and those principles will then either, one, become, essentially, our mission going forward, but perhaps even be developed into a recommendation of principles to the FCC in a recommendation from this committee.

In addition to that, we discussed

consideration that the FCC look into collecting data that should shed light on these principles and that they know the data that they want before these trials begin.

So those are some of the things that we discussed here. So our course of action over the next week is to develop those principles. We'll send them around a round robin among the team, and then we'll see whether or not that those will go forward to either be just adopted as our principles going forward or perhaps as a recommendation for the FCC.

CHAIR BERLYN: Anyone from the working group have anything to add to the discussion? Anyone have any questions of the working group? Okay. So we'll talk a little bit about, let's hear from all the working groups, and then we can talk about timing going forward on possible recommendations.

Okay. So who else met in that first round? The Health Working Group. One of you want to report?

MEMBER JARRIN: Hi there. Okay. So we met this morning, or this afternoon rather. Sorry. Do I have to give a reading of who was in the meeting?

CHAIR BERLYN: That . . .

MEMBER JARRIN: Lise Hamlin, Hearing Loss Association of America; Paul Schroeder, American Foundation for the Blind; Dorothy Walt, Helen Keller Center for Deaf/Blind Youth and Adults. And then the three chairs: Douglas Trauner, Health Analytics; Dr. Julian Goldman with Mass General Partners Healthcare; and myself with Qualcomm Incorporated.

We started with an overview recap of some of the five issue areas that we had identified originally. Doug stated the wireless test beds issue, Medicaid eligibility criteria for Lifeline, future broadband constraints, healthcare disability issues, and, as a placeholder, we have Rural Health broadband program.

Julian and I then provided an update

of some of the issues that have come up since the April meeting, which include the creation of a federal advisory committee involving three federal agencies. Those being the Food and Drug Administration, the Office of the National Coordinator, and the FCC.

The issues being considered at that advisory committee which is affectionately named the FDASIA, which stands for the Food and Drug Administration Safety and Innovation Act, includes some of those items that we had identified in the original list that we presented to the Consumer Advisory Committee at the last meeting.

Therefore, as a result of the work that we've been doing there, in addition to the FCC being involved quite heavily in that advisory committee, the person, being Matt Quinn, the Director of Health Care Initiatives here at the FCC who is serving as an ex officio, we wanted to make sure that we understood where some of those issues that we were looking at, how they may be affected going forward.

Now that we are wrapping up our work with FDASIA, we wanted to also have a discussion today on some of the other issues, one of them being healthcare disability issues. So it was really wonderful to be joined by some of the members of the Disability group.

Some of the things that we discussed today to include under that work plan include increased collaboration on accessibility issues between the FCC and FDA as it relates to health information technologies, such as connected medical devices, including converged devices, and mobile medical applications; clarifying the intended use of personal sound amplification products to allow more information to be listed in product literature without triggering medical device classification; recommendations on reimbursement of certain medical devices, which ties into recommendations made in the National Broadband Plan by the FCC; and then dealing with outdated face-to-face direct contact requirements between physician and patients for audiology prescriptions, which also falls into some of the recommendations made in the National Broadband plan.

We finished off with planning our first call for some time in the next two to three weeks. We will give ample notice to the members and try to choose from a workable date between us, also requesting CART services from the FCC with advanced notice. And, very lastly, we do want to ask that Dorothy Walt be added to our roster, if possible. Thank you.

CHAIR BERLYN: That's absolutely no problem. Yes. Does anyone have anything to add from the working group, and does anyone have any questions of the working group? Okay, very good. And our third working group for that first shift was Universal Service. I know you have your recommendation, but I imagine you had other topics of discussion.

MEMBER GARCIA: Universal Service Working Group talked about, first, our recommendation that you passed and we thank you for that. And we're very thankful to Claude and the Disabilities Working Group for joining us and actually strengthening this recommendation. So we're very happy about that.

