UNITED STATES OF AMERICA

FEDERAL COMMUNICATIONS COMMISSION

# NATIONAL BROADBAND PLAN WORKSHOP

# OPEN GOVERNMENT AND CIVIC ENGAGEMENT

Washington, D.C.

Thursday, August 6, 2009

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

PARTICIPANTS:

Moderator:

EUGENE HUANG

Federal Communications Commission:

JULIUS GENACHOWSKI, Chairman

MARY BETH RICHARDS
Special Counsel for FCC Reform
Office of the Chairman

STEVE VAN ROEKEL
Managing Director Office of the Managing Director

KRISTEN KANE
Director of National Purposes National Broadband Task Force

Panel One:

VIVEK KUNDRA
Federal Chief Information Officer

BETH NOVECK
Federal Deputy Chief Technology Officer for Open Government

GRAHAM RICHARD
Former Mayor of Fort Wayne, Indiana

Panel Two:

ELLEN GOODMAN
Rutgers School of Law

NORM ORNSTEIN
American Enterprise Institute for Public Policy Research

PARTICIPANTS (CONT'D):

ANDREW RASIEJ
Personal Democracy Forum

BETH WHITE
Chicago 2016

JOHN WONDERLICH
Sunlight Foundation

* * * * *

C O N T E N T S



* * * * *

P R O C E E D I N G S

(9:33 a.m.)

MR. HUANG: Can everybody take your seats, please? We're about ready to start. Thank you.

MR. GENACHOWSKI: I can't help smiling as I imagine the Blair Levin avatar on Second Life. I hope we have avatars for all of our workshop panelists today.

And over time, Panelists, avatars for all of America. It's my pleasure to welcome everyone here for the kickoff of the Omnibus Broadband Initiative's public workshop series. We have, as you know, a plan to host 2 dozen workshops in the next month, a goal some have said is impossible. To them I say the Washington Nationals have won four straight.

Let me take -- this is a very important day, but it's a day where I hope we can have real discussion. And let me be as informal as I can, but let me see if I can try to put today's events in a little bit of context.

The President and Congress a few months ago entrusted the FCC with the very important responsibility of developing a National Broadband Strategy. We should have had a national strategy years ago. We didn't, but now we have the directive from the President and from Congress for the FCC to develop one. This is a very serious responsibility that the agency is taking with the seriousness it deserves.

Broadband is the great infrastructure challenge of our generation. It's to us what railroads, electricity, highways, telephones were to previous generations -- a platform for commerce, for addressing major national problems, and for civic engagement.

It's not an abstract exercise. I think a lot of Americans when they hear "universal broadband" aren't sure yet exactly what that means. And part of what we hope to do with these workshops is animate the meaning and importance to ordinary Americans of broadband.

We know from a data point of view that

every point increase in broadband deployment will lead to an increase of 300,000 jobs, according to a study by Brookings. I had a chance last week to meet with some people who are starting to use broadband to do job training and I met at Valencia Gardens, a public housing project in San Francisco, some people who were able to find jobs through broadband and because they were trained in using the Internet. I had a similar experience in Cleveland a couple of weeks ago, where I met people who before they got involved in some training programs and before they learned broadband and Internet skills had great trouble finding a job and were able to find a job using the Internet.

I also saw last week, when I was in California at the Lucille Packard Children's Hospital, some incredible programs that when you see them, you can't help but think how can we live in a country where this isn't available to everyone? For example, we saw a program where doctors use imaging technologies and broadband to

diagnose newborns for this particular disease, it's a very long name that I won't try to remember, but it causes blindness. It's very treatable if it's caught. Of course, there are too few doctors who have the skills to diagnose this particular disease. And what happens now all over the country is that doctors with this specialty spend their time driving around, examining as many kids as they can. Some kids are sent -- newborns are sent with their parents to go to where the specialists are.

Of course, this doesn't make sense in a world where we have imaging technologies and we have broadband connections, and so you can actually get better images, better diagnoses of more newborns for less cost up front and clearly saving the country costs over time. This is up and running now in Palo Alto. It should be up and running everywhere. That's the kind of opportunity that we hope to tackle with the broadband project.

Last example. I was in Erie,

Pennsylvania, and I met a farmer. I met a farmer who said -- a farmer in his sixties who said when I went into farming, the last thing that I thought would matter to me are computers and Internet connections. But today, I don't think farmers can do their jobs without computers and high-speed Internet connections for real-time weather, for crop planting, for pricing, and selling their products. And he asked us to do everything we can to extend broadband to all Americans.

Here's the challenge, of course: Nearly -- about percent of American households don't have broadband. In some communities -- low-income communities, minority communities, rural communities -- that number is closer to 60 percent. This is why the President and Congress did two things in the Recovery Act. They started addressing this issue through $7 billion in broadband grants and why they gave the FCC this important responsibility of developing a National Broadband Strategy.

As Blair Levin and the team started

tackling this challenge, we set some goals. We want this process to be the most open ever at the FCC, the most participatory ever at the FCC, the most data-driven ever at the FCC, and the most innovative ever at the FCC, encouraging experimentation to find solutions to make sure the Commission meets this moment.

As I said yesterday, when we welcomed the broadband staff, we welcome and encourage experimentation and innovation, and we expect mistakes. Today is the first hearing. I'm so proud that the Commission is doing this. I fully expect that it won't go perfectly. We're streaming it live; something will go wrong. At Second Life, someone will get off on the wrong street. We're providing for public participation. Who knows exactly what'll happen? That's okay. This is a real-time, live experiment in democracy and participation. I think we'll have an excellent day today and it'll just get better and better as we go through these workshops.

I'm particularly pleased that the first

workshop is on eGovernment and civic engagement. One is because it gives us the opportunity to begin to show how eGovernment can work. Of course, we have people here who have been working very hard -- Vivek Kundra and Beth Noveck and Graham Richard -- on eGovernment in the White House and in Indiana.

The second reason I'm so pleased that this is our first topic is that everything flows from civic engagement. An active public offering its best ideas is the foundation of the solutions to all of our challenges. And in the 21st century there's no excuse for not finding ways to connect all Americans to each other and to their government through high- speed Internet.

These workshops take on some added importance because the first round of filings in this proceeding did not advance the ball forward as much as it should. We are where we are, but it is essential that through this process we have full participation, we have ideas that meet the moment, and that we receive data that tackles the

hard questions that the Commission has to address in this proceeding.

So with that, let me just say how pleased I am that we have the panel that we have today. I'm honored on behalf of the Commission that we have the country's first chief information officer here, Vivek Kundra.

We have Beth Noveck, who's also occupying a new position in the White House, the deputy chief technology officer for Open Government.

Graham Richard, one of the most innovative mayors in the history of the country, especially around digital -- creative digital solutions to problems that Americans face. Graham Richard, thank you for coming.

And we have -- let me do this because we want to get into the workshop. Let me quickly do the other names, all of whom are great, and ask you to save their well- deserved applause at the end.

But we have some extraordinary doers and

thinkers working around engaging the public, thinking about these hard issues: Norm Ornstein from the American Enterprise Institute; Andrew Rasiej from Personal Democracy Forum; Ellen Goodman, who I see somewhere, I hope she's here from Rutgers; John Wonderlich from the Sunlight Foundation; and Beth White, who somehow in order to make sure that the country receives the Olympics in 2016 in Chicago had the great idea of seeing if we could elect a president from Chicago. That worked out. Next step is the Olympics.

The immediate next step is to ask Eugene Huang to take over and lead this workshop. I want to welcome Eugene to the FCC along with everyone from the broadband team. Eugene, until very recently, was at the Treasury Department working on some very difficult issues around economic relations with China, and before that was in the state of Virginia as the secretary of technology.

Between Eugene and Vivek and our new CTO, Aneesh Chorpa, I think we're proving that there is great innovation east of the Mississippi,

and we look forward to some innovators from west of the Mississippi joining us in this effort.

So, thank you, everyone. I'm looking forward to a productive workshop and thank you all for being here.

(Applause)

MR. HUANG: Well, thank you, Mr. Chairman, for those very warm and inspiring opening remarks. It's my distinct privilege to welcome each and every one of you to this first workshop of the National Broadband Task Force. My name is Eugene Huang and I'll be serving as the moderator for today's workshop.

Joining me today from the FCC is Kristen Kane, who's the director of National Purposes for the National Broadband Task Force; Mary Beth Richards, special counsel for FCC reform in the Office of the Chairman; and Steven Van Roekel, who is the managing director of the Office of the Managing Director.

I'd also like to extend a special welcome to those of you who are joining us online

in cyberspace. And I understand that there are over 100 individuals and entities that are registered, including individuals through the WebX online platform in Second Life. And clearly, it's demonstrating the power of broadband technology to promote a more open and transparent government.

This first workshop covers two topics: Open government and civic participation. And for both topics we've assembled some of the leading practitioners and experts who are using broadband to build an open government and transform civic engagement.

Before we begin, I'd like to note that this workshop is the beginning of the conversation. Today's workshop will not answer all of the difficult questions before us, but it's a strong and important start. With the individuals gathered here today, through a conversation among Commission staff, panel participants, and the public at large, we aim to learn about and discuss best practices, generate ideas, and augment the knowledge of members of the

Commission. Today's discussion will help frame and shape the work of the National Broadband Task Force and guide the development of the National Broadband Plan.

For our first panel I'd like to welcome our three distinguished speakers: Vivek Kundra, federal chief information officer; Graham Richard, the former mayor of Fort Wayne, Indiana; and Beth Noveck, federal deputy chief technology officer for Open Government. We will hear 10-minute presentations from each of our panelists, follow 15 minutes of Q&A from our FCC panel, and at the conclusion we'll open it up to the public for 15 minutes of questions and answers.

Also, before I begin, I'd like to ask our audience here in Washington, D.C., to please turn off your cell phones or at least put them on vibrate. We want to make sure that our participants online don't hear the buzzing of our cell phones here in Washington, D.C.

So, with that, Vivek, the floor is yours.

MR. KUNDRA: Thank you, Eugene, for that kind introduction. And Mr. Chairman, thank you very much for holding this very important hearing on a subject that affects the United States Government and, more importantly, the very people we serve.

If we really think about this at a macro level, there have been three major revolutions that now lead to the Technology Revolution. The first was the Agricultural Revolution. But in the Agricultural Revolution, if you think about the movement of people and the movement of capital, it was limited to essentially a 25 square mile. An individual could literally spend an entire lifetime with the means of production and distribution of food and distribution of goods. Then came the Industrial Revolution, as the chairman said, with trains and the ability to move goods and people at much higher velocities.

And now as we've entered the Technology Revolution one of the things that's happened is we've fundamentally changed the way we interact

with our government. If you look at the major innovations that have happened within the federal government and how we serve the American people, what we've been able to do as a result of broadband penetration across the country and the ability to engage the American people has changed permanently how we operate. Yet there are too many people who are not able to participate. What I want to do is highlight a couple of things that we're doing within the United States Government that are showing the idea of open government and democratizing data, how they're actually producing results.

