The Free State Foundation
Book Luncheon

"Communications Law and Policy in the Digital Age: The Next Five Years"

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MODERATOR:

RANDOLPH MAY, President, The Free State Foundation

AUTHORS:

CHRISTOPHER YOO, Professor, University of Pennsylvania Law School, and Member of FSF's Board of Academic Advisors - "Internet Policy Going Forward: Does One Size Still Fit All?"

DANIEL LYONS, Professor, Boston College Law School, and Member of FSF's Board of Academic Advisors - "Reforming the Universal Service Fund for the Digital Age"

ELLEN GOODMAN, Professor, Rutgers School of Law – Camden, and Member of FSF's Board of Academic Advisors - "Public Media Policy Reform and Digital Age Realities"

SETH COOPER, FSF Research Fellow - "Restoring a Minimal Regulatory Environment for a Healthy Wireless Future"

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* This transcript has been edited for purposes of correcting obvious syntax, grammar, and punctuation errors, and eliminating redundancy. None of the meaning was intentionally changed in doing so.

P R O C E E D I N G S

MR. MAY: Let's get started here. If I can get everyone who doesn't have a lunch to help themselves to a lunch. That way, we will have plenty of time for some questions and comments when we get to that point.

I'm Randy May, as most of you know, President of the Free State Foundation. Welcome to everyone. It's nice and warm in here. That's nice.

Many of you have been here before. Some of the regulars have heard me remark that I'm always comfortable here in the First Amendment Room at the Press Club because at the Free State Foundation we do a considerable amount of work upholding First Amendment principles, First Amendment values.

If there were a room called the Free Market Room here at the Press Club, I'd probably be equally as comfortable in that.

This is always my favorite.

I recognize a good many of you, but we have quite a few new faces. That's good. This is not some tail end inaugural event, in which you are supposed to sober up after partying all weekend, for those of you who did party.

Instead, we are here today to celebrate the publication of the Free State Foundation's latest book titled *Communications Law and Policy in the Digital Age: the Next Five Years*.

Hopefully, many of you have the book. It is on sale out at the table for $20. That is discounted off the normal price of $25. I'll probably say something about this later.

Our authors have agreed to autograph these books for you after we are through here today. They do this a lot with all of their publications.

The genesis of this book was our celebration at the Free State Foundation's fifth anniversary lunch, which was held at the Mayflower back in October 2011.

By the way, we will be celebrating our seventh anniversary in June of this year. It's really true in our case that time flies when you're having fun. It seems hard for me to imagine it's been seven years since we launched.

The new book took the theme of our fifth anniversary celebration as its title. Three of the speakers that are here today, who are going to discuss their chapters in the book, initially laid out some of their ideas at that Mayflower event.

I'm going to give them a proper introduction or at

least a semi-proper introduction in just a couple of minutes.

What I want to do is just take a second and let you know that the three authors who are here, of course, are Daniel Lyons, Christopher Yoo, and Ellen Goodman.

I want to let you know who the other authors are as further enticement to get the book. They are:

Representative Marsha Blackburn, and her chapter is entitled "Why We Need a Free Market Approach for the Communications and High Tech Sectors."

Seth Cooper. Seth is going to speak on a chapter he wrote himself, but he and I also wrote a chapter together, "Placing Communications Law and Policy Under a Constitution of Liberty."

James Speta has a chapter entitled "Reconciling Breadth and Depth in the Digital Age Communications Policy."

Michelle Connelly's chapter is entitled "Proposed FCC Incentive Spectrum Auctions, the Importance of Re-Optimizing Spectrum Use." That is a particularly timely topic, of course, as are essentially all of these chapters.

Daniel Lyons is here. He's going to talk about his chapter. Ellen is here.

Bruce Owen, his chapter is entitled

"Communications Policy Reform Interest Groups and Legislative Capture."

Essentially, Bruce's chapter is about the political economy of making communications policy and why achieving reform is difficult in the system that we have. But nevertheless, he ended on an optimistic note.

I told him: "I am basically an optimist Bruce. We should end on an optimistic note."

Bruce's chapter concludes with "While the nature of the solution is far from obvious, perhaps continuing education as to the real nature of the problem will, at least in the longer term, lead to some beneficial reforms." The problem he's been discussing is how to achieve communications reform. "At least that is my hope in setting forth so bluntly an account of how the political economy of communications policy making largely works today. I am ever the optimist."

In just a moment, I'm going to introduce the speakers. Before I do so, just a further word about the book: It does have a general underlying perspective. I wouldn't want to be coy about that.

In the introduction to the book, I explain why, in my view, the marketplace and technological changes that have occurred since the last major revision of the

Communications Act require a new communications law. It's hard to believe it really has been 15 years that have already passed and more. Sometimes I have to pinch myself.

Since that last major revision, it seems to me the marketplace and technological changes that we witnessed call for a new communications law. And certainly, even absent waiting for the new law, those changes call for a new direction in communications policy. I'm thinking of the switch from analog to digital services, from narrowband to broadband network facilities, and most importantly, from an environment that was monopolistic or at least still retained monopolistic characteristics in some of the markets, to an environment that's generally competitive now.

The book's primary purpose is to provide the reader with a good basis for understanding not only why we need communications policy reform, but more importantly, how such policies should be changed.

As for my own ideas, many of you in this room are familiar with them. I don't want to dwell on them today.

Let me just say this: Chapter two is the chapter I co-authored with my colleague, Seth Cooper. It's entitled "Placing Communications Law and Policy Under a Constitution of Liberty."

The reference is to F.A. Hayek's famous work, *The Constitution of Liberty*. As Seth and I put it in the second sentence of this chapter, "*The Constitution of Liberty* seeks to explain why a system of government based on certain foundational rule of law principles is a predicate for the functioning of an efficient economic order that preserves liberty and promotes prosperity."

The idea for that chapter sprung initially from just a short blog that I wrote at the beginning of 2012, right after New Year's, when I had just finished re-reading *The Constitution of Liberty*.

I was trying to think about it in terms of communications policy reform. That's the type of thing you do in a think tank over the holidays.

My wife doesn't always understand that, but anyway, that's what I did that holiday.

I wrote a blog and it was that blog that evolved into this chapter. I just want to summarize that as a lead-in to our discussion today by this quote from that chapter.

"Hayek's minimal requirements for an effective market system in a society respecting individual freedom yield a certain set of basic insights for reforming communications law and policy for the digital age. These

basic insights are:

(1) a proper function of government is the protection of property and enforcement of contracts;

(2) free markets, not government officials should dictate the quantities of goods and services produced and the prices at which they are offered;

(3) administrative agencies, however well intentioned, are often overzealous in pursuing the public good at the expense of individual freedom; and

(4) costs imposed by new regulations often are underestimated while new developments often are not anticipated."

Those principles guide much of our thinking about law and policy in the communications area as well as others at the Free State Foundation.

Before I forget, if you haven't bought the book yet and you prefer to order it online with your credit card, the flyer is on the table. They have a special discount code that's good until January 31.

If you order from Carolina Academic Press and use that discount code you will get 20 percent off.

The Twitter handle for this event is #fsfbookevent. The last time we did an event I got critiqued because the Twitter handle was too long. I'm

sure everyone in this room can handle #fsfbookevent@fsfthinktank.

I'm going to introduce our panelists. I'm just going to introduce them in the order I'm going to ask them to speak. They're going to speak initially for just about eight minutes so we will have time for questions or comments.

I want to do that because at our events, as many of you know, we always try to make sure we do have time for some questions and comments. We can always be further educated ourselves and learn from them.

You have a bio that you got when you came in. I'm just going to give you the really short version with titles. You can read their full bios. I'm going to go down the line and then we'll get started.

First is going to be my colleague, Seth Cooper. Seth is a Research Fellow at the Free State Foundation.

I just want to say with regard to Seth, on a more personal note, that since Seth joined the Free State Foundation, number one, it's been delightful to work with him, and number two, he's made a very important contribution, and I'm grateful for that.