We spent a good deal of time talking about Lifeline, as you can imagine. There is concern that the renewed attacks on Lifeline are starting to gain a little traction. We really would like to see if there is a way for the working group to come to consensus around a statement of support for reforms for the program but keeping the program for the purposes for which it is intended, and that is low-income support for communication services.

So John has actually volunteered to draft a statement for us. We will circulate that to the Universal Service Working Group, do our edits, come to a consensus. And then, Debra and Scott, I think what we'll do is we'll ask to see if there is a way for us to, in between meetings, do an email kind of correspondence to the full CAC for adoption, rather than waiting for the next meeting.

We did not talk about E-Rate, which we wanted to do. I'm sure that our working group will meet by phone, probably in September. We haven't decided on a date. I'll send out a doodle for that. And at that time, I think what we're going to take up is E-Rate and see if there's work that we may be able to do in conjunction with the Broadband group that's also interested in E-Rate reform.

CHAIR BERLYN: So are you thinking of a recommendation sometime in September/October? What's your time frame there?

MEMBER GARCIA: I would say probably September, mid-September.

CHAIR BERLYN: Okay. This is helpful information for everyone to listen to. So if there are other working groups that are thinking of a recommendation, we'll talk at the end about when we think we will have another, our next in-person meeting. But if any of you are thinking of recommendations that your working group might be working on and thinking that our next in-person meeting, which is going to be sometime in November, is a long time to wait, if the Universal Service Working Group does want to try and do one -- well, let's say this: we want to make the most, if we do have an interim meeting, we want to make the most of it. So we'll talk about that.

Anyone have any questions of the Universal Service -- yes, Luisa?

MEMBER LANCETTI: One thing I wanted to say, I know today, in a couple of instances, people spoke about making sure that there is access and affordable services to all Americans and in remote areas, for example. And it occurred to me that I would find it helpful and maybe others to have perhaps a report from an appropriate FCC person about what is happening with Lifeline and, you know, the legitimate uses there and also some of the concerns where we could better formulate how we could be supportive and help to maybe change some of the perceptions around Lifeline. So I agree it's an important service for eligibles, and there have been some problems that are affecting public perception.

But the other thing is, with respect to the Mobility Fund, which they've just granted some first funds for Mobility, which is very much money geared towards broadband and having federal support for unserved areas that need broadband investment, and that might be something that also would be helpful for this group to get some information about as to how the Universal Service Fund is being changed to help meet some of these broadband issues that matter.

CHAIR BERLYN: Okay, thanks. Thanks, Luisa, for those suggestions. Okay. Thank you very much. Moving to our next set of groups. The Broadband Working Group.

MEMBER NEILL: Sure, okay. So the Broadband Working Group met and we braved the cold like Sir Ernest Shackleton, but we came out all right. And we discussed a couple of different topics.

Obviously, first on that list was E-Rate reform. Generally, it seemed like there was interest in the group in helping the FCC to set goals, principles for that E-Rate overhaul, you know, conditioning the receipt of that increased broadband capacity with a lot of other requirements in terms of teacher training and other things that need to go along with that so the new broadband capacity is actually utilized in an effective manner and also encouraging the FCC to collaborate with other departments.

The way we're going to proceed on that was to basically watch as the comments come in. I think most of the broadband committee agreed that none of us are really experts, necessarily, on E-Rate or, you know, that overhaul. So we're going to be looking at some of the comments that are coming in to try to guide us as we consider drafting a recommendation on that. And, obviously, we'll be looking to collaborate with the USF group, as well, as much as possible. That's one thing that's on the table for us.

Secondly, we did discuss, again, as we did on our phone call, broadband.gov is seriously lacking of updates, and that may be because responsibility for that was under the National Broadband Plan folks and not necessarily under other more sustainable departments. And so the folks who may have created that may not be there anymore. But, essentially, the action item there is we're waiting for Kris Monteith's report on the Broadband Working Group recommendation from the previous CAC regarding the use of broadband.gov to report on the National Broadband Plan. So far, what we've seen is a report by the Congressional Budget Office about the National Broadband Plan; but, of course, that's not the FCC reporting on their own plan.