One of the big things that we're focused on is to simplify access to government services. And what underpins that is the digital infrastructure that powers your modern economy. One of the big problems we have is the ability to access some of these services in a way that allows people to, on a real-time basis, see how their government's performing, be able to participate, and actually move towards a participatory

democracy.

There are unprecedented opportunities as a result of some of the work that we're doing in terms of citizen participation, transparency and open government, how we democratize data. Two big phenomena that we're looking at is, one, is on the cloud computing side, which is how do we take the $76+ billion that the United States Government spends today on information technology -- a majority of that money is actually spent on integration services -- how can we take advantage of some of the innovations that have happened in the consumer market, where there's Darwinian pressure to innovate and where we've seen massive gains in productivity that haven't been, unfortunately, matched within the federal government?

Secondly, how do we look at agencies that have actually done a great job, such as the U.S. Patent and Trademark Office, to fundamentally change the way that agency operates?

What I want to talk about is from a

participation perspective. The President talked about laying a new foundation, a foundation that's built on transparency and open government. One of the key things we did is as we looked at the problem of optimizing and rationalizing the $76 billion that the U.S. Government spends, we asked a very simple question, which is: How can we engage the American people to help us shape the way we spend that money and recognize the fact that the federal government does not have a monopoly on the best ideas out there?

So, what we decided to do is fundamentally change the way we're actually managing by engaging the American people. The old model was a very opaque, closed, exclusive model of managing $76 billion. It was very static and there was faceless accountability. In 1994, there was a report issued by then Senator Cohen that talked about billions of dollars that are being wasted on information technology projects. Last year, there's a report that talked about $30 billion of IT investments that are in trouble.

Yet the reporting that was there was a Management Watch List, which is a static list that Congress, the GAO, and the administration issued.

The President talked about a culture where we move away from secrecy, where we can change the default position of the federal government from secret to open and transparent. So, what we did is we built a dashboard that would lift the veil on IT expenditures. As soon as we launched this public-facing dashboard, which exposed every layer of spending, from who was responsible for the project with actually the picture of the CIO on that project, so you could actually see who is running this project, which contractors are working on it, where we are in terms of milestones on that project. And we saw very quickly that we got over 43 million hits. There's this hunger for this information out there in the public domain.

But not only that, we actually made sure that we created this platform so we could engage the American people in giving us ideas on how we

could move the needle and find the innovative path as we invested in these IT projects. And what we saw quickly was a whole new model of looking at IT projects to the point where also the Veterans Administration recently announced that its temporarily halting 45 IT projects. One of the worst offenders out of those projects was a project that 110 percent over budget and over 17 months behind schedule.

And you can see as we move forward the CIOs that were not really looking at these projects historically and analyzing them, we set a deadline, and we announced it publicly that within 30 days they had to evaluate every single project. And as you can see from that chart we've hit that mark. And the public was calling, the Congress was calling, the GAO was calling and asking each of the CIOs where they were, and the Office of Management and Budget.

What that led to is better governance in terms of what we're doing. But this is one model and it's going to take a lot of hard work to move

in that direction.

We also made sure that we democratized the data, so people could actually slice and dice and give us different views of risk across the board. We allowed people to actually take any of the projects they're interested in, if you're interested in public health or education or energy, you could embed those projects on Facebook or Twitter or on your own personal blogs. So we essentially created communities as a function of releasing that data and allowing the public to participate. Every day now, CIOs are getting new ways of thinking about these problems, and it's not limited to just the federal workforce. And we're looking at new and innovative ways of approaching this problem.

Another area, thinking more broadly, is around democratizing data across the board. We embarked on an initiative called Data.gov that would release as much of the public data as possible, recognizing that there is information that's classified or sensitive in nature. As of

now, we've got over 100,000 data feeds from every aspect of government operations, from how the FAA is looking at flights, the average times/delays across the country, to toxic release data from the EPA, to data from our health care system, Medicare and Medicaid. And what we're finding very quickly is that innovation is happening in the market as a result of democratizing this data.

Within 24 hours of launching this, the Sunlight Foundation actually launched a competition called Apps for America and issued over $20,000 to anyone that would develop applications based on Data.gov. What we saw immediately were a number of applications that were created. An example is FlyOnTime.us, where an enterprising developer essentially took the data that the FAA had put out and created an application that would allow you and I to map out from one city to another the average delay times of flights so we could make a better decision where we want to book.

But not only that, but we issued a

challenge to CIOs across the country for every state and local government to create a Data.gov, so that for the first time you'll be able to now see what's happening across our transportation grid or, for that matter, broadband. So you could actually think about comparing, whether it's cell phone plans or thinking about where you have broadband deployment and where you don't and what's the delta there, to applications that are being developed where the intersection of multiple data feeds allows us to see spikes or disparities in terms of what's happening as far as health outcomes or if we're looking at how we can address some of the toughest problems that this country faces today.

When it comes to broadband deployment, though, what we're seeing in the federal government is there are some agencies that have led. Some because they were looking at broadband and teleworking as a mechanism to drive productivity and essentially make sure that they were attracting the best people, and others that

were reacting to adverse circumstances. So the Patent and Trademark Office is a perfect example, where you have a federal agency that's got a program in place where close to 50 percent of employees are actually teleworking. And the PTO, U.S. PTO, will tell you that they're already seeing over $2 million in cost savings and 14,000 tons of carbon emissions that have been saved.

The other example I'd like to highlight is the GAO. After September 11th, the GAO had to vacate its building because of the anthrax attack at the Senate Hart Building. And as a function of that, they had to come up with a solution in terms of how do you continue the operations of the United States Government in that environment? And the employees there actually turned to teleworking. And what's really important as we think about this and the mission of the United States Government across the board, from the Forest Service to NASA to Department of Defense, we're also government consumers of the technology that's deployed out there in the consumer space.

And it's very important or us to be able to leverage that in times of great need. As a matter of fact, there's a policy as we think about the very nature of work in the 21st century.

What I'd like to close with is just talk about the huge opportunity and the importance of the great work that you're doing here today. As we think of health care and education, and we think about fundamentally changing and introducing disruptive technologies across the board, we have an imperative to make sure that communities that are not able to access broadband or are not able to access the global economy and the digital world are disenfranchised. And what we need to do is redouble our efforts to make sure that we have an infrastructure across the country that will allow us to take this nation to the 21st century.

Thank you very much for giving me the opportunity to speak and I look forward to the discussion.

(Applause)

MR. HUANG: Thank you, Vivek. We now

hear from Graham Richard, who is the former mayor of Fort Wayne, Indiana.

MR. RICHARD: Thank you very much for the opportunity to be with you today and to share a story about a community in the Midwest that perhaps might be both metaphorically and perhaps physically as we look at it a city that has 250,000 people. And when I became mayor in 2000, we were facing a recession. Not "the" recession, but "a" recession. And the great history of our community is one of innovation.

When I look back, in 1980, there were 13,000 GE workers, there were 10,000 International Harvester workers, 105 percent average annual wage for the citizens of our city, high-paid, low-skill jobs. And by 2000, we were at 83 percent. President Obama was just in our neck of the woods in Wakarusa, Indiana, where there's 20 percent unemployment.

So the issues about broadband helping retain and gain jobs and becoming part of an economic development strategy is what I want to

talk about.

So in our case, we decided early on that if this young man was going to grow up to enjoy over 100 miles of trails and greenways and lots of wonderful assets in our community, we had to start thinking about how he as a young person would be able to compete in the world that we all know now to be much more competitive. So we set three goals: We wanted to be a city that retained and gained quality jobs; we wanted to be the safest city of our size in the country; we wanted to build excellent government services using technology and teams.

John Chambers says it this way, "The jobs are going to where the best-educated workforce is with the most competitive infrastructure and the environment for creativity and supportive government." I might change that word to "collaborative" government.

And so when you look at the classic infrastructures that Vivek was talking about, if a city does not have a broadband plan as part of the

plans to invest in those things that'll make a difference in the lives of their community, they will lose. And so what we did is to say how could we have smart, fast, agile, green city government to support the things that we knew our citizens would need? So, in addition to using lean 6 sigma and business management teams from companies like GE and Raytheon and ITT and others, we were able to figure ways to reduce the pothole filling time from 4 days to less than 4 hours. We were able to take the head count. We have 2,000 city employees part time, 9 different labor unions, 7 of which now have performance-based pay. And we said how can we engage the hearts and minds of city employees to be able to help us keep our head count flat and improve services?

Technology is a key part of that. The leadership, however, to work with our employees became a critical part of empowering them to be able to solve problems. You can see some data there about the change in population, principally by annexation. We are a large county of -- our

city's 109 square miles in a large county.

These are the examples of savings. Technology was always a part of every project. What can we do to make services more effectively available at a lower price? If the Department of Defense had a similar kind of savings, it would be $50 billion.

You take things that are common, like looking at safety. Fifty percent of most city budgets or more, sometimes as much as 70, go to public safety. And yet we weren't safe with our own employees.

Here's a chunked down example -- technology. Because of the expansion for 850 miles to 1,200 miles of roads, we needed more equipment. The Street Department said -- and by the way, this is a very high-performing department; one of the number one public works department in the country in 2007 -- they said we need more street sweepers. My observation was that maybe we weren't using the street sweepers as efficiently as we could, so we have a little

company in Fort Wayne called Zoom. And what we did is we used real-time wireless monitoring of when the street sweeper was actually sweeping versus the time it was going to the location where it was going to sweep. And you can see that we actually had very inefficient use of that vehicle. That is just one example of many where technology helped us improve our public service.

Libraries. We have 90 languages spoken in the Fort Wayne community schools. We have more Burmese residents in Fort Wayne than any other city in the country. These are individuals frequently who do not speak English. Serious problems, many of them having health challenges as they come to our country. So the library is the place where people go.

We have now connected all libraries with a (off mike) system. We have wireless WiFi free and available. We have library sites and our 14 different locations. People are now lining up, scheduled to use those sites because that's how you get online to file your unemployment

compensation, your workers' comps, your Medicaid, your Medicare. That's the public outpost.

Schools. What if we could get every school student in our community to have access to the very best on the Internet and the web? You'll hear from Beth about collaboration and about Wiki government. One of the things we did here was to say let's connect. And we did this with an RFP through a private not-for-profit entity with Indiana- Purdue, where we have 11,000 students serving as the hub. So connecting all of our libraries with a gigabit system in every school with a gigabit system.

Now, what does this mean? This fall we will be offering for the first time in our community Mandarin Chinese education, language instruction for any high school student that wants it, Japanese, and Arabic. That will be offered from the campus to students three days on an online learning program with high video connection interactivity, two days in a high touch at the university.

I do -- as mayor did virtual town hall meetings. Ivan Seidenberg came to Fort Wayne to visit the hub of the Midwest area when GTE was purchased by Verizon. We said we don't want to be last to get fiber to the home. I'm a beg, borrow, buy, build kind of guy, and a strategy of having fiber optics access, a competitor to Comcast, was a strategy that was a win for everybody. So we were able to convince Verizon to build out FiOS. It was the first in the Midwest -- it happens to be the only Midwest build -- passing 132; 132,000 homes and businesses, $150 million investment, and we promised to improve the cycle time for permitting, make sure that we worked to get all the utilities located quickly, and to create an innovators forum. We formed a seed capital fund to invest in companies that would develop new broadband applications and we created innovation teams for broadband.