Seth's chapter is "Restoring a Minimal Regulatory Environment for a Healthy Wireless Future."

The remaining three speakers are all members of the Free State Foundation's Board of Academic Advisors. If you haven't looked at our website, it's a very prestigious group of scholars, each one.

Certainly, these three are representative of that high level of scholarship of the entire Board of Academic Advisors.

Next up is going to be Ellen Goodman. Ellen is a Professor at the Rutgers School of Law in Camden.

Her chapter is entitled "Public Media Policy Reform and Digital Age Realities."

I'm really pleased Ellen is here. She is going to be talking about public media reform, or anything else she wants to as well.

With Ellen and I, probably more than the others, our perspectives are not always congruent 100 percent. I follow the work that she's doing. I know it's important in the public media reform area, and I do appreciate very much the fact she is here.

Ellen, you may not know this, but when I started, I was a young lawyer at Steptoe & Johnson. This was in the mid-1970s. We were representing the Corporation for Public Broadcasting at that time. It was really my introduction into communications law and policy.

There were actually several lawsuits at that time against CPB and PBS filed by a group called the Network Project. We were defending the public broadcasting regime that had been set up, trying to defend the notion of the heat shield and CPB's role. I actually read cover to cover, probably two times, the Carnegie Endowment Report that led to establishing public broadcasting.

That is just another reason why I'm glad you are here with us today.

Next up is going to be Christopher Yoo. Christopher is John H. Chestnut Professor of Law, Communications and Computer and Information Science, and Director of the Center for Technology, Innovation and Competition at University of Pennsylvania.

I hope he considers his membership on the FSF Board of Academic Advisors equally as prestigious.

I'm going to tell you about Christopher Yoo. Back in 2003 I was at the Progress and Freedom Foundation, and net neutrality was just beginning to be an issue. It may seem hard to believe that was in 2003. You know how long the issue has been with us.

I read the SSRN paper that Christopher had written about net neutrality. I didn't know him. I called him up and asked about the paper, but also invited him to speak at

one of our events, and to speak about net neutrality.

This was over at the Mandarin Oriental Hotel. I'm pretty sure you told me that was your first event you were doing, public policy event, in Washington at the time. Christopher was down at Vanderbilt, I believe.

Of course, the whole point of this is he's everywhere now. He is all over and doing all these things, but because he's so ubiquitous, it was a little like I was discovering Beyonce or someone.

(Laughter.)

MR. MAY: That's what it was like.

Next up is Daniel Lyons. Daniel is Assistant Professor at Boston College Law School. His chapter is on "Reforming Universal Service Fund for the Digital Age."

Daniel might deny this, I'm not going to give him a chance, but I think it's fair to say I sought him out. I saw something Daniel had written. I don't think he had come down to Washington before I did that and invited him to speak at our event.

That's one of the functions of a think tank, and hopefully a good one, to be able to do that.

I'm happy both of them are here.

With that, I'm going to turn it over to Seth for eight minutes. While Seth is talking, you guys think of

your questions and comments.

Seth?

MR. COOPER: For the next generation of wireless technology, there needs to be as much freedom and incentive to invest and innovate as there has been for the generations of wireless technology that have preceded it.

But the FCC has set in place some new restrictions on wireless services, or at least aspects of it. The claimed bases of those regulations and their underlying rationale portend a future expansion of regulation of wireless.

I wrote my chapter of this book to urge a course correction here, to reverse that pro-regulatory trajectory and restore a minimal regulatory environment over wireless in order to best ensure the fullest payoff for consumer choice for the next generation of wireless services.

I wrote this chapter with the underlying expectation that we wouldn't have a new Digital Communications Act in place in the next five years. Maybe one will get ramped up by then. We will see.

That said, under the existing law, I think the minimal regulatory approach has been tremendously successful by a number of measures. I'm simply trying to get a picture in policy terms of what a repeat success

would mean. I simply want 4G to be able to operate in an environment that is as hospitable and deregulatory as it was for 3G and 2.5G and 2.G and so forth.

When I speak of a minimal regulatory environment, I'm focusing here on some actions undertaken by Congress and the FCC in the 1990s that reduced Title II regulation of mobile voice services and provided a degree of deregulatory certainty for mobile broadband services.

The 1993 Budget Act contains provisions involving wireless services, and it authorized the FCC to forebear applying much of Title II regulation to mobile voice services.

Shortly thereafter, the 1996 Telecom Act created a classification of deregulated information services.

In 2007, the FCC declared wireless broadband to be a deregulated information service.

If we just look, over the course of time, where wireless has travelled between now and 1993, I think it's pretty staggering. As to the number of connections, for instance, there were about 13 million or so wireless connections in the middle of 1993, but in the middle of 2012, there were over 321 million.

The average voice revenue per minute in the middle of 1993 was about $0.44, and as of a few years ago, was

down to less than $0.05.

Thirty-four percent of wireless consumers or perhaps more now are wireless only, in terms of households. About half of all wireless consumers use a smartphone now or tablets. Those things didn't exist until very, very recently.

Certainly, the same can be said with the apps market. Technet had a study suggesting close to half a million jobs were created by the app economy.

Earlier this month, Apple announced that they had reached the number of 40 billion downloads from its apps store, 20 billion of which were in the last year alone. Android apps stores surpassed 10 billion about a year ago.

These innovative kinds of services and products are the most important indicators and drivers of this dynamic wireless market.

And simply in terms of coverage estimates, if you look at the last FCC competition report, it suggested about 91 percent of all consumers lived in an area served by two or more wireless broadband providers, and 81 percent of consumers live in areas served by three or more wireless broadband providers, and four or more wireless broadband providers exist for about 67 percent of the population.

There is every reason to think that as 4G services

get ramped up that we will see even more breakthroughs in wireless services that are now unforeseeable. This is partly because of the superior technical capabilities of 4G in terms of capacity, reliability, security, speeds, and ultimately reduced costs per megabit.

Despite these vibrant market conditions, we have witnessed what I believe is a subtle shift, or perhaps not so subtle a shift, to a more regulatory environment with respect to wireless, where we have seen the FCC heap on or attach some Title II-like regulations or novel Title III-based regulations, whether it involves network management, wholesale pricing arrangements by providers, or spectrum use restrictions.

By Title II, I mean the old telephony common carrier regulatory apparatus. Title III, I'm talking about the FCC's authority over commercial radio services.

It is Title III authority, as Randy has written about extensively, that is governed by what we call a "public interest standard," which I believe is a seemingly limitless standard for agency action that is devoid of any intelligible principles to guide or limit it.

To date, what is perhaps more important than any particular regulatory provision that touches on wireless are the premises the FCC has set down and their trajectory.

One aspect of this that I discussed in the book chapter is the FCC's ready supply rationale for regulating wireless. If you look at the wireless competition reports, at least the last two or three, the FCC often describes its task as "pulling policy levers to create superior outcomes," and it does this without ever trying to establish that there are real competitive problems or market failure or that the market is somehow not effectively competitive.

You can also see this in the *Open Internet Order*, paragraph 78, where the FCC rejects the idea that it should have to have actual evidence demonstrating market failure or consumer harm before it engages in regulation.

Instead, it says it can just simply pursue broader purposes such as promoting free expression and things like that as the basis of new regulations.

With regulatory encroachments of this type, it's hard to track lost economic opportunity. It's hard to track investment diverted elsewhere. It's hard to track innovation that never happens.

I wrote this book chapter to set the stage so we can reverse this trajectory early on, before we might come to regret it.

And I laid out a few ideas of what a restored

minimal regulatory environment might be. That includes putting the idea of regulatory intervention on a footing that matches today's competitive dynamic conditions.

Consistent with my senior colleague, Randy, I urge that wireless policy be approached with the kind of consumer welfare standard that the FTC applies when it looks at markets, where it tries to see if there is evidence of market failure or at least imminent market failure or harm to consumers, and if necessary the agency tries to target any kind of regulation to that kind of harm.