So that was one issue that came up.

There hasn't been an update on that site I think since 2011, so there's no -- for instance, the national checkup on how we're doing on broadband that was produced in 2012 that is on the FCC site doesn't even exist on that site, which people do still visit. So there are some basic items that perhaps we could address there and really improve information that's available to the entire public.

The third issue we discussed was perhaps a subset of consumer complaints, you know, the broadband consumer complaints. There was really acknowledgment that it's not clear what the universe of broadband complaints currently is. And what came up was a comparison to the way the FCC, a comparison of the way the FCC handles complaints to the way that the new CFPB, the Consumer Financial Protection Bureau, handles complaints. And they've sort of established a structure over there where a lot of that information is relatively open and available. And, you know, it's not perfect, but it's a pretty, it's ahead of where, say, the FCC is on that. Rather than being PDFs, there's a lot of interactive breakdowns of what types of complaints are coming in so that both consumer advocates, as well as consumers, as well as companies can get an idea of what consumers are actually complaining about.

And so I think there was a recognition by our group that we want to make sure that our recommendations are based on what are the actual complaints of consumers on the ground. And by just reporting, say, the top five consumer complaints every quarter, that we're maybe lacking in some of that information that we need to really be accurate with our recommendations.

So that was an issue that was raised. I'm not sure if we have a specific action item on how to pursue that, but that's going to be a broader issue. If anybody is interested, I know that Commissioner Pai last time expressed interest in how to better, and I know this is totally a consumer, this is also a Consumer group issue, but we understood that, for the broadband issue, it would be great to know more about. So it seems like an obvious maybe overlap, too, where we could work with the Consumer Working Group.

Lastly, I guess it's just an issue that was raised in our committee, not a specific action item. But, again, there was curiosity. Of all the statistics we heard today, we didn't hear anything about the specific progress made in key communities, like seniors, low-income, rural, and disabled communities in terms of are we losing ground or are we gaining ground? And so I think that that might have been missing from the discussion, and so it's hard for us, as a committee, I guess, to make recommendations if we don't know how some of those groups are doing on the ground.

CHAIR BERLYN: Thank you very much, Art. Does anyone have any questions for Art? Okay. Thank you very much. Disability?

MEMBER SCHROEDER: Paul Schroeder, co-chair of the Disability Issues group. We, my co-chair, Claude Stout, had a good meeting this afternoon, talked about the issue that's already been discussed, the language Claude and others raised on the inmate calling issue.

We have not had a chance, had not had a chance to meet between the April meeting and this meeting. So we will be working on making sure that that is beginning to take place, meetings in a timely fashion.

We talked about three issues that we want to look at for sure. One is the implementation of the deaf/blind equipment program that's part of the Communications and Video Accessibility Act.

The second is a general look through the complaint handling and process related to disability access. So in both cases, we'll be talking with the FCC staff about trying to set up an opportunity to do that, either on phone or at the next in-person meeting or perhaps both.

And then, third, sort of a general sense of wanting to look at innovation and how that's being addressed.

I think, you know, we haven't quite articulated this well, but we've been in kind of a funny spot, as an issues task force, because the most important things that are happening are the things we can't talk about because there's been a rulemaking. As that begins to wind up, we can, I think, talk about how that's going and begin to address how innovation and accessibility is being carried forward under the CVAA and related implementations.

So I think there are a number of topics, clearinghouse, mobile, things that we'll want to address in those areas. But the two that are for sure ripe are the complaints and the deaf/blind equipment program.

CHAIR BERLYN: Very good. Thanks, Paul. Does anyone have any questions for the Disability Working Group? Comments? Okay. And, finally, the Consumer Working Group.