Again, the goal here, working through our Innovation Center, a 40,000 square foot technology incubator adjacent to the IUPO (off

mike) campus, I'll just use a couple. There are more than 40 different iTeams. I'm going to talk about health care.

Wouldn't it be great if every person in our community who went to a neighborhood health care clinic had an electronic medical record and could get access to health care in an emergency room? That's what we have today: Over 90,000 electronic medical records. This is a not-for-profit, no federal funds, no government funds, large -- one of the largest in the country -- health care clinics, dental and medical. With the electronic medical records and the ability to diagnose potential retinitis for Type 2 diabetic patients remotely, we've had eyesight saves where people would have lost their eyesight if they hadn't have been able to take that digital retinal examination, send it to a retinal surgeon, and have that be read quickly and accurately.

Hearing impaired, simple, very important. Individuals who cannot hear are finding that by using a digital bridge through an

interpreter in Indianapolis who's calling a computer repair call center in Salt Lake City, that individual using signing can now be able to get resources and communicate in ways that make them more productive.

Senior Connect, Digital Literacy. You've got the broadband, you've got the combination of high-speed wireless and fiber optics. Why aren't people using it? In many cases, they don't have a computer. They don't understand the power of broadband. This is a case where seniors in high school get refurbished computers from our vocational technical school that were given by local businesses. We put them in the homes or in community centers and work with senior citizens to get them connected to the web, begin accessing their own digital medical records, begin communicating with their grandchildren.

In the two years before I became mayor we had a terrible tire fire, 2,000 people evacuated in the heart of a census track that has the highest percentage of low-income single moms.

And so we said as part of the revitalization let's think about building new urbanism, suburban homes with porches, but in an urban style, and let's connect them with fiber optics. Let's put at least CAT5 fiber all through those new homes. And let's take a 95-year-old home and retrofit that home to make it a smart green home, so the single mom in that home can remotely see her latchkey kid communicate with good visual communication when the son comes home and through wireless Internet-connected remote handling of the appliances and the HVAC save energy costs. And at night, she can take a course from Indiana-Purdue or from Ivy Tech without having to have child care and without the cost of transportation.

We did an analysis. A low-income family in our community, the household energy cost and the transportation energy cost are two of the fastest growing costs over the last three decades. If you can reduce that cost, that person can invest it in education, a down payment on a new home, health care, and other facilities.

Crime. Mayors really spend a lot of time on crime and local public safety hometown security. Why? Because we're the closest to that problem. You call 911 and our folks locally need to respond. So the lowest crime rate in 28 years came because strategically one of the things we did was to say how can you use broadband to deploy your public safety personnel? You've got expensive people and equipment and how can you get them to do patrolling and local police work rather than paperwork?

And so early on, we called a summit. We pulled together all of the public safety partners from the state and the federal level, and we began to figure out ways to communicate data more effectively, including a COMSTAT Daily Tracking, automated fingerprint identification. Remotely from a police car we can take a fingerprint and search a million fingerprints to quickly identify an individual and what the problem or challenge might be with that individual.

DOD. We have a partnership with the

Department of Defense. That little orange robot, think of Columbine or think of a terrible fire where your public safety personnel are in jeopardy. While we were doing a training for this demonstration site we actually had a live-action hostage- taking in a house of a suspected drug lord. We took that little orange guy, we were able to blast open a door, put him into the house, thought the guy was holed up in a closet, found out he'd climbed up into the attic. With a periscope -- remember, no human being has entered the house at this point; it's all done wireless remote -- we were able to apprehend the individual by finding that he was crouched against the wall of the chimney in the attic without a hostage.

"None of us is as smart of all of us." What broadband does is it allows us to build new collaborative networks of innovation and problem-solving. Eugene, I have three ideas that I'd like to present very quickly.

One, I think as it relates to the broadband plan, if we could see a collaborative

effort at the federal level with all the other national plans that are taking place. We've got plans that are coming from HUD, Intelligent Transportation. We've got a Homeland Security plan, we've got health care plans. We all know the President's energy plan. I see broadband and this plan being the infrastructure innovation platform to support all of those.

Second point. In terms of the only web portal that you hear at the FCC, let's make that dynamic, let's make that collaborative, let's make that a place where literally millions of people can come and share their ideas about this plan. And we can suck up the great information that will be coming from the innovative proposals in the first round of the broadband stimulus money.

Last point, and this one is how do you take the innovation success stories of places like the National Institutes of Health or the National Science Foundation, NIST, and others? How can we create maybe 100 cities, a network, a competitive process, where you'd say Greencastle, Indiana, New

York City, you've got high-speed broadband, let's now create an incentive for bringing innovative broadband applications right down to helping people get better health care, improve public safety, improve the energy costs in their homes, figure out ways to get higher levels of educational attainment? And maybe that innovation then can spread and we can again be the leader in the world in terms of innovation using high-speed broadband and we can learn from what these 100 smart cities, innovative cities are doing.

Thank you very much for an opportunity to be with you.

(Applause)

MR. HUANG: Great. Thank you, Mr. Mayor. And our final presentation for this first panel is from Beth Noveck, federal deputy chief technology officer for Open Government. Beth, the floor is yours.

MS. NOVECK: Thank you very much. And I want to thank Chairman Genachowski and Blair Levin and Eugene Huang and the entire broadband team for

having me here today, and very much to my co-panelists with whom it's an honor really to be on the platform. I have to do clean-up, if you will, so I will try to cover some other examples, but I think very much make many of the similar points, points that have been -- thank you -- echoed by the President, which is that broadband is helping us to create the platform. It's helping us to (off mike) that allows us to fulfill our commitment to tap the intelligence and expertise of the American people. So to look outside of Washington, as he talks about, to find new ways of tapping the intelligence and expertise and the experience of ordinary Americans to solve the problems of our time.

More Americans today own cell phones than they own dishwashers. And so the question is what is this growth of technology, the Internet, and the adoption of the devices that allow us to connect to this new broadband superhighway that the FCC is working now to put in place through this plan? What does it mean for our political

institutions? What does it mean for the future of government? And what does it mean for the future of our democracy? So I'm really delighted that today, as the kickoff of the workshops that will take place, really all of these workshops which themselves reflect a commitment to openness and to participation, that the first workshop should be about open government and eGovernment and eDemocracy. And it's not surprising that this echoes and then parallels in some way the fact that the very first Executive Memorandum that President Obama signed was his memorandum about transparency and open government. That signaled the commitment that this administration has to being more participatory, to being more open, and to creating the policy that enables through very much the use of broadband and through other policy mechanisms, through our open government policy, that enables us to create the most participatory, collaborative, and transparent democracy of our time.

It's not surprising that this comes in

an era in which we have the technologies that allow us to do this, to work together in teams, in groups, and in communities, whether it's to build software platforms like the Mozilla browser or to engage now in crowd sourcing information about the flu or H1N1, to participate in Wikipedia, or we have folks, for examples, participating from Second Life in this workshop today. And the goal here, and this has been echoed both by Graham and by Vivek, that the goal here is, as the President has said, to work together to solve problems. Because the problems we face are many. The problems we face are great. And we can solve them better when working together than we can alone.

And this is really the guiding philosophy behind the White House Open Government Initiative and the administration's commitment to this set of issues, which is to think about how we bring innovation through broadband technology, through the use of technology to the way that government works, both to provide better services, to create the data transparency that we've heard

about, to create better -- but also to create more open ways of working and more open policy-making. So we've put up something that we've called the Innovations Gallery on the White House website to showcase some of the many platforms, and we're looking for more examples and we'll be looking also to the National Purposes Team. And this plan is to help us to identify more examples of the excellent use of broadband in government already to try to open up the way that government works and really showcase the way that we're doing everything from -- and just at the beginning, from the projects that Vivek is spearheading at making data more open to work at making procurement more open, for example, out of the DOD and their Defense Solutions project.

The way that many government agencies now -- and I have to say we've gone from one at the beginning of this administration to now half a dozen that are now using new technologies as a way to consult their employees through electronic suggestion boxes, through expert networks.

They're helping to connect people on the ground in the institutions to think about how do we improve the way that they work; to make them, as Graham has done in Indiana, more green, more open, more innovative by asking and tapping the intelligence of the people who work in government institutions, but very much also with the public that interacts with and works with government.

This is why we created an open government policy- making process. As we thought about what are the ways in which we can begin to lower and erase any impediments, any policy impediments that may exist to the adoption of broadband technologies in government and by government to engage the American people, we turned to the American people to ask as best how to do this. So instead of as is often the traditional process to draft a policy and then to go out for comment, potentially when those comments come too late we actually, very much like this broadband process, turn the policy-making process inside out and went to the American people

first for their ideas and to government employees about how to do this. We launched a three-phase process that involved both brainstorming, then discussion of the difficult ideas and challenges that we might be facing. And then finally turned to people just in the last few weeks to use an online Wiki, a collaborative drafting tool, to actually create the language that we might use in crafting open government policy that would allow us to use Wikis and blogs and other such tools in government to move towards greater openness of data and the workings of government, and to create more participatory innovations.

It's why the Regulations.gov team, the portal run by the EPA that enables participation in rulemaking with 180 government agencies, launched a project to reinvigorate and re-imagine what regulations participation might look like, what it might mean for an American to participate in crafting the 4- to 8,000 rules that government makes every year. We are working now with agencies on pilot programs to bring broadband

technologies into the agencies to make these innovations possible and reinvigorate the democratic right of participation.

I mentioned the idea of broadband-based suggestion boxes, like TSA's Idea Factory, which engages 50,000 government employees in thinking about innovations. You've mentioned the United States Patent and Trademark Office. So I'd be remiss in not talking about the U.S. PTO's Peer-to- Patent Project, which, again, uses broadband-based technologies to connect volunteer scientists and technologists to help the institution of the Patent Office make better and smarter decisions informed by the expertise of people from outside the institution.

We're thinking about what are the ways in which we can actually connect people using new tools not only to consume services from government, but also to provide their expertise and their thinking? Again, to tap the intelligence and expertise of the American people to ensure that we're making the best possible

decisions, whether it's about broadband policy or patent policy. And so that's where we've started to do things like adopt the use of new blogs. The Office of Science and Technology Policy in the White House created a blog to help the public participate in crafting recommendations on scientific integrity pursuant to a request from the President back in March that we needed to come up with new ways of thinking about how we actually tap not just general public expertise, but scientific expertise to inform the way we make decisions.

We're just at the beginning of thinking about what is the potential for using broadband tools to improve the way that government makes decisions and to create a more participatory and open democracy. How might we use things like web-based games, like the kinds of virtual worlds that we are seeing involved in this presentation today to deepen the ties between the U.S. and Muslim communities around the world and fulfill the President's commitment that he made in his

speech in Cairo?

Another major commitment that the President has made is around STEM education -- science, technology, engineering, and math -- and investing 3 percent of GDP in science R&D. The question is how can some of the new techniques that are being explored by the National Purposes Team and the broadband plan help us to actually tackle some of the major issues that we are confronting? Again, how do we solve the major problems that we face today using the new tools that are available?