I think that kind of standard should apply to any kind of rulemakings or agency conduct by the FCC of spectrum auctions or review of mergers, rather than come up with a series of *ad hoc* requirements or restrictions.

A minimal regulatory environment would also include preservation of freedom in terms of broadband pricing arrangements. That includes making sure carriers can still experiment with usage based models for wireless services.

The wireless market has been tremendously successful in segmenting itself to reach both high-volume, high-end users and low volume, price sensitive users.

The wireless prepaid market is an excellent

example of reaching the really price sensitive users. Tracfone has over 21 million subscribers at this time, I believe.

When you start tinkering with these usage-based models through regulation, what happens is you end up shutting out the ability of some of the price sensitive users to get the kind of targeted services they want.

A minimal regulatory environment for wireless services would involve a revitalization of the idea or concept of Title I as a deregulated information service.

That should include trying to make new Title I declarations where necessary. Some low hanging fruit here would be text messaging services. Right now, those services are in sort of a nether world where they are not Title I services and they are not Title II, they just are simply out there.

We need to make Title I a deregulatory firewall from Title II-like restrictions. It erodes the notion of any idea of a deregulated environment where you can declare a service to be a Title I information service free of regulation but then attack it from Title II or Title III.

We need to make Title I status consequential when it comes to the FCC's Title III public interest authority as well.

To date, the FCC has said just because we call a service a Title I deregulated information service, that doesn't mean we can't regulate that same service using our Title III powers.

I'm not saying we need to seal off Title III completely because it involves the FCC's basic powers of licensing and prohibiting interference and things like that. But we should try and grasp for some principled limits on Title III for the future.

Critical for all successful markets is that they are propelled by creativity, ideas, and innovation.

Just looking at the picture from 1993 up to present, we have seen the wireless market has been driven by creativity, ideas, and innovation, and as 4G is just beginning to ramp up, as it is beginning to get built out, restoring a minimal regulatory environment would give the next generation of wireless services the best chance to deliver the kind of services that we will be looking for in the future.

MR. MAY: Thank you, Seth, very much.

Next, we are going to hear from Ellen. Before she gets started, at that Mayflower anniversary celebration that I mentioned, Ellen was with us, thankfully. And I don't know if she remembers this, but we were all talking

about the importance of free markets and less regulation and so forth, or at least I was.

I had mentioned Hayek. Somehow his name had been mentioned. When Ellen got up, she said something like, "Randy, you may not believe this but in my talk, I'm going to have elements of Schumpeter." Or maybe it was Milton Friedman or someone else. I don't remember which one.

I'm anxious to hear what Ellen has to say today.

MS. GOODMAN: I think it was Edmund Burke.

(Laughter.)

MR. MAY: Edmund Burke, another good person to invoke. Go ahead, Ellen.

MS. GOODMAN: Thank you, Randy, for including me in this. Randy alluded to our differences in perspective, and he may have been too much of a gentleman to put a point on it. He likes Hayek and I like Keynes, and yet we have managed to work together.

I'm talking about public media, something completely different from Seth's talk. Let me begin by asking you all, what do you think was the biggest public media story of 2012?

SPEAKER: Big Bird.

MS. GOODMAN: Big Bird.

SPEAKER: Romney.

MS. GOODMAN: Big Bird and Romney. That is what most people would say. It was Mitt Romney's take down of Big Bird in the first presidential debate.

SPEAKER: Vice versa, Big Bird took down Romney.

MS. GOODMAN: Well, right.

(Laughter.)

MS. GOODMAN: The subsequent triumph of Big Bird, Sesame Street, throughout the election.

My reaction to that was: Really? The debate about public media is so 20th Century, so analog, and so irrelevant to what's happening on the ground. Once again, the inflated rhetoric for and against public media was rolled out in 2012 with utter predictability.

There is the "zero out" argument that any public funding for media wastes and corrupts, and there is the response that public funding is a mere pittance, it's a long weekend in Afghanistan, it's a few days of Medicare fraud.

For high profile national public media content, public funding is a rounding error. However, for small rural stations, it's essential.

There is the zero out argument that public media is irrelevant in the digital age. Consumers have a super abundance of media content options and content providers

have plenty of distribution.

There is the "fund up" response that there remain market failures for certain kinds of content, such as investigative journalism and applications that deploy big data for specific purposes.

There is also no free and universal service through broadband.

This to and fro long ceased to be productive. There is some truth on both sides and, in any case, the political future is pretty clear. The zero outers won't succeed in eliminating the public in public media, and the fund uppers won't succeed in getting increases in public media funding.

If I may, Randy, I'm mindful of what President Obama said this week in his second inaugural, and I quote "Progress does not compel us to settle centuries' long debates about the role of government for all time, but it does require us to act in our time."

This brings me to my assessment of what's right and what's wrong with America's public media policy and how we should act in our time to improve it.

Let's start with what's right. I'll make an observation about architecture and one about investment.

The U.S. public media system is decentralized.

Although people may think of national organizations like PBS and NPR, the vast majority of public media assets are in the hands of local nonprofits and universities.

This is a weakness when it comes to infrastructure and content investment, too little to go around to too many. It's a strength when it comes to localism, diversity, experimentation, and sustainable business models.

Public media systems in other countries that are more centralized and have appeared stronger in the past are now looking to models much more like ours.

Why? Because information needs that the market does not satisfy are increasingly local. Think about the decimation of local papers and the decline of State House reporting.

Moreover, information systems are increasingly structured as decentralized networks of nodes. The American public media system is already organized this way. It's a system that fosters ties laterally within a community among heterogeneous nonprofit institutions in the media arts, sciences, and education.

This is in addition to the vertical ties between local studios and national networks.

American public media benefits, as well, from

diversified funding. In presentations like this, you will often see public media advocates showing striking graphics about how little American governments, both state and federal, invest in public media as compared with peer countries.

The intent is critical, but I think the diversified funding is actually a strength of the system.

The code that many new digital entrants are now trying to break – that is, how to get members to pay for service – is code that public media wrote.

Second, also right with public media are some of the current investment trends. These are trends at leading institutions like WNYC and KQED that are investing in local content and are collaborating with new digital entrants.

For example, in my area, New Jersey Spotlight does deep dive local reporting in the underserved media market between Philadelphia and New York.

What this does is to leverage the power of the broadcast platform, the public media brand, and the competencies of new media startups. The result is higher quality content, more resources in high cost investigative news, more diversity of voice, and more public engagement.

It's important to note that these advances are happening from the ground up. Federal public media policy

may be abetting these efforts in small ways but is certainly not leading them and sometimes frustrates them.

To what's wrong with public media. Let's put to the side questions about public media content. Freedom from controversy and error is not, in my opinion, the measure of public value.

Let's look instead at the more basic question of whether public media is structured today, in the digital age, to deliver those benefits promised by the 1967 Public Broadcasting Act that remain relevant.

If we prune the Act of its analog language and outdated media framework, we can find in it enduring values and goals that still operate in the 21st Century media space.

I propose an overhaul of that Act that would actually align subsidies and incentives with long-standing functional goals for public media.

The Public Broadcasting Act promised alternative, noncommercial service in every town. It promised innovation and communications infrastructure and applications as well as generous access to distribution.

At the most basic level, the purpose of the Act and the billions of dollars that have been invested in public broadcasting stations, noncommercial broadcast

spectrum, and the rest of the public media system, was to satisfy informational and expressive needs that the market could not.

Understandably, in 1967, the Act attempted to achieve this through the broadcast platform. Not only that, but it assumed and ensured that each station would carry out every one of the system's essential functions.

In other words, the Act is premised on the bundled delivery of infrastructure and content and everything else.

As a result, legacy broadcasters still today are entitled to CPB funding largely without regard to performance.

There is redundant capacity and functionality. There is an over-investment in broadcast infrastructure. There is an under-investment in new digital entrants who may be developing educational apps or doing the high cost, low profit local reporting that newspapers have abandoned.

The overhaul that I propose would free public media from the broadcast distribution platform and would break existing entitlements.