MEMBER BARTHOLOMEW: So we had a very productive meeting this afternoon, as well. We had a chance to, the first thing we kind of addressed was a consumer comment, long form comment. It was in the form of a letter that Scott received and shared with our working group that concerned kind of advertised pricing and that sort of thing. We had some discussion about whether that was more apropos as an FTC issue versus an FCC issue possibly. It's something, again, where we kind of wanted to look at how the two commissions work together when there are these kind of crossover type topics, and that's something that we're going to try to maybe arrange to have a speaker either participate in a working group call or possibly we could maybe have some speakers here for the plenary about how the two work together, and that's something we'll be pursuing moving forward.

We spent pretty much the entire rest of our time talking about wireless cramming and the desire to kind of find out more information about the true scope of the problem, where it sits right now, and what reports and data are actually showing in that field. Some of that time was also spent focusing on the complaint data that's being collected and also the complaint data that's being shared. I think this kind of follows up on what Art was speaking to a little bit.

We assume that there's a lot of stuff coming in, but when you only get to see the top five every quarter, it would be more helpful to have a fuller picture of the types of things. And there's also been some concern not only from the consumer groups but also from some of the industry members as to the way some things are being classified and the way that the breakdown and kind of the appearance of the statistics, what they actually mean behind the statistics.

So that is something that we'll be following up on. I know that Kris had said she's preparing a response to some of the things we worked through earlier, but we can also look to speak with the complaint division people out in Gettysburg and that to see if there's some more refinement and a broader discussion that could be had kind of into the nuts and bolts, so to speak, of how that's being broken down and categorized and that sort of thing.

So that's something that we're going to be looking to do on possibly on a call, have somebody join us on a working group call. And we'll be looking to have some working group calls in the fall, heading into the November meeting. We'll send out some dates and see what we come back with. Thanks. CHAIR BERLYN: Great. Thank you, Ed. Does anyone have any questions or comments for Ed or anyone from the working group want to add anything? Okay, great. Oh, Art? Your mike is not yet. Give it a try.

MEMBER NEILL: Something that came out in our working group when we were discussing some of the complaint data, I think it was Terri, that you had raised this a little bit. There was a question of how the rules, you know, the rules that were set up for the FCC quite some time ago, how they actually affect the FCC's ability to report in the same way that, say, this agency that was just created, relatively recently created, the CFPB, the Consumer Financial Protection Bureau, they report very differently. And part of that is in the actual rules themselves.

So I don't know. As we look at how these complaints are reported, we may also look at the underlying structure. And I heard from both, I thought Commissioner Pai and Commissioner Rosenworcel both expressed interest in improving how that data is reported. But to some extent, they may have their hands tied a bit by the underlying structure of the law, so we may want to take a look at that.

CHAIR BERLYN: Thanks, Art. Okay, excellent. Well, thank you all for your participation in the working groups. So it sounds like all of you are working on some ideas either for the immediate or for our November meeting.

So let's talk for a moment about planning and our next meeting. Scott and I have talked about several dates in November, and I want to also address the Universal Service Working Group's thought about a recommendation before November.

As you know, for those of you who've been on the CAC before, we have been able to address recommendations before an in-person, in the period between in-person meetings by holding a conference call or having some of you come in and then getting the rest of you by conference call so that there's a limited expense in putting that meeting together and voting on a recommendation at that time. That's certainly possible if there is a compelling reason to do a vote between an in-person meeting. So we certainly can do that.

So we can have that on the table. And if there is another working group that is considering a recommendation and sees the value of getting that recommendation to the FCC in a more timely manner than waiting until November, then that would be, I think, another reason for doing an interim meeting/conference call, I think; correct, Scott?

MR. MARSHALL: Yes. I'll just comment -- the business end of the microphone. It's good to use that part of it, I guess. It's Scott here. Keep in mind, I have no problem doing an interim meeting if there's a good reason to do it. Keep in mind, however, that all of the requirements that go into a full meeting, except for your presence, go into the special meetings. Namely, we still have to publish notice of the recommendation to be passed, not the text of them, in the Federal Register 15 days prior to that meeting. There is an emergency provision in the, for Federal Register, I mean in the Federal Advisory Committee Act, but that's very, very sparingly granted. It would have to be a big emergency for us to get permission to do that.