What I wanted to close with is just a couple of examples not only of how we might use broadband technology to foster participation in government, but how we might use broadband and our investment in broadband to foster civic engagement outside of government, enabling people to solve problems in their own communities. Whether it's blogging about problems in local communities -- I chose -- this is more New York than Indiana, as you can tell by the flavor. Whether it's

gathering data to -- whether to analyze datasets that are coming off of Data.gov or supplying datasets in local and state context, whether it's making commitments to one another as in this case. If you participate in cleaning up the park, I will donate $100 to help buy the garbage bags.

Whether it's actually helping to crowd source to get networks of people involved in identifying problems, like potholes in their communities so that they can be fixed and identified.

Whether it is using -- again this is technologies -- online technologies to enable people to solve problems, as in this case in Connecticut. This is an older project, but still always my favorite example because it involves senior citizens and young people involved in cleaning up derelict building sites in municipalities in Connecticut. And what was so wonderful about this project was the collaboration the government undertook with citizens to help solve the problem of cleaning up derelict land use

sites, thereby bringing down crime, bringing down drug use, bringing down other urban blight problems that were taking place. All because these networks, the government, and the citizens were connected together on broadband-based networks using new visual technologies to help work on doing cleanup and solving problems together.

Just this year, much more recently, applying very similar ideas in San Francisco, the Carrotmob Project connected the citizenry in local communities in San Francisco to pool and collaborate on applying their buying power. Not to engage in a boycott, not the stick, but the carrot, to direct their purchasing power to the businesses that were the most green. And were committing that with the extra money they would receive from the extra purchases the consumers were making, they would reinvest in retrofitting and other environmental improvements.

So let me close by saying that the promise that broadband offers us, I think, both to

create better government institutions, to create better civic engagement in communities, is one that I think we see here, taking up Graham's challenge. Being reflected nowhere more strongly than in Chairman Genachowski's and the FCC's commitment to create a Federal Communications Commission that itself leverages broadband technologies to create a more open and participatory institution than has ever been the case before.

So from setting up Broadband.gov and creating this dozen participatory workshops to now launching -- and I want to announce that just -- I think I'm the first to mention it really is that we've set up -- I have to put the URL up here. It's actually FCC-opengov.broadband.com, an online forum, Graham. Your wish is my command. We have set up an online forum to allow people to suggest their examples and stories to inform the National Purposes Team and the crafting of the National Broadband Team to tell us, please, how are you using broadband technology to promote civic

engagement and open government.

If you want to jump ahead to telework and telemedicine and the other themes, education, that will be reflected in the workshops today, or the many examples that you brought to us from Indiana, this is the place that we want to hear about them. Because we can only talk about a few examples in these workshops. We want to invite you, however, to please participate, FCC.opengov -- excuse me, FCC-opengov.ideascale.com. We'll get that URL out there, hopefully, online, and online not only in real space, in -- via WebX in cyberspace, but to the virtual world where this event is being live-streamed today, allowing, again, more people to participate than could otherwise be here. Thank you to the people for whom it's 6 o'clock in the morning in California, who are joining us via Second Life and via WebX, and demonstrating really in practice the potential for the use of broadband to create truly open and participatory government.

Thank you.

(Applause)

MR. HUANG: Great. Thank you, Beth. And I'm sure that we'll have on the Broadband.gov website a link to the --

MS. NOVECK: Brainstorming URL.

MR. HUANG: -- brainstorming URL so that everybody can find it.

We're next going to turn to Q&A from our FCC panel. And I'm going to ask Steve Van Roekel to ask the first question.

MR. VAN ROEKEL: All right, thank you. Thank you very much. My first question is actually for Mayor Richard.

You gave some great advice to the Broadband Task Force, your three points on things to prioritize. I would love your -- the same top three advice for mayors that are in the country that maybe don't have broadband in their rural towns or things. What are the top three things they should do right away?

MR. RICHARD: Convene, connect, collaborate. Pull together people in your

community. And every community -- there are 40 small Indiana towns that have fiber to the home, most of them through funding from the RUS. There are ways that you can do this, and only two of those are municipal utility bills.

So the advice I would have is go to the people in your community that are already using high-speed broadband. There are manufacturing plants, there are hospitals, there are colleges, universities in every single Indiana town. And by the way, many of these communities have fewer than 10,000 people as residents. So it's really a function of local leadership. Convene people, connect them, figure out a plan, put out an RFI, put out an RFP, who's out there that would like to work with us, and move ahead. Get wired, get -- I don't care whether it's WiMax, whether it's LTE, whether it's 4G, whether it's fiber to the home, just get broadband, and then work to serve the underserved with programs that will connect people who need to be connected.

MR. VAN ROEKEL: Thank you.

MR. HUANG: Mary Beth?

MS. RICHARDS: So I'm reminded of the build it and they will come movie. We've got all of these great ideas. How do we get people in government to learn about them and use them? And what are the best practices for sharing best practices?

MR. KUNDRA: So I think part of broadband, the argument or the way to advance the broadband agenda has to be at a higher level. And what I mean by that is you've got to be able to lead by the value it's going to create, such as how is it going to fundamentally change the way medicine is practiced in the United States? How is it going to fundamentally change education? How is it going to fundamentally change the way government operates?

And I think it's less about the technology or the deployment of the technology itself, but making a very, very powerful case in terms of value it's going to add to the public sector, but, more importantly, to the American

people.

So if we look at the U.S. PTO example or even the GAO example, it wasn't driven just because of the broadband technology underneath it, but it was driven because there's a demand. There's leadership in terms of adopting new technologies and making sure that they were changing the way those institutions were running.

In the same way, I think what we need to do better across the federal government is to make sure that we look at ourselves and our self image of this $76 billion consumer and think about how we can leverage some of these technologies and ensure that we are scaling these ideas or scaling the good work that's already happened at GAO and U.S. PTO across the U.S. Government.

MS. NOVECK: Let me say briefly in response, first, I think the best example of how one engages in best practice sharing is through leadership, and the best example of that is Vivek. He himself and the work that he's been doing, if you'll indulge me this, has been, I think, an

inspiration and a model for many, many people. As he talked about how state and localities, he's now put out a challenge to folks to copy the Data.gov model, and we're seeing that happening in states. We're also seeing states who are copying the Open Government model and adopting their own version of President Obama's memorandum, adopting their own version of open policy-making processes. I have a mayor that I'm talking to on Monday who says I want to do open policy- making in the same way. So I think that leadership and the bully pulpit is extraordinarily important in sending a message around best practice sharing.

But I think project examples that are drive towards outcomes that have real success as to your point I think are extraordinarily important. It's one reason we created this Innovations Gallery and that we are inviting others to please use the new technologies themselves to engage in best practice sharing. And that means that when we talk about how we push out data and example and models, we're trying to

do that in ways that allow other people to share those examples and models in their own communities, not making everybody only come to us through an Innovations Gallery, but allowing datasets, for example, to be downloadable by others and creating widgets so that they can actually take them into their own communities and do with them for their own purposes. But this allows us, again, as a way to think about how we engage in best practice sharing.

And finally, it's also through platforms and new technologies. We are working hard to make it easier for agencies on the federal level to acquire the use of new tools by lowering policy impediments, but also by making sure that those tools are available. So when the General Services Administration, for example, negotiates model contracts with two dozen technology providers so that agencies can readily copy them and adopt those tools, when we move towards a cloud-based computing infrastructure that allows people to share tools as well as to share code, that makes

it easier for people who want to to create a blog, to create a Wiki, to use different techniques that allow them to engage not only in open policy-making and open government, but then in some of the best practices around other forms of use of broadband technology.

MR. HUANG: Thank you, Beth. We actually have a follow-up question to that from our online audience. Many of the examples that you cited are very impressive. How can citizens find these projects and opportunities? And the specific question is, for example, is there a website that collects or lists these examples?

MR. RICHARD: May I jump in on that?

MR. HUANG: Sure, certainly.

MR. RICHARD: Because I think that's something as a mayor I felt very frustrated about. In the silos of federal research you can find wonderful examples, but there isn't something that is -- and I would hope this plan would engage in creating that -- a sort of national clearinghouse, a place where you can get these best practices.

Let me be specific.

Many of us are really anxious to see video-based 911. You're at the scene of an accident, somebody holds up their cell phone camera, they take a picture, and then they call using old-fashioned, hi, I'm calling 911 to report a person who appears to have had a heart attack at the corner of such-and-such. And yet they just had a cell phone picture of that, or a fire. Why can't we have a video 911 system and then share that?

So this innovation, 100 cities, where we test, where we say to the world bring your apps, let's get the best services to help serve people in these communities, and then let's make it immediately and widely shared. And let's have, as Beth talks about so effectively in her book, let's have the ability to have --

MS. NOVECK: I have a mission.

MR. RICHARD: Let's have -- she can't do that, I could. Let's have expert panels, like the peer review panel in the patent process, and let's

have citizens crowd sourcing to give back feedback to these ideas. Again, no one's as smart as all of us if we can all work together and collaborate, and that's the power of broadband.

So, how do we get these ideas out? I think that's one of the most critical things, Blair, that you and Julius can do as a recommendation to the Congress and the President to come up with a very practical way of quickly getting innovation out there to folks that want to use it, are hungry for it, and will change it and modify it and adapt it and make it their own.

MR. HUANG: Thank you. Kristen?

MS. KANE: I have, first, a quick request of you, Mayor Richard, which is if you wouldn't mind fleshing out for us in a little bit more detail some of the really powerful strategies you've recommended to us, particularly the one about the 100 cities, and give us some more detailed ideas about how we might bring that to life and contemplate it in the context of this plan. That'd be enormously helpful.

MR. RICHARD: Well, thank you. I'll try to put my passion to paper, thank you.

MS. KANE: Thank you very much. And the question I have is somewhat similar to Mary Beth's question and it's really for each of you. And it gets at the challenges of folks in any level of government not only adopting innovative technologies, but then taking the next step to innovate themselves. And beyond the sharing best practices, which is one hurdle, are there other challenges that we need to be cognizant of with regard to basic capacity, digital literacy?

Are there different strategies that each of you in your various roles have used to help people be able to take advantage of all the opportunity?

MS. NOVECK: So I think you raise a very important point about the fact that with regard -- I'll speak to the open government and the democracy and civic engagement theme that we're focused on today, but it really has to be a two-way street both in terms of what government can do

to create and proliferate more opportunities for citizen engagement and for citizen participation, but also for citizens and organizations to step up to the plate to take advantage of those opportunities. And in particular I have to say organizations and groups that have through the I would say fault of government have become used to a model, of kind of that closed model, that lack of accountability model that Vivek talked about, have become used to wielding a certain set of tools and a more limited set of tools for engagement and routing around the closedness of our government institutions. So as we open up and think about more open ways of providing data, providing webcasts of live events, creating online policy forums, that does mean that there needs to be a degree of civic education and civic literacy and change of strategy on the part of institutions who are now being invited to participate, I think, for the first time enabled in new ways by new technology.