The law currently privileges a transmission technology, broadcasting, that is moving to the margins. And it privileges a set of institutions, legacy broadcasters, that may or may not be in the best position

to supplement market goods and services.

Let's return, in conclusion, to the stories of 2012. If we took a forward-looking approach to public media, what are the stories we might focus on?

I'll mention three and what I think their implications are for policy reform.

The first is that in 2012, Congress authorized public TV stations along with commercial stations to auction their spectrum for tens of millions of dollars.

In the next 24 months, the television spectrum is slated to go out for sale. Twenty percent of this spectrum is in the hands of noncommercial licensees. This spectrum was set aside like park land for a public purpose. As the law currently stands, those spectrum assets may produce windfalls for lucky nonprofits or universities that choose to sell.

CPB and Congress should consider whether these assets should instead be re-deployed for other non-broadcast public media purposes.

The second big story is that the FCC is making room for hundreds of new noncommercial radio stations that will provide local and hyper-local service. These will begin to be licensed on October 15 of this year. They will not be eligible for CPB funding.

It will be argued that CPB has limited funds and they should be dedicated to full power stations that cover larger territory. If, however, we were to think beyond broadcasting, we might consider a race to the top in public media. Let new entities, including new radio stations, compete for support and provide their service across platforms.

The functional achievements of innovation, service, and access should be rewarded and extended.

Finally, another big story of 2012 about public media is what many in the Northeast learned during super storm Sandy. When other communication systems failed and the power went out, it turned out that broadcasting, radio in particular, was a crucial medium. It retains more force than we sometimes give it credit for.

Public media during this crisis was particularly appreciated. Among the many testimonials, there was one WNYC listener in New York called "A Love Letter" to the station that had served as his electronic heart and sole source of information.

The vulnerabilities and holes in broadband make clear that we are not yet in a post-broadcast world. Because of their continuing power, broadcast stations need to be leveraged for the benefit of full spectrum

communications and new entrants.

Collaboratives are the key here and federal funding should incentivize them.

I acknowledge that the biggest problem with what I'm proposing is there is not a natural political constituency for it.

The proposal makes happy neither the zero outers nor the fund uppers, and this just may be the strongest market.

MR. MAY: Thank you, Ellen. As we have alluded to, I have doubts, particularly with all the competing demands on the country's scarce resources and funds, about the continuing need for the government to fund public media and public broadcasting.

I really appreciate the way she thinks about reforming the current regime and about new ways to think about how, if we are going to expend the money, it can be used most effectively and efficiently. It's the reason why I wanted Ellen's chapter in the book

You mentioned Edmund Burke, which I now recall you did at the Mayflower event. When I was listening to you now and you were talking about the local stations and these different ways, as opposed to CPB and PBS at the top, it called to mind Edmund Burke when he spoke about the little

platoons. I heard echoes of that in your presentation.

You guys are about to witness a first here, and you are fortunate to be here at this historic moment. Christopher Yoo has spoken at many Free State Foundation events, and it's always a treat.

Generally, because I'm following the alphabet, he usually speaks last. It's not because I've actually forgotten the alphabet. I decided this time he shouldn't always speak last. I moved him up since we didn't have a Z speaker.

Next, we are going to hear from Christopher Yoo.

MR. YOO: Thank you for inviting me, Randy. Thank you for not making me last. It's always a pleasure to be at the Free State Foundation.

I'm not sure how I feel about the comparison to Beyonce. I suppose until fairly recently, that was a flattering comparison, but given the current press, I feel compelled to say that none of this presentation will be lip-synced, has not been prerecorded, and it is going to come straight from me.

(Laughter.)

MR. YOO: The chapter talks about the end of the "one size fits all" approach to the Internet. That chapter is already written and academics have a short attention

span. I have a whole book on this now that was out in mid-November. It is about how the Internet has changed in terms of users, applications, technologies, and business relationships, and what the implications are.

I would like to use the time I have here on a different theme, which is: Slogans are right now being used in this policy discourse in ways that I think are not constructive. They are used to obscure rather than enlighten. In fact, the inability to engage past those slogans has become a problem.

One of the things that we all realize is that when you deal with reality, it's much more complex, much more interesting, and much harder but much more rich and rewarding to engage with the details of this.

I will pick a few of these and I will to talk about them. One slogan I love is that there is "one Internet" and there must be "one Internet" that is universally accessible to everyone.

Now this is in direct contradiction to the idea that we always said the Internet is a network of networks. It is, in fact, not one network, and that creates a different set of problems, which I'm pursuing in other parts of my work.

Let's just focus on the one Internet claim. Any

of us who lived through this remember that the Internet was born through the National Science Foundation, NSFNet, and at a time they had commercialization restrictions that did not permit commercial traffic to travel. So we created two Internets.

We created the Commercial Internet Exchange to allow a different set of principles to apply. In fact, we have had baked in from the beginning a huge problem with segregating different types of service based on whether they were commercial or not and where they could pass.

That's the beginning of a long legacy of needing different things from the network that has played out in many, many different ways.

We see it now. Even though there are Internet-based technologies that take advantage of the hardware and economies of scale, many broadband providers who provide VoIP services reserve bandwidth that is not traveling over the same best efforts pipe that everyone else is traveling over.

You see U-verse, AT&T's offering, that actually reserves bandwidth for a video offering and still provides a full triple play. We see broad scale deployment of technologies like multi-protocol label switching, MPLS, which is used to route quality service. And what you are

starting to see is an amazing thing, which is an experiment with a technology that I love dearly called LEDBAT, low extra delay batch transport. LEDBAT is worse than best effort routing.

Why? Because it's even lower priority stuff that shouldn't compete for traffic. So you are backing up your hard drive. You really don't care whether this happens at any speed at all, and you take advantage of the really slack times of the network.

The flip side is many people talk about Internet2, which as most of you know is a research consortium primarily at the universities to experiment with new networking technologies.

They are famous for testifying before Congress that we tried to do prioritized service and it didn't work.

Interestingly, we live in a different technological world. Internet2 has a circuit switch technology called the inoperable unbanned network, where you can set up a virtual circuit on a temporary basis.

It's not used very often. It's used for very high bandwidth data-intensive, real-time graphics applications. This is a testament to the fact that routers used to be really dumb. They used to have the type of service that was only eight bits long. That's as much logic that fit

into a router in the old IMP days.

Now, they are much more sophisticated. We don't have to commit to them being best efforts. We don't have to excommunicate circuit switching or virtual circuits out of the cannon because we can temporarily set them up and take them down.

There are a bunch of security problems with that and a bunch of interesting problems, but this is not one Internet.

Second, we have a much more interesting topology with secondary peering and content delivery networks, CDNs. Right now, 80 percent of the traffic nodes can connect to each other without touching the public backbone at all. Apparently, some industry estimates say 25 percent of the traffic passes without touching the public backbone.

We may also have a very, very different world in terms of how the interconnections happen. A much richer world that leads to a lot more interesting options, and curbs certain amounts of market power, creates advantages for other players in ways that are much, much more interesting than the simple slogan "one Internet."

To move from the facts to theory, the implicit idea of why we need one Internet is because the Internet is supposed to get more valuable as it gets larger. It is

said we lose the benefits of that scale if we don't have one Internet and that increasing the size by additional hosts or users always creates value to you as an end user.

I believe that statement to be profoundly false. On some level, there is a point of diminishing marginal returns. How many restaurant rating sites do I need? But more to the point, usage of the Internet is radically heterogeneous.

I go to a very small number of sites, most frequently, my e-mail server. I do remote access to my office. I go to maybe ten websites, my bank, my credit card, ESPN, because of my own personal preferences.

What you see is there's actually not an increasing value in size. There is some wonderful research on Facebook that says the number of people that you interact with more than once a month on Facebook – not just getting their feeds, but actually exchanging a message – is six.