So keep that in mind that, usually, the working group leaders know that we're usually asking you about four to six weeks, closer to six weeks out from a meeting what the nature of your recommendations are going to be so that we can get them published in a timely way in the Register so that there's no question about their validity.

So keep that in mind when we're talking about a September meeting or a November meeting, and we do have some dates to suggest.

CHAIR BERLYN: Right, right. So before we leave this concept of a meeting sometime before November, I would like to urge the working groups to each think about, as you do your planning, to think is there something that we would see value in presenting to the FCC sooner, rather than later.

MR. MARSHALL: Not to mention the expense, I'm sorry, not to mention the expense of transcripts and all the rest, interpreting, all the rest that we incur for these meetings, too. So we really do need to justify that there's a compelling need to have a special meeting.

CHAIR BERLYN: Okay.

MR. MARSHALL: I'm sorry. That's the way it is, unfortunately.

CHAIR BERLYN: Thank you, Scott. No, we appreciate that. We certainly do appreciate that. So our in-person meeting dates. We are looking at the availability -- as you know, one of the first things that Scott checks out is the availability of this meeting room. And so we have three possible dates for this meeting room: November 1st, November 8th, and November 22nd. And we usually try and hit Fridays because that's the safest and best date to get the availability for this meeting room.

So it's the 1st, the 8th, and the 22nd. The 8th is the Friday before Veterans Day weekend. The 22nd is the Friday before the week of Thanksgiving.

Each of the dates has a certain benefit. The 22nd puts us the furthest out, so we have the most time to work on recommendations. The benefit of the 1st is that it's the closest date. I'm not sure what benefit there is there. Oh, there's no holiday around it. No holiday around the 1st.

So, you know, there's various benefits. Some of you may have reasons, personal reasons or business reasons, why one or the other date does not work or does work for you.

So, you know, we are a little concerned about the date of November 8th because it's right before Veterans Day, which is a government holiday. We're not sure if some of the FCC staff, you know, may not be available that Friday. It's so far out, we don't know.

So we're looking at all three of those dates. And if anyone has a compelling reason why one of those dates, now you can think right now doesn't work, let us know so we can put that into the hopper in terms of our planning.

Otherwise, we will just take a look at all the other reasons and come up with what we consider to be the best date for us to meet. Irene?

MEMBER LEECH: I have another meeting on the 22nd.

CHAIR BERLYN: On the 22nd. So does Cecilia.

MEMBER GOLDMAN: I also have another meeting on the 22nd. It's in D.C., so I might be able to run between them.

CHAIR BERLYN: Okay. Well, that's three people. And Dorothy?

MEMBER WALT: I have a staff meeting in New York, my agency, on the first week of November. So the 1st and the 8th would fit great.

CHAIR BERLYN: Would be good or not good? I'm sorry.

MEMBER WALT: I can come down for the meeting on Friday, the 1st, and then go to my staff meeting the following week, which is finished on a Thursday, and the come down to

Washington, D.C. for Friday, the 8th. So either one of them is fine.

CHAIR BERLYN: Okay, okay, good. That's really helpful. And the 8th doesn't work for you. What day, Luisa?

MEMBER LEECH: The 1st I'm apt to be out west.

CHAIR BERLYN: The 1st.

MEMBER LEECH: But I think you should go ahead, honestly. It's too hard for this many people.

MEMBER PODEY: I've got another conference on the 8th.

CHAIR BERLYN: Three on the 8th.

MR. MARSHALL: This room is not available on the 15th, and we really have to have this space in order to caption and do things properly.

CHAIR BERLYN: Probably after the 8th. Probably that Sunday after the 8th. Probably Veterans Day week. All right, okay. Well, we're going to lose some. We always do.

We always lose a few people. We'll take all of that under consideration.

MR. MARSHALL: And, of course, that's a good reason for your alternate to attend, too, if you're not able to. That's why we have them.