So I can tell you, I can report that I

came from a workshop that happened earlier this week called "Strengthening Our Nation's Democracy," that brought together about 100 different institutions representing what they described as the democracy movement and at which they took upon themselves as their commitment at the end of this workshop to say we need to build a toolkit of civic literacy.

We need to think about what are the skills that people need in order to work together in a broadband future. So to the point of none of us is as smart -- working together none of us is as -- oh, now I --

MR. RICHARD: It's (off mike).

MS. NOVECK: It's in the book. I can't remember. Thank you. Is what does that mean both in terms of technical literacy, but what does it mean more generally in terms of ways of collaborating, working together in teams? What does it mean for organizations to say we're going to step up to the plate when the White House is asking about open government policy or asking

about declassification policy? Or right now we're running a forum on our cookies policy, for example. What does it mean now to change the way that we work?

And I'll just give you one example is the Office of Management and Budget is running this forum on how to revise our policy on web analytics and cookies, web cookies that is. And we're getting lots of people commenting on the blog and responding to one another. But there's still the people, the traditional lawyers who are sending in their letters at the 11th hour and we're reposting them online, even though those folks have access to a computer, because we want everybody to see the comments and we want people to be able to comment on each other's comments and refine them. And so we want to make very clear that we do take seriously these new ways of working and that does require some investment in civic engagement, civic literacy. And I think it's an important point to the ways that we think about funding and research is what is the toolkit

for a healthy democracy that we need in terms of civic literacy skills.

MR. KUNDRA: So I think, you know, from my personal experience, when you look at some of the challenges this country faces in the K through 12 system, being at the 3rd grade reading level is vital. And literacy is really, really important as we think about the three windows: The television, the computer, and the cell phone.

But where I would encourage to also have a huge focus when we think about the broadband plan is around the cell networks and the opportunities that can be unleashed through cell phones. We've heard a lot about the penetration of cell phones and the third window in India and in China and in Africa, where now you can go to villages and you fundamentally create a new information market, and how information is distributed. In the same way the story that's been untold in the United States is as you look at schools and as you look at literacy and some of the challenges there, one of the most common

factors we find is a lot of the people actually have cell phones and one of the primary means of communications is actually still through text messaging, and really figuring out how can we tap into that space. How do we look at the cell networks and communications there and figure out in what context do we think about democracy and the cell phone itself and not just broadband and the second window?

MR. RICHARD: Kristen, one of the challenges we found in our community was that families of low income, typically a single mom, might get, but not always, that if her kids weren't online and capable of being able to have the skills of producing a video to communicate, have the skills of being what I would call video literacy, and being able to understand how they could access services, that they would have a difficult time being as successful as their peers. So we set up a program which was a mentoring program online. And we said let's get 100 retired school teachers and others who live in the

suburbs, who might not want to come down to the Urban League storefront computer center or the local branch library in the urban core, but if we could connect that significant learner with that kid of some inspiration and aspiration, but maybe no English being spoken at home, and we could create an online mentoring, a virtual mentoring.

Could that accelerate the pace of educational attainment and literacy for that young person? We got mixed results. We need to work on it more.

I envision, my hope is that maybe this broadband plan of the President, already with roots in community organizing, will think of an AmeriCorps, a Teach for America, that's a group of young people who are trained or encore entrepreneurs, people in my age group who are looking to get back into civic engagement or public service, that will go door to door working with families. Think of this as a technology Tupperware party. Think of this as an opportunity to reach out at the grassroots and show a person

how their life can be better. They can save energy. They can get connected. They can communicate with relatives. They can look at their medical records. They can get remote diagnostics from a health care clinic. That's sort of the grassroots movement that I would love to have be part of that 100 cities where we test out this technology sort of core, AmeriCorps, volunteers that are working in every community.

MS. KANE: Great. Thank you.

MR. KUNDRA: If I can add to that, one of the other things that I would encourage you to consider is the game-changing nature of actually deploying broadband. Because the human-computer interface, for far too long we've thought about it in terms of typing and interacting that way.

You'll be able to shatter barriers when people can communicate with each other across state lines, across the world without actually having to worry about that interface.

And it's going to be powered by what you do here in terms of the work.

MR. HUANG: Okay. I'm going to open up the floor to questions from our audience here in Washington, D.C. If you have a question, please raise your hand. And I ask for you to state your name and organization before asking your question.

MS. CLARY: My name is Jacqueline Clary. I'm with the Minority Media and Telecom Council. I have a follow-up question actually.

For the municipalities that have difficulty connecting their low-income constituents to city initiatives, if these municipalities turn to broadband to get their message across won't they still miss these low-income constituents because the adoption rate is so low? And then also, without universal broadband service and adoption doesn't reliance on broadband for eGovernment simply amplify the voices that already have access to these technologies?

MR. RICHARD: I think when I see a community, I see so many different dimensions of the community. So, for example, a person who is

wheelchair-bound, an individual who's blind or who has hearing impairments -- and we have a very substantial, increasing population that will have hearing impairments -- those individuals may not have the financial constraints of some of the folks that you're talking about. I would envision a day where when you have substantial public services coming to a household. Maybe there's a young person who has a father that's away in prison, the probability of that young person, unfortunately, moving toward that same direction is very high. So how do you intervene when there's already a lot of public money coming in terms of assistance to that family?

It seems to me that just like you embed textbooks and now some schools are paying for computers for students of all income ranges, just as we have school lunch programs, should we be thinking about a national broadband policy that makes available by buying down the cost of the barriers to entry to those families? I think it could be an astounding good investment. We don't

seem to have data on the payback of what you do if you had subsidized access to families that are already receiving thousands of dollars of support by making sure that they also can do the things online that they're standing in line to do or waiting at the library to get a computer.

MS. NOVECK: Absolutely. So to that point, on June 25th, the President announced a 90-day initiative with the United States Customs and Immigration Service that we have had the privilege to be a part of, which is going to use the cell phone platform, going to use the technology that is more ubiquitous in people's hands to deliver updates about the status of immigration applications, visa applications, and the like via cell phone. So to the point, you know, many, many more people are going to have access to information that previously was never available to them before because that information existed, you know, in a closed box. Similarly, a meeting like this that would have only been available or accessible to somebody who could come

to Washington, that's a much higher barrier of participation, by lowering the barrier of making it available through a web connection, through a virtual world connection.

And I think you're absolutely right to bring it into the third window so that we're creating opportunities using cell phones and other less expensive technologies; we begin to lower those barriers. But we are working towards projects like the one the President announced from the Customs Service, from the Immigration Service, that will allow people to get that window into government more readily and more accessibly. And we do need policy to match that and projects to match that that will help us to figure out how we can do more of this to create openness, more openness than we've had before in a rather closed culture that has been, I think, less accessible than it should have been to so many in our population.

MR. LEDERER: Yeah, actually if I could pick up on that. My name's Gerry Lederer. I'm

from Miller & Van Eaton.

We're a law firm here in D.C., but I'm here on behalf of a number of local government organizations. And Mayor, it's great as always to see you.

I think one of the things that we'd like you to ask about or think about is what are the threats to the ongoing sort of communications and interaction and community building that local governments have? It's terrific that a lot of people are seeing this on the web, but for years a lot of people saw meetings just like this on public, educational, and governmental access channels. Now, they didn't have the ability to interact instantaneously the way the folks can e-mail today, but a lot of those are disappearing and they're disappearing because laws are changing. Laws are changing allegedly to enhance the deployment of broadband, which we're not seeing.

So, again, as you're doing your list and your first question to the mayor was what could

other mayors do, well, an awful lot of mayors are doing this on a daily basis.

They're doing it for their needs assessment and their cable franchising. They're doing it with their public, education, and governmental access channels. Please recognize and identify some of those threats as they go away because they are.

MR. HUANG: Okay, thank you. A two-part question from our online audience, from Second Life.

One, what is the most vigorous example of crowd sourcing, reaching out to the public, that's currently going on within the federal government?

And two, a lot of data is being generated. What are the best examples of the public actually interacting with this data?

MR. KUNDRA: So on the -- well, from my perspective, of course, we're seeing a huge impact, I would say, on the IT Dashboard, where it's actually moving the way the federal

government actually spends money. And we're making decisions from a public policy perspective based on real-time feedback that we're getting from the public itself.

And the second part of that question was around data. So on the data side, one of the things we recognize is that we don't really know which data feeds are going to lead to better analysis. So what we're doing is we're trying to release as much data as possible with the exception, of course, of information that may be classified or sensitive in nature. As a result of that, we're finding a lot of innovation happening out there. A lot of people are spotting patterns that we hadn't seen before. I mean, just the FlyOnTime.us, just looking at the airlines, we have people who have come up to us and said, oh, this is fascinating. We never thought this flight was actually always this late, so people are changing their behavior based on that.

But more importantly, I think, what's happening is even at the local level, in the

District of Columbia, for example, based on where you're standing, if you have an iPhone you can pull up an application and you can see what the closest Metro station is near you and when the next train is coming in both directions real time. You could also see on the same app crime near where you're standing. And as you move, the data gets updated. You can also see the closest bars and restaurants. So you can make some really interesting decisions based on real-time information that you have access to. And the idea here is if we can create a national grid around information, that it will influence the way we act in terms of moving us towards making better decisions because we have access to real-time data and the government has made a decision not to keep that data secret, but make it public.

MR. HUANG: Great. We have time for one final question. In the back.

MS. BRADLEY: Thank you. This has been a great panel and I appreciate these questions. My name is Lynne Bradley. I'm with the American

Library Association. And especially, I've heard the Fort Wayne story before. You have some great library people there to work with you.

One of the questions I have is that while we're building out broadband we've talked a lot about literacy, and certainly the library community is one of the major areas, along with other kinds of anchor institutions, to provide such literacy: On information literacy, video literacy, all of this ability to find and use information. Within a National Broadband Plan how would you deal with the human infrastructure that needs to be developed to assure that there is collaboration, to assure that there are these silos that are broken -- that the silos are broken down?

Our research shows that where there has been successful broadband, it's where there has been quality leadership with lots of collaboration. As the mayor said, you know, convene, connect, and, you know, collaborate. But there's this human infrastructure that we still

have some -- until us Baby Boomers die off or something, how would you address those human infrastructures, both the engineers, the leaders, the others who have to do this? And should that be at the local or the national level?

MS. NOVECK: Well, first, let me say that part of the purpose of this is not only to ask questions, but to offer comments. And so I'm going to take this also as a wonderful injunction and comment to go back and think about what I think is a very hard issue for what this means in terms of the way we think about our institutions. And that tends to be the way that I approach this issue is to think about the work that we're doing as being engaged in institutional innovation. So where we can lower the barriers and the way we make decisions to foster collaboration, to encourage collaboration, we change the way that people work together and we create new mechanisms for people to collaborate.