This is fairly consistent with old telephone numbers. And what you start to see is the idea that a constant increase in size in the Internet is, in fact, not creating value. And to the extent to which it's creating congestion, it creates problems. Sometimes the value is in the big hump, not the long tail. There is a tendency to forget that has real importance in the world.

The other thing we are starting to see is greater heterogeneity in applications. We saw with video, e-mail, and web browsing with file transfer applications that the only thing you cared about was when the last bit arrived.

We have radically different technologies where the timing of every single intermediate packet matters in terms of performance.

We can trade off some of that for latency. And there are some very elaborate things we can do that are fascinating and that open up the policy space in very, very interesting ways.

The thing that people forget is what I think of as Newton's third law of motion, which is for every action, there's an equal and opposite reaction.

If we insist there be one Internet, people who want the advantages of guaranteed quality service and can't get that by an Internet that's uniformly on one principle – the best efforts principle – will have no choice but to do private networking to guarantee their VoIP works properly or their video works properly. In this case one of the beauties of U-verse is when you're not on the Internet, not watching video, those resources are available for best efforts Internet. Taking advantage of sharing bandwidth is the fundamental principle that created value on the

Internet.

If you can't get that out of the network itself and have to go to private networking as your only available alternative, we lose all those benefits.

We can't think of those rules in a vacuum. In fact, those rules will cause people who need things from the network to change their behavior. We have to take into account the second order consequences and the reactions to this in ways that are not really well done.

What's fascinating to me is we forget the architecture that was designed was a creature of its time, both in terms of what technologically the network could do. These were PCs attached to a phone line, and with limited power. It's a very, very different world.

If you read the engineering literature, they are saying there are many things the Internet does not do well. For example, the things they talk about are mobility, security, and mass media distribution.

These things were not designed into the Internet from scratch. They were not that important when the Internet first emerged. Certainly, in terms of the mobility of video they are now mission critical for us to get any value out of the Internet.

In a way, we are rooted in this old discourse

which creates a very backward-looking, conservative Internet policy that this existing architecture somehow has to remain unchanged and pristine. People even say that because it's responsible for its past success, therefore, we should preserve it. But that is a logical statement only if you assume the fundamental conditions haven't changed.

As they tell you in all the financial services: "Past performance does not predict future results." This is because the environment is constantly changing. The same thing is true here.

It is important to increase the level of sophistication to understand that the network has new demands being placed on it and has greater capabilities.

Through my research to try to shed new light on these topics, I have a bunch of projects in different stages. There are a bunch of concepts that I think are used to end conversations, not open them up. Concepts like layering, modularity. You start to see all these ideas.

We need a better discourse, where we understand that all those are trade-offs. Understanding what those trade-offs are becomes a necessary condition to making sure we understand what's going on.

I see my friend, Stan Besen, here. It reminds me

of a conversation I had. When I looked at the old *Network Inquiry*, and I was entering the academy in 1999, I said: "Does it ever bother you that we're still fighting over pretty much the same issues that we were fighting over in 1980?"

He said he was impressed by how far we had come. In the 1980s, if you cited economics, even people who were skeptical of it said "You know what, this doesn't feel right to me. But I don't understand this well enough to even have an intelligent conversation with you."

Right now, a lot of the discourse about the technical aspects of the Internet and the way it interacts with things is comparable. The SOPA, DNS example, I think, is perfect.

We need a better understanding. Even if we are going to have people agree or disagree, we need to have a foundation of tools to have the discourse we need. We need to have an intelligent policy debate, instead of throwing slogans at each other in ways that don't lead to good policy and just sound good when you are quoted.

MR. MAY: Christopher, thank you. There are probably a lot of people in this room that are too young, who don't even know about the reference to the *Network Inquiry*.

Stan Besen and Tom Krattenmaker, they were co-authors of a big project that the FCC undertook to study the dominance of what were then referred to as the three major television networks.

They produced really big volumes of what I'm sure was good work about the dominance of the three television networks. The volumes are still in my basement, by the way.

Things do change. Sometimes it takes a while for the thinking to catch up with the change.

Speaking of thinking, we are going to hear from Daniel Lyons. Then we are going to open it up for questions and comments. Be thinking of those.

On that score, I just want to correct something that Ellen said. She said, I believe, that we still don't have any free broadband. If you look on your sheet on your tables, it says very clearly "Wireless4freenpc." There is your free broadband. You can use that to Tweet, Twitter, and so forth.

Daniel Lyons.

MR. LYONS: Thank you very much. I'm happy to have inherited the esteemed Christopher Yoo speaking slot.

(Laughter.)

MR. LYONS: I want to talk today about the

Universal Service Fund. It's a topic that is simultaneously at the cutting edge of policy but also as old as the FCC itself in many ways.

After all, universal service was the *quid pro quo* that Theodore Vail offered in exchange for his government-protected monopoly.

In the 1970s and 1980s, when disruptive technology brought competition and threatened that monopoly, the Commission created a wide range of very complex subsidy mechanisms to try to preserve the cross-subsidies of that system. It created a regime that was good for a generation of telecommunications lawyers, but arguably accomplished its goals in a less than optimal fashion.

This may be controversial, but I'll take the position that the basic tenant of universal service is sound. The Telecommunications Act says to improve civil participation levels. Universal service expands economic opportunities and it aids public safety.

I think it's a good thing as a society to decide that we want to help low income people have access to telecommunications networks.

It's not just good for those who receive the subsidy. Because of network effects, we all benefit when the least advantaged in society are on the network. The

more people the network reaches, the more value it is for all of us.

Our present execution of that idea is a mess. In 1998, as the present incarnation of the Universal Service Fund was getting off the ground, it was funded by a three percent surcharge on interstate telecommunications revenues.

Today, that surcharge has risen to 16 percent. The surcharge is a tax that rivals the sucker's tax that the District puts on hotels here to police non-resident visitors that I just paid.

(Laughter.)

MR. LYONS: It's been even higher than that before. To put real dollars on it, it's an $8 billion annual cost to telecommunications users.

If you ask a layman, "What do you think of the Universal Service Fund?" they will say it's a very good thing. As I just said, we like the idea of helping low income people get on and stay on the network.

But only about a quarter of the Universal Service Fund's revenues go to Lifeline and to Link-Up, which are the two that directly support these goals.

About the same amount, a quarter of the Fund, goes to E-Rate, which funds computers and Internet access in

libraries. But both of those programs are dwarfed by the $4.5 billion that we pay annually to what is appropriately called the "High Cost Fund," aid that goes directly to telecommunications companies in low population areas.

The High Cost Fund is infamous for the inefficiencies that exist in the program. They are well documented. I talk about some of them in my chapter. We can get into some of that in Q&A.

I want to focus on the fact that the FCC is aware of the problem that the USF has been out of control and that there are incredible inefficiencies in the system. To its credit, over the past two years or so the agency has made significant progress toward taming this beast.

In late 2011, we saw reforms to the High Cost Fund that at least purported to cap the Fund's growth and limit it to its existing size of $4.5 billion. The Commission put annual limits on the amount of support that receiving carriers can get per line. This will limit situations like Beaver Creek Telephone Company, which was getting $17,000 for each of its 27 lines in 2008.

Lifeline reforms in early 2012 did a very good job of adopting common sense reforms to reduce corruption and inefficiencies in that system.

The Commission is at least trying to sort out the

problem on the contribution side as well.

More importantly, each of these efforts came with an overlay that seems to be shaping the Commission's policy in this area. That is, we need to take steps to shift from the voice network of the 20th Century toward more IP-based networks that are going to form the backbone of 21st Century networks.

I think these reforms are courageous. They are really hard. The agency should be applauded.

At the same time, this is just the tip of the iceberg.

What we have is a once-in-a-generation opportunity to rethink universal service. I fear the current policy is tinkering around the edges of the existing Fund, figuring out how to fit a square peg into a round hole, making the same mistakes that regulators made in the 1980s, like importing the problems of the old system into a dynamic, new environment.

With that in mind, I suggest that true universal service reform should reflect two realities. First, we should focus much more on the core mission of the universal service: giving low-income consumers access to the telecommunications network.