CHAIR BERLYN: Yes. Hopefully, everybody has alternates.

MR. MARSHALL: Right.

CHAIR BERLYN: Okay. Well, we'll figure all this out, and maybe Scott can also find out whether any of these dates is not good for staff, which is an important thing maybe for us to get some feedback on early on for some of our important staff, FCC staff. Yes, Mitsy?

MEMBER HERRERA: I just wanted to clarify the information that Scott provided. So if people are considering recommendations for the next meeting, most likely sometime in November, the fact that there is a recommendation that wants to be considered, that's what has to be published in the Federal

Register, but the recommendation itself does not need to be?

CHAIR BERLYN: Yes, I'd like to, I'd like to speak to that because I know you had some questions about that when we were going through some working group discussions. So the purpose of posting recommendations in the Federal Register is to notify the public of our intention to bring up a point of, a recommendation point at this meeting so that, if anyone from the public wants to hear the discussion, they can attend; is that correct, Scott?

So there have been times Scott has said you don't have to have the full text of a recommendation for the four-week period in advance to Scott, but you do have to have at least the one, a one sentence or, you know, this recommendation is about the following. That does not mean that you can just say let's put in a placeholder just in case we want to bring something up because that does not really serve the public well because that does not say to the public we are bringing this topic up because that doesn't really serve the purpose of the public notice. So, you know, if the public wants to come and hear the debate or hear the discussion, you know, you may not ever intend seriously to bring that up.

So it really needs to be something that you have discussed, that you have debated, and that you have determined to bring up, and you have pretty much, you know, drafted much of what you plan to discuss, but you just don't have the details down. Then you can go to Scott and say this is what we plan to do, we just don't have everything down, but we've decided we're doing it, and here's what the topic is. And then you're in the spirit of the requirements of the public notice. I got that one down?

MR. MARSHALL: Yes, indeed. You got it perfectly.

CHAIR BERLYN: Okay.

MR. MARSHALL: And it's real important to let your people who are not, you know, working group leaders, that you communicate with the working group leader, you know, about this kind of stuff because we do have a meeting in preparation for this meeting of all the working group chairs for ideas about topics, agenda, recommendations, so that we can make sure everybody knows what everybody else is doing.

CHAIR BERLYN: Yes. And Scott does need to get that to Don well in advance because, once he misses that deadline, it's just too late to get things into the public notice. So he gives us that date, and then everybody sort of adheres to it. And once that date has passed, it's just too late to get it into the public notice. And so Scott usually conveys that to the working group chairs, and then the working group conveys that to the members of the working group once you start your deliberations, right?

MR. MARSHALL: Right.

CHAIR BERLYN: Okay. So I hope that's clear for everybody because I --

MR. MARSHALL: And we are very sensitive of the fact that you need time to work these things up and, you know, I'm always pushing the envelope as close as possible in order to get that thing published but in order to give you the maximum amount of time to develop and ultimately draft and that sort of thing.

CHAIR BERLYN: So what we'll do is we'll try and nail down this November date as soon as we can, and then we'll also work with Cecilia on this other recommendation. If we do come up with the decision to have a date before our November meeting to deal with this recommendation, we'll try and let the groups know as soon as possible so that we can back into whatever the public notice date is for that, so that, if any other groups want to do recommendations to meet that particular deadline, you would be able to do that, as well. How's that sound? Okay.

Is there any other business -- oh, wait a minute. We have one more item, comments from the public. Is there anyone here from the public who wishes to offer any comments? Okay. Hearing none, is there any other comments or discussion points, any questions? Do I have a motion to adjourn?

MEMBER DEFALCO: So moved.

MEMBER GARCIA: Second.

CHAIR BERLYN: Okay. All those in favor of adjourning?

(Chorus of ayes.)

MR. MARSHALL: Thank you, everybody.

CHAIR BERLYN: Thank you, everyone. See you soon.

MR. MARSHALL: Have a good trip home.

(Whereupon, the foregoing matter was concluded at 3:58 p.m.)