This is -- the example, it's funny, that's popped into my head is very much to left

field, but it was responsive to another question before. It was about a kid that I know named Sam, and Sam lives in Illinois. And Sam and his classmates got together using their flip video cameras, which I see going around the room today, and they decided to collaboratively film an expose on their teacher whom they felt was being unfair to them in some particular manner, in whatever ways in 3rd grade the teacher oppresses you. And so they adopted this -- they did this on their own of recognizing the ways in which they could collaborate to change the institution in which they operated as eight-year-olds. But there's a way in which we as those who run these institutions or who have power in these institutions need to embrace these kinds of collaborative ways of working, to encourage the Sams and his teammates and classmates to work together on making those video projects, to set up the Wikis that enable people to make policy together, to crowd source information about H1N1.

And the institutions that are spurring

those, whether it's the libraries or the next generation media companies, online, offline, or otherwise, or it's government institutions playing catch-up to much of this work that's being done, I think all we can do is take your question really as an injunction to say we do need to do more of this.

As we talk about and think about innovation and what our innovation policy looks like, first on our list is always about human capital and investing in people not only through traditional thinking about investing in grants and in a research perspective, but thinking about how do we train people for 21st century jobs. And that means not just technical skills, but collaboration skills of the kind that you're talking about. New ways of working and, therefore, new institutions that know how to respond to them.

MR. KUNDRA: And if I can add to that, you know, I think one of the biggest problems we see right now is the fact that so much of what we

do online actually requires training. And I think where you're going to see the greatest innovation in the coming decade is going to be around the human-computer interface.

And think about this. I know there are people on Second Life right now, but imagine a universe where you had the Star Trek holodeck, where you could literally ask the computer to act or ask questions and get answers. In the same way, if you look at some of these software companies, they've made it so complicated to interact with their technologies and, at the same time, the underlying architecture and the platforms.

It's almost a chicken-and-egg question because a lot of it was built and architected around bandwidth constraints. Therefore, you had to deploy technologies that were much more complicated in terms of interacting and communicating. Now, as broadband deployment and, more importantly, if you look at the megabits per second, how much information can we get through

the pipeline is going to be so important. And as newer and newer software technologies are being introduced, you're going to see a huge change from how applications are architected with skip logic to video and much more human ways of interacting with these applications rather than binary or COBOL ways of interacting with those applications.

MR. HUANG: Great. Well, thank you. Please join me in thanking Beth, Graham, and Vivek.

(Applause)

MR. HUANG: Okay. Well, thank you. I'd like to welcome you back to our second panel, which is a panel on civic engagement. We have five distinguished speakers here: Norm Ornstein from the American Enterprise Institute for Public Policy Research; Andrew Rasiej from the Personal Democracy Forum; Ellen Goodman from the Rutgers School of Law; John Wonderlich from the Sunlight Foundation; and Beth White from the Chicago 2016 Organizing Committee.

We'll hear 5-minute presentations from

each of our panelists, followed by 20 minutes of Q&A from our FCC panel.

And at the conclusion, we'll open it up to the public for 15 minutes of Q&A.

So with that, I'll turn the floor over to you, Norm.

MR. ORNSTEIN: Okay. Thanks, Eugene. And let me thank Blair, Julius, and all of you for what you're doing, which I think really does take on the importance of a top national priority.

Just for a second, some of the earlier discussion, everything in this society, from our discourse to our commerce, is going to be done through the vehicle of broadband as we move ahead. And if we move to a society of haves and have-nots in that regard, a deep divide, it simply is not appropriate for a functioning democracy or for a vibrant economy. So moving to universal broadband, I think, is critical at so many levels.

My initial comments, I want to focus on a couple of things. One is the public square. The second is the campaign finance system we have

or can move to.

On the public square, let me just start by giving my definition because I think it's a multiple one. Having a public square means having a viable forum where citizens can learn about a government, about what government is doing, about how government interacts with them. It is a place for citizens to communicate with government, and that includes communicating ideas.

One of the great virtues of the Obama-Coburn reform, which Senator Obama and his colleague Tom Coburn did when he was back in the Senate, of putting all government contracts online is that you can move beyond the small number of experts in Congress and in government who can examine these things and see if there are corrupt elements or problems, to unleash the large number of people out there who may have more time, opportunity, and brain power and innovative capacity to do those things. Putting all earmarks online is another way of doing this. It's also, of course, a way for citizens to air their

grievances in a much better and broader fashion than others that we have and to give their opinions and to enable those in government to learn what citizens are thinking and feeling.

At the same time, having a public square means having a forum for robust debate in a common space with shared facts. And that is a debate about issues, one that we should be having in a more robust fashion with shared facts than we are now on health reform, for example. As it is, the forum for debate in a common space on the campaigns that we have.

It is a real challenge to find a public square in an extended republic. It always has been. It's something we have managed to do effectively in town meetings at the local level. Doing it on a national level is difficult. It's tricky. It's something that was easier when we had three broadcast channels and virtually everybody in the society tuned into them. It becomes much more difficult when you have a cacophonous system with fragmented areas of

communication. And that cacophony and fragmentation in some ways, of course, is extended to almost an infinite level with the Internet, but it also offers us multiple opportunities for finding ways to develop a public square.

What it means is that as we look for those innovative ways of developing a public square, ways in which people can participate, can learn about ideas, can see that debate and have it enrich the process, the process of deliberation that is what our whole democracy, the Framers, built around, cannot work unless everybody has access to what is going to be the vehicle for the public square. And that vehicle is going to occur over broadband.

If you do not have access -- as we look ahead, it's certainly the case that candidates will advertise on television; that even as its share of audience diminishes, broadcast television remains the broadcast, it remains the place where you have the greatest opportunity to reach the largest number of people. But over time, more and

more of the communication is going to occur over the other means, including especially via the Internet. And if citizens don't have that access, that means they're shut out of the most essential elements of the public square and of that public debate.

Now, just a few words on the second area. I've been engaged in the campaign finance system and campaign finance reform for a long time. There is a real chance this fall with the Citizens United case that the Supreme Court will knock the pins out from under the basic fundamental elements of our campaign funding system and system of discourse that's been existence for at least the last 100 years. There is a significant chance that they'll basically take away all restrictions on corporations from participating in the campaign finance process. And we will be back not just to square one, but to a brave new world, and it's not clear where we're going. In any event, even if the Court doesn't do this, they are chipping away fairly steadily at

the system that exists.

I've been spending a good deal of time with some of my colleagues in the last several months trying to look towards the next generation of campaign finance reform. What can we do that will fit within Supreme Court restrictions -- this Supreme Court, not just a future Supreme Court -- but that can also lead to a better system, one that has much larger citizen participation, that tilts away from large donors? Large donors being a problem not just because they have inordinate impact on political figures, but because, frankly, we've got a shakedown scheme that's been going on for a long time. The arrow goes in both directions.

I and my colleagues have come to the conclusion that the Obama campaign in 2008 offers the ideas and the opening for what we could have in the future. And it is a system that for the first time in decades offers an opportunity to find the fundamental financing coming through the large group of small donors. Doing that in the

past 30 or 40 years was almost impossible because it simply wasn't cost-effective. I've had member of Congress after member of Congress, candidate after candidate tell me I'd love to go back to the $25 a head barbecues, the retail campaigning. You bring in large numbers of people and then they have a stake in the system. If I could break even I would do it, but it costs too much. Now with communicating over the web and contributing over the web that possibility exists and the reality existed in 2008 at one level. Not every candidate is a Barack Obama.

By offering incentives for candidates to raise that kind of money through a robust matching fund system, incentives for citizens to give through tax credits, which some states, like my own Minnesota, have done very effectively, we have a real chance to tilt the system dramatically and to expand dramatically the number of people who give even small amounts. And we know from data and experience that if you give even $5, just as you do with an NCAA Final Four pool, you have a

stake in the system, you pay more attention, you get more involved. That is doable, but it is only doable in a way that will make sense for our democracy if everybody has access to that system. And what Barack Obama did was not just to unleash a large number of small donors, but he created a community. It was a social network. That leveraged the expansion of donors to do something more to expand democracy. If you can't communicate in that fashion with the largest group of people, including especially with those with limited resources, then we're not going to fulfill our goal of having a democracy with a campaign finance system that actually works to the benefit of all and not just the benefit of a few.

So, it is critical, I believe, to work through these elements of the future of our democracy, to move as rapidly and expeditiously as possible to universal broadband.

Thank you.

MR. HUANG: Great. Thank you, Norm. Andrew?

MR. RASIEJ: Thank you. In February of 2007, I started a bipartisan political blog designed to track and analyze the way presidential candidates were using the Internet and maybe more importantly how the Internet was using them. Over the next 21 months we observed how a newly connected citizen re-engaged in political discourse using young, recently developed social networking tools and platforms, like Facebook, MySpace, YouTube, and Flickr. We found hundreds of millions of Americans friending candidates, commenting on blogs, posting and tagging photos, and watching YouTube videos.

Of all the media statistics we tracked, including the millions of newly minted friends on Facebook and MySpace, no statistic was more telling than those associated with YouTube. There were over 150 million views of political videos created by the candidates themselves in their quest for the Oval Office in 2008. Many of them achieved the Holy Grail of the web and went viral being viewed by millions of people, sometimes in a

matter of days or weeks.

However, as great as this explosion of political candidate and media may have been, it was dwarfed by video created by the citizens themselves. In the 2008 election cycle, there were over 1.3 billion views of political videos created by people independent of the candidates and the political parties. Many of you will remember a few of these highly visible videos that not only became sensations on the web, but jumped to exposure on television: The Obama Girl, Yes, We Can, and Dear Mr. Obama, which have achieved legendary status as we look back at the massive voter- generated content. But for every video that got hundreds of thousands or even millions of views, there were thousands more that were only seen by a few thousand or a few hundred people.

This process of forming political opinion by people communicating amongst themselves is easily as old as our country's founding and goes back to the oral traditions of Socrates. In modern times, these conversations that would build

consensus would happen around a water cooler at the office or around a dining table or at the checkout line at a grocery store or maybe even over the back fence. But in 2008, because of broadband's Internet reach, these conversations are now on steroids.

This became very clear to me about a year before the election itself when my 82-year-old father, a self- professed frustrated technophobe, asked me to come over to his house to help him and my mom figure out how to send out more than one e-mail out at a time. So I went over to their house, looking over their shoulder at the Mac that I had bought them a few months before, showing them how to use their address book, and I look down at the e-mail that my dad was trying to send. And the subject line was "Watch This," and in the text of the e-mail was a simple link to a Barack Obama YouTube video, actually the one on race, which many of you remember.

Now, in a previous election cycle my

parents would not have picked up the phone nor would they have sent letters to their friends offering their political opinions or leanings. They also would not have been found at campaign rallies or knocking door-to-door canvassing for voters. However, if they were sitting at a dinner party or at some other common social gathering with friends and if politics came up as a topic, they certainly would have made their opinions and leanings known. But here in pre-Internet, it would have taken my parents months and months to catch up with their friends in this way and in a meaningful way, and only if the subject of politics was brought up. But here they were reaching 50 of their friends in one afternoon that it would have taken them months to have reached the old- fashioned way. Because of broadband my parents have become 21st century political pamphleteers and don't even know it.