That means providing assistance directly to

consumers, not to carriers as their proxies. Focusing on narrowing the broadband digital divide, migrating from voice to broadband, is exactly the right focus.

Secondly, it is important to recognize that the world is not the monopoly of Theodore Vail. Modern telecommunications systems are competitive. The reforms that we enact and the mechanisms that we put in place should be market-driven and react to that environment.

With those two dominant goals in mind, in my chapter I suggest a very different reform to universal service, a program that is built around empowering low-income consumers to participate as equals in the telecommunications marketplace.

On the subsidy side, the cornerstone would be a means-tested voucher system, like a telecommunications food stamp program. Eligibility for the program would be determined by means testing, similar to Lifeline. And the FCC would determine what a fair amount is for an eligible recipient to pay for basic broadband service. The FCC can decide what it would consider basic broadband.

We would issue a voucher to the consumer for the difference between that amount that it thinks a consumer ought to pay and the average market rate for a consumer service area.

Any carrier agreeing to accept the voucher would agree to provide basic broadband service at no more than the rate the FCC thinks a participant should chip in plus the amount they get from the voucher.

The consumer would have a choice of what service to buy, whether it be basic broadband access or a voice-only plan that would be presumably cheaper than broadband and, therefore, less out of pocket. Or, the consumer could use the voucher as a credit towards a more advanced suite of telecommunications products.

The goal, as I mentioned, is to give low income consumers more purchasing power so they can participate like anybody else in the telecommunications marketplace.

I don't hide the fact that building a subsidy program that is going to help low income consumers get broadband access is going to be expensive. The FCC is right. We are not entirely sure how expensive.

They are running a trial right now under the Lifeline program to get an idea of what amount of money we are talking about.

We are going to need to find money somewhere in order to fund this expansion.

Fiber optic cable is more expensive than copper. Broadband is more expensive than voice service.

If we are going to expand the scope of Lifeline then we need to find money somewhere for it.

One element that would be very useful is probably shuttering the E-Rate program and shifting those costs back to the local governments that are the recipients of that aid.

The more useful contribution would be slowly but firmly shuttering the High Cost Fund. Not just cap it as the FCC has done, but reduce that cap each year until at some point the amount of money that we are sending directly to telecommunications carriers gets down to zero.

Yes, that means telecommunications costs will probably rise in rural areas. And they will probably rise considerably. That is a big problem. In fact, it's probably what prevents my happy academic ideas from turning into policy.

It's an important one that we need to struggle with. The Lifeline program, the expanded voucher program, would help the truly low-income folks in affected areas.

For those who can reasonably afford telecommunications rates, even if they were to go up, we need to bite the bullet. We simply cannot continue to afford to subsidize what is effectively a lifestyle choice.

As I was on the market deciding potentially which

law school I wanted to teach at, my wife said there is absolutely no way we're going to be able to afford Manhattan, so don't apply to any Manhattan school, it's not going to happen.

She was absolutely right. The housing costs in Manhattan were much greater than what we were paying in Los Angeles, what we would have paid in Houston, what we wound up paying in Boston.

That was a lifestyle tradeoff. The fact that housing prices are much higher in Manhattan than they are in Houston doesn't suggest that we need a federal housing subsidy for people who are living in the Manhattan area to make sure housing is equalized.

We need to think of telecommunications in the same way. The costs are higher in rural areas and that is simply a tradeoff and part of the decision to live there as opposed to a more population-dense area.

I'm happy to hear your comments on that.

The contribution side is the big issue the FCC is trying to tackle right now. And it is a big issue. The costs of the program are growing while the revenue base from which the program is extracted is shrinking.

The FCC is engaged in a very complex and contentious debate: Do we expand the revenue base to

include broadband access? Do we shift from a revenue pool to a tax on every phone number, a tax on every IP address?

Perhaps the most eloquent solution is simply to make universal service a line item in the federal budget, like most other assistance programs.

This puts a hard budget cap on the program and it moves the administration of the program from the murky semi-privatized USAC and puts it more under direct congressional oversight.

It also avoids the market distortion of trying to tax some goods but not other substitutes in order to fund the program. And finally, it has the benefit of not taxing and, therefore, making more expensive, the very service that you are trying to make cheaper and more affordable.

The primary objection is that people don't have a lot of appetite for new entitlement, particularly in this Congress. It's important to recognize that this wouldn't be a new entitlement. It would simply be making an implicit tax that all of us are paying more explicit.

If the primary objection is that if people knew how much this program cost they would never go for it, maybe that tells us more than anything else I've said about the magnitude of the reform that's needed in order to make universal service more effective.

MR. MAY: Daniel, thank you very much. You can see the wide range of subject matter that is discussed in the book. We pretty much cover the telecommunications law and policy waterfront. You got a sampling of that here.

We're going to turn to questions. I know we have some questions and we have a mike in the audience. I'll just start off while you get ready.

This is for Professor Yoo. I understand your discussion today about labels and some of the battle cries and so forth that we use in these discussions of policy. And I appreciate the reasons why you said we haven't had a single network, or single Internet, as well as the reasons why it wouldn't necessarily be a good thing from a policy point of view. I want to make sure I understand it.

Here's my question. What are the implications for what you described and the way you think about it in terms of the "net neutrality," proceeding, and the rules the FCC adopted? How do they relate to what you were describing?

MR. YOO: The slogan that there is one Internet relates somewhat to the *Open Internet* proceeding, but it relates to the broader question of Internet interconnection.

Right now, what we are talking about primarily is network-to-network interconnection. In a brief footnote

that is, charitably, unreasoned, it says that this order doesn't apply to paid peering. Basically, this order does not apply to the business terms under which networks interconnect with one another.

That safely had the effect of taking the FCC out of the Level 3/Comcast dispute. But one of the problems is that by taking a duck there, what we are seeing is very, very different market topological structures that are now immune from the network neutrality proceeding.

Whereas, if you build a CDN and try to do direct payments with the last mile provider, that is still prohibited. That is a very, very strange world. All of a sudden we have created a regulatory bias towards one topological solution because the one person who can't charge for that is the last mile provider, whereas we could have it done through a series of contracts and it would flow through and be all right up until you get to the last mile.

What is much more important about saying we don't have one Internet is the latent proposal that they never quite got around to discussing by ETNO, which is basically to turn Internet interconnection into some version of telecommunications interconnection. That is based on the premise that we have one large international network and

one large settlement mechanism with an IT regulation sitting across the whole thing.

We actually live in an interesting world. Even though it remains controversial about information services and ancillary jurisdiction from the D.C. Circuit right now, it serves a tremendous value in practical terms, even if it ultimately turns out to be illegal, of having separated the Internet debate from the assumption that is prevalent in most of the parts of the world, that we will regulate the Internet exactly the way we regulated the old telephone industry.

That is the default presumption in Europe. I think it is the default presumption in Asia.

The idea that we would take wholesale the regime created for a different technology and a single application in a different world and cram it down on the new technology, however the chips would fall, would be accidental at best.

More likely, it will be rather Procrustean.

This is a problem. The idea of creating one Internet naturally plays into the idea that there has to be a universal management system that ensures all the networks interconnect, and interconnect in a fair and equal way.

Whereas, we know in a system that's made up of

30,000 autonomous different networks bargaining through arm's length transactions, you're going to see tremendous heterogeneity in terms of the price and the quality and the interconnection points. And the idea that two bits of equivalent traveling to you from CNN and NBC will come in on the exact equivalent terms simply blinks reality because of the differences in topologies and distribution mechanisms that exist today.

MR. MAY: Thank you, Professor Yoo. Now I'm going to open it up for questions. If you would just raise your hand. And when you do get the mike, identify yourself. I'm going to call on people.

I see the aforementioned Professor and former Dean Krattenmaker in the back.

MR. KRATTENMAKER: I'm Tom Krattenmaker. I'm a federal pensioner who lives out in Northern Virginia.

I have a question and two comments. My question is who is this guy Stan Besen?

My first comment is I had a couple of stints at the Federal Communications Commission. They gave me different titles. Before I left, I asked Bill Kennard, could I please be put in charge of the Bureau of Euphemisms, Meaningless Slogans and Unobtainable Goals. He said he was going to create such a place, but he didn't

want to put me in charge of it.

(Laughter.)

MR. KRATTENMAKER: My suggestion was that we bring under that umbrella one network, universal service, fairness doctrine, children's programming, public television, prime time access rule, net neutrality. Maybe we could put some more stuff on the list.

The point of that comment, of course, is that I think our commenters are so right in saying that what we are doing is living by slogans rather than analysis.

My second comment I think there is a tail missing from all this. And I must say, when we were sitting here talking, every one of the suggestions was so well thought out.

When you talk about how we might reform public television and what we might do about net neutrality, what we might do about universal service, I think we need to couple our substantive critiques with the recognition that the Federal Communications Commission is inherently intellectually corrupt.

It was implicit in everything you all said, which is, this is the right way to go. But I don't know how we can get there because it has to go through the Federal Communications Commission.

Randy, maybe your next book would be why we can't go anywhere because we have an agency that is structured in a way that is bound to produce euphemisms, meaningless slogans, and unobtainable goals rather than rules and regulations that are designed to serve consumer welfare.

MR. MAY: We are always thinking about our next book.

(Laughter.)

MR. MAY: That's an idea.

MS. GOODMAN: I want to hear how you think it should be structured.

(Laughter.)

MR. MAY: That's fine. We want to have a good interchange. I want to keep all of these exchanges relatively brief.

MR. KRATTENMAKER: Briefly, my comment on the 1996 Telecom Act in the *Federal Communications Law Journal*, is where I suggest, if I recall correctly, that there are three functions that a federal agency probably needs to perform, wholly apart from just the general application of federal law.

One, spectrum management. Two, oversee interconnection disputes. And three, keeping square our obligations under international law.

The rest of it can probably be let go. If you decide that's what you want to do with the system, you would undoubtedly give one function to the Department of Justice, and the other to the Department of Commerce. You wouldn't have multi-member agencies. You wouldn't have day-to-day accountability on the Hill.

That is all laid out in the 1996 *Federal Communications Law Journal*.

MR. MAY: Ellen, do you want to respond to Professor Krattenmaker?

MS. GOODMAN: No, I just wanted to hear him.

MR. LYONS: Without getting too personal, probably because I don't have tenure yet --

(Laughter.)

MR. LYONS: I think you are right, in a sense, that the Commission has certainly had its moments of dysfunction.

One thing I've been struck with since I have really started following them closely in the last few years is that I would not trade places with a regulator to save my life. Their job is really hard.

In other words, it's not just the Commission that's a problem. For example, the universal service program is actually doing four things, three of which have

nothing to do with universal service.

That's a mandate from Congress. It's not just the Commission that's to blame for the mess the universal service is in. It's the marching orders they have been given from folks from above.

I don't envy congressmen either. It's really hard to think of every law, especially when your work week starts at noon on Tuesday and ends at noon on Thursday.

Greater clarification of statutory assignment would do wonders for the Commission and a lot of other agencies as well.

MR. YOO: Tom, my answer would be a humble one about what policy analysts and particularly scholarly policy analysts can do. We can help frame issues and define issues. But in the end, major legislative form takes five to ten years.

I think about the Telecom Act, I think about the 1976 Copyright Act. In the end, it's a horse trade.

That is not a policy question. That level is a different level.

MR. KRATTENMAKER: Chris, I'm with you. [Inaudible.]

MR. MAY: That's useful. I recall that I said the last chapter in this book, the one that Bruce Owen wrote is

entitled "Communications Policy Reform Interest Groups and Legislative Capture." You gentlemen, of course, have worked with and know Bruce.

He's been around the track a few times as well. He talks about the difficulty of achieving some of the things that we want to achieve. It's not easy.

I'm a believer in the importance of education in the sense that we are doing it here. Eventually, people will understand, and then we get better policy.

This poses a dilemma because David Young had his hand up and then Tom. I'm going to do this. I'm going to call on David first and then Tom, unless they have exactly the same question. We'll see.

David, identify yourself again for the record.

MR. YOUNG: It's David Young with Verizon. I'm sure Tom's question will be much more interesting than mine.

MR. MAY: Do you have tenure?

MR. YOUNG: I do not.

(Laughter.)

MR. YOUNG: The discussion about the deregulatory environment for wireless that produced such successful results, I thought was really interesting.

One of the things that you didn't mention and I

don't know if the chapter does or not is in addition to sort of the light federal touch, it was also the fact that it was federal and the states didn't have a role in regulating wireless. That, I believe, helped wireless to flourish the way it did.

Similarly, in the broadband world, one of the first things the FCC did under Chairman Kennard in 1999 or so was it came out and said the local franchise authorities, the 30,000 of them, didn't have the ability to regulate broadband. He didn't say what broadband was but he said clearly it was not a cable service subject to 30,000 different regulatory jurisdictions.

Does the book get into the need for a national policy framework for all of these things and to do away with or reduce the ability to have sort of conflicting or complicating regulations at lower levels?

MR. COOPER: No, the chapter doesn't reach that far. That was in part due to space constraints. I had already participated in probably two of the longest chapters in the book. I didn't want to crowd out the other voices speaking.

I agree with you completely about the importance of the 1993 Act in removing state obstruction to wireless services. It barred as a general matter state regulation

of wireless, particularly on rates and entry. It offered at least some kind of provisions for siting wireless infrastructure.

One of the problems we still encounter today is that our local governments are reluctant to approve the building of new towers and infrastructure that are needed to build out services and get good coverage and strong signals.

Accompanying reforms regarding states and local governments on the regulatory side should be reforms on the tax side. To the extent the USF program is out to serve low-income consumers, it's in some conflict with itself when it comes to wireless.

We know low-income consumers are increasingly choosing wireless as their means of voice communications.

We are seeing now these surcharges applied to wireless, but it's not in a vacuum. States and local governments already subject wireless to a number of taxes and fees that include state USF fees and state 911 fees that sometimes go to things completely separate and apart from 911 services.

That can also include specific state telecom taxes that far exceed the state's general rate for sales tax.

Tax reforms should be part of any broader

framework for wireless policy. Unfortunately, the space constraints kept that out of this chapter.

MR. YOO: It's interesting. This is a live issue in Europe, where they are talking about whether set up an EU-level regulator. This is one of the things: Will it use its powers for good or evil?

When you level regulation, we see things like data roaming, we see reverse compatibility requirements on devices that forestall the deployment of UMTS. You see all these different things.

At some level, the way you're going with this suggests federal has a lot of benefits, but much of it is contingent on the way that federal authority is exercised. And we have to bear in mind it is not just the level but the substance.

MR. MAY: Tom?

MR. TAUKE: Tom Tauke, Verizon. I can't, of course, resist the opportunity to make the comment that it's very difficult for the FCC to implement an obsolete statute, and that's the task it has.

We really do have to focus on changing the statute, and the education, Randy, you mentioned, is certainly critical to doing that.

My question relates to comments about universal

service and particularly the High Cost Fund. I guess I have a two-part question for any of you on the panel.

If you do not have a High Cost Fund, do you think it's economically feasible for private companies to sustain wire line networks in rural areas? Part one.

Part two, do we need wireline networks in rural areas?

MR. LYONS: I'm not convinced that wireline is the end all, be all. It's a very robust technology. Nine times out of ten, wireless does a lot of what universal service customers would want.

As we transition from voice to broadband, there are questions as to whether wireless broadband is a suitable substitute. Right now, wireline broadband, is infinitely better than wireless broadband. That is an issue that implicates five or six other areas of telecommunications, like spectrum policy and technological development, things like that.

Over time, my sense is it's a mistake to look at the static world and based on that, say we need to set the policy that's going to move forward for the next 10 to 20 years.