That's the good news. The bad news is that large segments of our population can't participate in the connected network public

sphere. In my city, New York City, and similarly elsewhere in the country, the average cost of broadband access at home is close to $700 a year. That leaves large sections of Americans unable to engage in democracy and the democratization of government information necessary to inform their political opinions. Critics of this point of view will claim that the job of delivering information about what government is doing and informing the citizenry should fall to journalists working for newspapers, radio, and television enterprises.

Well, in 1995, the New York Times Metro section was on average 30 pages. It not only covered local government activities and city council hearings and government announcements, but it also covered activities of towns and counties around New York City as well. Today, the Metro section no longer exists and the paper barely provides more than two to four pages of local coverage in its main sections. Moreover, the coverage that used to appear in the paper does not even appear on the New York Times site online.

The effort to keep track of government and its activities is now falling to a new generation of citizen journalists who report to their fellow citizens via blogs and online news sites. But if working class people cannot afford to access these sites, they are again being excluded from the connected 21st century democracy.

Moreover, it's time that we redefine the term "public" itself. It's no longer adequate for any government law that requires that a document or a piece of data be available to the public be so only in a government office in a file cabinet. In our connected world information can only be defined if it's machine-readable, searchable, and accessible online.

We talked a little bit in the previous panel about education. Let me give you a quick example of how much the digital divide has changed and how it relates to our particular subject.

In 1997, if you looked at the information technology that was available in

schools and businesses, they were essentially the same. You had fax machines. You had Xerox machines. You had telephones, and you had basically glorified word processes, PCs on desks that weren't networked. If you got a business card from someone in 1997 that didn't have an e-mail address on it, you wouldn't have been surprised. And in 1997 we called it "surfing the web," because there really weren't that many great websites.

What's happened in 12 years? Oh, one last thing. Jack Welch in 1997 said that the Internet was a fad and wouldn't last more than three years. And if you looked in the New York Times you'd see a full-page ad of some Fortune 500 company and the website address would be in the smallest possible print in the lower right-hand corner of the page.

So what's happened in 12 years? Well, every Fortune 500 company in America, if not the world, has either built or is rushing to build a dynamic 24-hour network where their customers,

suppliers, and employees are connected to each other, regardless of whether they're on a laptop, an iPhone, a BlackBerry, desktop, you name it. If you buy a Sony digital camera case in leather and press "Click to buy," the cow knows it. And if you were to get a business card from someone today that didn't have an e-mail address on it, they either are a true Luddite or they did it on purpose.

Where are we in schools? We spend massive amounts of time talking about wiring schools, but let me give you this small statistic: Schools are only open physically 15 percent of all the time in the year if you add it up. What productive activity in the 21st century could be successful being accessible only 15 percent of the time? Imagine if we were able to connect our students, our teachers, and community leaders to each other and to all the world's information and learning resources on the same 24-hour dynamic networks that our businesses have figured out how to do in 12 years.

And lastly, I'd just like to quickly make a comment about health care. I invested in a small company in Poland that figured out how to read EKGs by connecting two electrodes to people's chests and sending that signal through a small BlackBerry device sitting on a person's belt to their doctor or hospital. I'd like to ask the audience how many of you think that within 10 years it's going to be possible for us to actually monitor people's hearts 24/7 to prevent people from dying of heart attacks or to bring them health care quickly in the event of an emergency? Just a show of hands, within 10 years more than 50 percent likelihood.

So, more than half the room agrees, we have to rush to deliver that future not only for the health care of those people, but for the health care of our country and our democracy.

Thank you.

MR. HUANG: Thank you, Andrew. Ellen Goodman from Rutgers School of Law. Ellen, the floor is yours.

MS. GOODMAN: Forty-two years ago, the Public Broadcasting System was created to innovate with the communications technology that was not realizing its potential for democratic engagement and universal service. The system was structured to be local and community-oriented, to reach and to reach out to underserved communities to provide access to information and communications infrastructure, and to engage publics with information and tools that would matter in their lives. But 20th century broadcast technology could only do so much. Now with 21st century technology public media has the possibility of fulfilling the vision of the Great Society. For this we need broadband to allow all communities to experience the power and productive capacity of stories and information; to proactively engage the public, especially kids, minorities, and the underserved in the conversations of our time; and to support the production of information by amateurs and the public.

Public media and broadband need each

other to fulfill the three basic functions of public service media, and here I have three different Cs than Mayor Richard -- two- thirds are the same, though -- one-third are the same: To create, to curate, and to connect. And I just want to illustrate these functions very selectively to show how technology can invigorate and actualize the public in public media.

When we talk about creating for the broadband future and public media, it's not just about streaming Sesame Street or talking back to Frontline. Public media entities must rethink public service content needs and applications for a digitally networked environment. One of the highest priorities is addressing the loss of journalistic resources as papers close.

NPR is joining with a dozen public TV and radio stations and the NewsHour to pilot a project to strengthen local news reporting and web-first news operations. This and other news efforts create tools at the front and back ends to facilitate production, search, and public reuse

online. They also harness citizen journalism, for example, Eye Witness, which is hosted online by the PBS series Frontline, is a program that combines webcams and Skype to enable citizens and experts on the ground to report on breaking news. So we might see one of Sam's videos on there.

Public media has also always excelled in producing long-form documentaries that safeguard and foster democratic practices. Producers are increasingly linking these works to collective action. An example is "Not in Our Town," which is a documentary that was first broadcast a decade ago about how residents in Billings, Montana, created a community initiative to combat local hate crimes. This model of citizen action inspired more Not in Our Town films over the next 10 years and a nationwide movement. And in 2007, leaders from more than 50 towns and cities gathered to create a national organization and social networking site. So, with this you can see how the original production and outreach became the connective tissue in ensuring -- in the

ensuing action and communication.

An increasingly important role for public media is to curate public audio and video residing across platforms and buried in archives as well as other professional and amateur digital works. The objective is to bring people to information and information to people. It's here especially that the trust reposed in public media entities like NPR, PBS, and their member stations becomes an invaluable asset.

A good example is the Public Radio Exchange. Using an open platform, PRX brings local stations in search of content to new content creators and digitally distributes content through its public radio player on both open platforms, through streaming and podcasting, and closed platforms, like the iPhone app. The content is rated and curated both by the public and by an editorial staff, in both cases helping to surface new talent. PRX currently indexes over 20,000 works, most of which can be clipped, mashed up, and remixed by the public. We need the same kind

of innovation for video, and here it won't be truly public or meaningfully public without broadband.

Public stations are moving from being principally media entities to becoming community hubs that use information, communications infrastructure, and physical plants to foster citizen engagement with each other and within information that makes a difference in their lives. These hubs connect technology to expression to action. Their effect is to grow the public media audience as well as the appetite for broadband and the sense an underserved populations especially that there is something for them and forms of expression that they can contribute in the digital media space.

To really link communications to action requires training a new cadre of media makers. Several nonprofit programs outfit independent, minority, and public media makers with skills in multimedia production, including the National Black Programming Consortium's New Media

Institute, which has activated hundreds of new voices.

The new engagement model of public media is exemplified in St. Louis. The public station there, KETC, responded to the mortgage crisis by networking dozens of independent community organizations to help families save their homes from foreclosure. It connected the community to United Way hotlines and also connected the community to content about managing debt and financial literacy. In six months, the initiative helped over 8,200 families.

So what's next? Public media has big plans, all of which are dependent on and will contribute to robust broadband. If there is a sustained investment and the development of scalable models, public media can catalyze innovation and ensure that people have access to vital information and the tools to communicate effectively with others.

And I just want to mention here because the mayor talked about an AmeriCorps, there is a

proposal out there that is modeled on Teach for America, which is to have a public media corps which would go into communities, maybe 100 -- I think the proposal is for about 15 or 20 -- and would not only go into underserved communities and provide assistance with technological literacy, but would also reach out to the technology gatekeepers and the leaders in these communities -- for example, child care providers, caregivers for the elderly, educators, citizen journalists -- and equip them with not only the technology, but also the audiovisual know-how to connect these communities to the possibilities of broadband and meaningful content.

Fulfilling the promise of public media will require many changes and advances, chief among these is better broadband. Just as the original Public Broadcasting System was premised on universal broadcast service in every town and across every rural expanse, so, too, the new public media system will require universal broadband. And just as broadcast towers without

content and the capacity to engage would have been insufficient, so will a broadband system without the mindful, mission-oriented efforts of public media entities to create, curate, and connect.

Just to take one example, science education could move to a new level with access to HD videoconferencing and immersive interactive databases, for example, databases of molecules or the cosmos that reside at America's leading research universities. So we can imagine students conferencing with NASA experts and collaborating with other classrooms across the country. We can do this now if schools have the necessary bandwidth. Jitter-free, HD videoconferencing requires 100 megabits, megabit-stable connections, and access for multiple classrooms of about 20 students to the science curriculum of NOVA, for example, or Frontline's documentary resources, all of which are multiplying rapidly in terms of serving curricular needs. Requires nearly a gigabit of bandwidth.

Public media applications and content

properly developed and deployed can capitalize on the multibillion-dollar investment we've already made in public media infrastructure and content, and they can leverage the multibillion-dollar investment we're now making in broadband to strengthen democratic engagement and quality of life.

Thank you.

MR. HUANG: Thank you, Ellen. We next turn to John Wonderlich from the Sunlight Foundation.

MR. WONDERLICH: Thank you. My name's John Wonderlich. I am the policy director for the Sunlight Foundation. We are a non-partisan, nonprofit dedicated to using the power of the Internet to catalyze greater government transparency. At the heart of all of our work is a deep appreciation for the transformational power of online technology. Our pairing technology with a vision for government transparency is visible in our organization, which digitizes data and creates tools for presenting information, engages

communities and advocacy for more information, and makes tools and information -- makes sure that tools and information are in the hands of journalists, citizens, government employees, and everyone in between.

Technology's role as the driver of disruptive change has become culturally familiar as our roles as consumers, family members, and businesspeople have evolved over the last few decades. The Internet's role in shaping governance and citizenship, however, is only just starting to develop. As technology redefines how we interact, our government now has an opportunity to help redefine civic life to live up to President Obama's vision for a technologically empowered society by creating a more transparent, connected democracy.

I'd like to point out two primary constraints that will determine just how connected and transparent government can become as we adjust to this new technology. First, digital citizenship will only be available to those

Americans who have access to the tools and infrastructure necessary to be a part of the growing national digital sphere. And as the FCC addresses its mandate to promote access, broadband policy should be driven, in part, by what the Internet access makes possible.

Digital technology creates new forms of agency for all citizens. Online access to government information allows curiosity to become expertise, allows disparities to become investigations, and allows expertise to become guidance and policy. Citizenship can only transform into a more mature and relevant form, fulfilling the potential of a nationally connected citizenry, when the government is willing to make our vital national information truly public, and that means online and in real time.

Most fundamentally, government must commit to modernized disclosure of ethics and influence data. Among government's primary responsibilities is to preserve the public trust on which its built. The Sunlight Foundation has

maintained a particular focus on creating digital access to this information, which includes campaign contributions, earmarks, lobbying records, and personal financial disclosure statements. President Obama clearly shares this priority, promising, for example, in Change We Can Believe In to build a centralized online database of lobbying reports, tax earmarks, congressional ethics records, campaign finance filings, and information on how much federal contractors spend on lobbying.