Ideally, the universal service program of the future would be one that is technologically neutral, where

we have a broad definition of an eligible carrier to receive the voucher I mentioned, and allow consumers to choose which one best suits their needs.

In some instances, that's going to be dictated by geography, because cell towers are cheaper than laying fiber optic cable. In some instances, it's also going to turn on the idiosyncrasies of the consumer.

Generally, I think more choices are better than fewer. I don't know if that answers your question.

MR. YOO: I view wireless as the untold story. Right now, the FCC's data is only current as of June 2011, the publicly issued data. LTE was deployed for the first time in December 2010.

If you look at the growth rates, wireless broadband has grown 300 percent. Right now, Verizon reaches 89 percent of its consumers, 470 metropolitan areas. Build-out projected at the end of this year is 98 percent coverage plus for the country.

AT&T is coming fast, at 150 markets right now, shooting to basically reach 80 percent or 90 percent by year end.

Sprint has a huge infusion of cash, 49 markets right now. Understanding it's facing a distinction level event, it is moving faster than anyone ever dreamed.

We see that. And the typical LTE connection delivers 8 to 12 megabits, at peak 50. So all of a sudden we see a world in which we have the potential to have three carriers, some of which overlap in the wireline areas. But in those areas, AT&T is in Verizon's service area and vice versa, and we see a world in which the political dynamics look radically different.

We have still some problems in rural areas. Oddly enough, we have some problems in urban, in highly urban areas where they are very dense.

In a way, this is a much better policy space to deal with when we are talking about how we solve pockets of problems, than whether we need a general telecom regulation interconnection system which has uniform principles that go across the whole thing.

MR. TAUKE: The follow up doesn't relate to my biases, doesn't imply any bias. I do want to point out the LTE network only works if there is an underlying wireline network that provides the backhaul.

My question, in part, is: Is it feasible to sustain the underlying wireline network if there is no High Cost Fund support?

MR. YOO: One of the interesting surprises of the National Broadband Plan is that rural backhaul is more of a

problem than we thought.

There is a hero. He's a small Indiana co-op who is doing fiber to the home, unlicensed spectrum two-channel, multi-channel video, DSL to all their customers, and a regional backhaul fiber ring serving the local hospital. A guy who has a high school education and Army Electronic Radio Corps.

I looked at him and I realized he's telling me his backhaul costs are 17 times what they are in Indianapolis.

There are some interesting pockets. We have some real problems. If you are asking about backhaul, scale is scale, is my reaction. What we are really talking about is a pure density issue. In fact, we are still going to have towers.

That is where the connectivity from focal points is the most likely problem we can solve. But, in fact, we have to look at the data and look at the residual. There's a reason Verizon sold a lot of wireline properties to Frontier.

There are some real issues about density that just don't lie. That leads to a targeted solution focusing on the 19 million that don't have broadband instead of regulating broadband in a blanket way at the risk of saying we don't just have one network anymore.

MR. LYONS: It is helpful to distinguish between the capital costs to put the lines in the ground and ongoing support for operations, which is the idea behind the High Cost Fund.

I don't think it was a bad idea for the Connect America Fund to focus on trying to get lines deployed in areas where we don't currently have coverage. But I think that is a one-time cost and it's distinct from the notion of continuing to subsidize operating costs in order to keep subscriber monthly bills down.

MR. MAY: On Tom's first point about the need for a new Communications Act, which I absolutely agree with, of course. We have talked about it a lot.

In Jim Speta's chapter in our book, as much as anyone else, he focuses on the need for a new Act and what a new Act would look like. That is there.

All the way in the back. While the mike is going in the back, any of you see that quote I had from Erasmus that I put in my e-mail? "If I get a little money, I buy books. If I have any left over, I buy food and clothes." Did you see that?

I've been waiting 30 years to use that quote. I had it on a little note card. That's why I did it twice.

MR. EFFROS: Steve Effros, Effros Communications.

I want to follow up on Tom's plea for a new Act.

There was a mention at the beginning of the conversation today that somebody thought that we wouldn't see any legislation for at least five years, which scares the hell out of me.

In political terms, you are probably right, if the politicians were the only ones involved in the conversation.

It seems to me the courts are also involved in the conversation. I would like to get a little bit of a perspective on this.

If we now are in a situation where this obsolete Act or this obsolete statute is putting the FCC in the position of only regulating those parts that it has jurisdiction over, and the net result is clearly other competitive parts of the same system are not being regulated, can we go back to the courts at this point and say any of these regulations are essentially capricious because the technology has gone way beyond the statute, and yet you are still only applying it to one portion? For instance, there is the selectable output control decision in the court last week, where cable is regulated but satellite is not regulated, and the Commission itself cannot now define what a multi-channel video program

distributor is.

Of course, the Commission's response is yes, but that's all we can do, but that would be capricious, so we force Congress to get back into this Act.

MR. MAY: Does anyone want to react to that?

MR. YOO: There is no way you can say that the agency is capricious because Congress has failed at what it is supposed to do. Congress moves first. The agency is supposed to implement.

The better question is: What are the potential forces that could create the kind of consensus needed to do a change? This is on the assumption that large parties can block change by throwing sand in the legislative gears.

There are two obvious ones. If the D.C. Circuit decides the 706 argument doesn't work and the Federal Communications Commission decides it lacks authority, and opts to not just remand the order but to reverse as well, all of a sudden you have a world in which the federal government no longer has authority and has no cover of a remand to think it over, in which case, states might start moving in.

That is one interesting question. If the FCC that is currently there now takes the same route of trying to reclassify Title II, you might see some impetus, a kind of

political impetus for some change.

The other thing that I see looming is if LTE wipes out wireline rural and wireline telephone to the point the Universal Service Fund starts to evaporate in a major sort of way, which is a real possibility, there will be a different political constituency who won't be satisfied with the status quo.

The question is how many of these events do you have to lay on top of each other before you get a new Act, and how long is it going to take, even when we know we need one? That is going to take a while.

MS. GOODMAN: The phenomenon you're talking about we actually have seen. You can see it in the media ownership context where the authority that the FCC has is so narrow and in such a small segment of the market, that it renders its decision arbitrary and capricious because it doesn't take into account the full competitive landscape.

That hasn't really acted as a prompt to re-do the Act. It just gets struck down. Then we go through it all again.

MR. MAY: I think we are going to do at most two more questions and then we will wrap up. I'm going to look around. I see Stan in the back. Use the mike, please.

MR. BESEN: I don't think we should be too

pessimistic about the role of ideas and influencing policy.

When I was a boy, I was an economics professor. I used to teach out of a wonderful book called *Capitalism and Freedom*. It contained the following completely outrageous ideas, which the students thought were completely bonkers: a negative income tax, an all-volunteer Army, and school vouchers.

(Laughter.)

MR. BESEN: These were ideas at the time. They were so beyond pale, you taught them for fun, but no one took you seriously.

It does make a difference over time. The first paper, I believe, that proposed a spectrum auction was in 1954. It actually precedes Ronald Coase's 1959 paper.

Nobody thinks that idea is outrageous any more. I think it is important to keep these ideas out there. At some point, some politician will find that it is in his interest to adopt these, and it's our job, our role in this process, to keep these ideas there.

Don't get discouraged just because they don’t adopt your policies today. Krattenmaker and I proposed a few things in 1980. Gee, in 1992, they actually did them.

Please, let's not leave here with a note of discouragement.

MR. MAY: A fellow optimist there. Although when you cite a paper from 1954 and then say keep faith alive, be patient.

Before we close, I just want to take a second to say we have a new person working with us at The Free State Foundation, a third year student at the Law School at American University, Sarah Leggin.

We welcome Sarah with us.

(Applause.)

MR. MAY: This has been a terrific exchange. You can see why I'm so proud of our Board of Academic Advisors and the staff at the Free State Foundation. They do such good work.

Just join with me in thanking them, and you are welcome, of course, to buy more books, like Erasmus said.

(Applause.)

(Whereupon, at 1:55 p.m., the proceedings were concluded.)

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