If fulfilled, this vision for online accountability can deepen the public trust in government and empower citizens and government overseers alike in exposing and deterring public corruption. Ethics.gov, when created, will need to be built on new interoperable databases to allow searches to function across different bodies of ethics information, many of which will only be posted online after a real commitment to public access is able to overcome discomfort at increased scrutiny.

In addition to checking influence and realigning incentives, public attention to government information can empower citizens to become more relevant participants in governance. If essential public notifications are accessed in practice as they are now, often only through expensive commercial publishers, even for government employees, we should expect then that only monied interests will have the information necessary for participation. When agencies and offices broadcast opportunities for public participation beyond traditional means, only then will the distributed expertise of citizens across the country become an asset for governance. Solving this problem will take effort from individual agencies and offices reaching out to citizens and stakeholders where they're available, and also will take unlocking the public information now collected in unapproachable repositories, like the Federal Register or FedBizOpps.

In order to unlock citizens' fuller

digital potential, the government must also recognize an emergent body of technological expertise growing throughout the country. Programmers, web developers and designers, both amateur and professional, are discovering that their skills are now relevant to many of our government's problems and are looking for ways to help. Data.gov helps to establish their relevance as stewards of our national digital sphere by offering the raw data necessary for innovation outside government, which in turn can inspire change within government. The successful Apps for America and Apps for Democracy contest, just to name two, demonstrate the potential of the citizen developer creating dozens of applications at little or no cost to the government.

So, influence data, procedural information, and bulk data access can all help empower citizens to more fully participate in governance. These three particular spheres of public information represent a large part of our government's new opportunity and new

responsibility to serve the needs of a digitally empowered citizenry. Just as successful national broadband policy is necessary to fulfill our shared vision for a transparent and connected democracy, government transparency is necessary to allow digital citizenship to develop to its full potential.

Thanks.

MR. HUANG: Great. Thank you, John. Beth White from the Chicago 2016 Organizing Committee.

MS. WHITE: Andrew actually reminded me of kind of an amusing anecdote along the same lines. But when I started to work at Salt Lake City, I worked on the Winter Games in 2002, and I went to leave one evening and my boss was online and I told him I was leaving, and he said, oh, you caught me doing my guilty pleasure now that I can find things on the Internet. He grew up in a place called Pleasant Hill, Oregon, which is a little town. And he said I can get online and I can read my hometown newspaper and I'm so excited.

And he said I bet you can get online and read your hometown newspaper. And I said I bet I can, it's called the Washington Post. So, I beat him to that one slightly.

One of the things that we are trying to do in Chicago obviously is bring the Games. And to use D.C.-speak, it's an election. And, you know, we've got a message, which is we need people to back the bid. And we're trying to communicate to 108 voters of the IOC. And to do that, looking at what is the best medium to kind of best communicate with them as well as the citizens of Chicago to educate them on what it is -- our bid is about and what we're trying to do in this -- what we believe could be a transformative experience for the city.

The couple things that we're trying to do is we're trying to raise money for the bid. We're trying to show that we're innovative and creative. And we're also trying to reach and engage youth.

It's one of the things, interestingly,

with technology is that the games are turning slowly away from a younger audience. So being able to bring technology back into it re-engages with a younger audience for the Olympics.

But we also didn't want to -- you know, we're not a corporation that has a tremendous amount of money to put into this and a long-term life cycle. We're a bid team. You know, we're an election group. And so, you know, it was where -- how can we do this in the most fiscally responsible way? And so it was -- you know, we need to go where people already are. We can't create those places; we need to go and we need to find them. Obviously our audience is Chicago and people who are, you know, national patriots excited about the Games, torch bearers we call that, people who are excited about the Olympics and as well as youth.

And then secondary to the IOC athletes, volunteers. Interestingly, we've -- volunteers, we've used this to sign up over 20,000 volunteers and they're also now able to get online to check

their hours, to kind of find out other events that are coming up. And as an interesting offshoot to that, I'm also involved with a program we're doing called "50 Wards in 50 Days" leading up to the election, where we're going out to all the wards in Chicago and talking to them about the bid. And one of the number one things they're concerned about is jobs. And so this whole discussion of transparency in government is very important to them as well, and transparency in our bid, because if the Games come to Chicago, it means a lot of opportunities. And how can we be transparent in how those will be doled out in different communities?

And our programs are, you know, through a community benefits agreement. It's one of the things, they're all posted on the website. And we've seen, too, in speaking to those groups how when we say it's available to them there, the anxiety level even goes down that, oh, okay, I can get on and I can read it at my leisure and I can find out about it. So that connectivity is

important to them.

And really we've come at it in a three-prong approach: To engage, to empower, and to activate. I feel bad now I don't have Cs in mine. I'm kind of out of it, but really, engaging, you know, that existing supporter and looking at ongoing social monitoring and listening sites. The biggest key really is that, you know, right now, through that we've been able to kind of target that, you know, 1.2 million supporters who are connected with us and to reach out for them when we need them through a number of different activities.

And then really, you know, empowering them, making them part of the process and helping them build our content.

We have video contests. You know, we talked about -- talked a number of times here about YouTube and we've put together a program called Why Chicago? And people put together their own videos of why they felt Chicago was a great city to host the Olympics. And just enabling them

to be part of the process that is reaching out to the IOC and selling their city and really including them in that.

And then also, too, to activate them. You know, we had a National Olympic Day in May, and I think it was like 1,500 people came the year before. And through Twitter posts, blogs, e-mail, and Facebook postings we rallied 20,000 people to a celebration at North Avenue Beach, which was astounding.

We also have a new application that we're working on called Sport Finder, where somebody can get on -- a volunteer or somebody who's plugged in on the Friends of Facebook and say I want to play beach volleyball at North Avenue Beach Wednesday at 6 o'clock. Who else wants to come?

And so by laying that on to the other activities that are going on, too, we can help them connect, find activities, find each other on these sites and keep them engaged in what it is we're doing.

We actually have another program, too, that we're working on with -- it's called World Sport Chicago. And it is trying to engage youth in programs in the city paired with the Park District and private funding that the bid is bringing. And one of the things we have challenges with is that a lot of these kids are in areas that they can't safety get to these programs. So one of the things we're looking at is this application is in the same way to get people to drive kids to these sites, you know, to get volunteers or even off- duty police officers to be bringing them to and from some of these sites so they can remain engage in activities.

And this is we're not a consumer site, so our numbers aren't as large, but you can see the biggest thing, too, is how much larger we are than our competitors. A few folks were asking, you know, what the status of our bid is. It is we are competing against Rio de Janeiro, Madrid, and Tokyo, and that vote is October 2nd. So, you know, where we can get ahead of them on things, it

certainly makes us happy to do that. But the most important thing is obviously the vote on that day. But, you know, we've got 30 times more activity than you're seeing on some other sites, so we've really tried to have that be a forward part of our bid.

The other one, too, is being able to engage them when we need them. The IOC's Evaluation Commission came in to see the city. Now, because of the new organization, the IOC, all the members don't come to your city. An Evaluation Committee comes and it's about 16 people. They spend three days in meetings and one day of venue tours. So that one day when they're outside of the city, you really want them to see that people are supporting the bid.

And, you know, we went through our Facebook page and asked fans to help us out. It grew 50 percent in that week. And we used all the networking sites to get them to places where the bus was going, so that fans were there with Back the Bid posters and signs. And actually there

were people live going on and saying I think there's protestors at North Avenue Beach, and the whole group would run over to the other section so that they could swarm the protestors and have more supporters then. And there really only were about two or three; one angry guy with a golf club. I don't know what he was talking about.

But, again, you know, some of the metrics of what we're doing. We have a lot, you know, certainly see the numbers, so much more than the other cities that are there. And I think, too, having, you know, the first and only database of a, you know, big city with the numbers that we have is really important for us because it enables us to reach out to those people when we need them and connect them back with our activities.

Again, first, to some of the firsts that I think were pretty important. You know, the first to integrate with the social media and communicate; the first to have kind of our own, you know, YouTube channel. And if some of you have it -- I hope you don't -- if you do, you need

to go get it, your first iPhone application that counts down the days -- and I believe we're on day 56 right now, which gives you also a fun fact about the bid.

So it's really -- the other interesting thing that I missed when I went back before was, again, the age. If you saw the -- oh, I missed it. The age of those who are following us, the predominance being in that 13 really to 34 range, where that's the range the IOC is looking for, too. And as sports are drifting away and as kids are getting into different things, you're losing that connectivity to the Olympics. And to see it now with what we're doing brings that connection back, so.

Thank you.

MR. HUANG: Great, Beth. Thank you so much and best of luck to Chicago in its bid.

We're going to now have some questions from our FCC panel. Mary Beth, can I ask for you to ask the first question?

MS. RICHARDS: Well, I've been thinking

about as we move from the physical public square to a national virtual public square, and you all have kind of looked back at changes that you've seen over the last couple of years, over the last 12 years. I mean, what is the experience that you -- what do you predict for the next 12 months or the next couple years as -- with the use of broadband and applications and things that we should be thinking about as we move forward?

MR. ORNSTEIN: I think we're going to have a fairly rocky period ahead, in part because -- but I hope one that will bring some innovation. People are cocooning more and more, and what we're losing, it seems to me, in the public square is that common set of facts around which debate can emerge. We're getting people who are turning to website, blogs, and cable television channels that simply reinforce what they already believe or no, and often things that are not true. So it's going to take a while for us to move away from what I think is a quite destructive discourse.

And what we need now is some innovation

that can move us back in a virtual forum and maybe using a lot of these different tools. And I am hoping that public broadcasting will be a very significant vehicle for this that can induce people to come and have an interesting experience, but where we can rebuild a set of common facts around which to have our arguments.

MR. WONDERLICH: I think the trend that I would point out is that barriers are decreasing. I think Vivek Kundra pointed this out this morning. If you made a website in Andrew's 1997, the first step would be to learn how to code in HTML. And if you want to put together a blog or any sort of website now, you don't have to do any of that. You certainly can, but tools are being made so that the interface is much, much simpler. And that's happening on a couple of different levels. So if you want to play with databases, for example, there are tools to do that now without having to learn to program in a database language; or if you want to put together a visualization of a spreadsheet or some dataset,

there are tools being developed to do that. So I think that's a trend that we can recognize across a lot of different spheres is that the barrier for entry is being lowered.

MR. HUANG: Steve?

MR. VAN ROEKEL: Great. Thank you. Ellen gave some great examples of how public television can connect to an online presence. And I would love to hear the panel's advice --

MS. GOODMAN: Call it "public media."

MR. VAN ROEKEL: Public media, sorry. I wrote "public media" on here, I promise. I would love some perspectives or examples of other best practices where technology or broadband can address the somewhat growing digital divide, almost civic divide, that we see in the country. And along with those examples, I'd love to hear if you have advice for people that are maybe connected to the Internet to address and engage with people who are not connected on the Internet in their same communities.

MR. RASIEJ: So in 19 -- I'm sorry,

2005, I ran for the job of public advocate, which is the second position in the New York City Government, a city-wide office, on a platform to make New York City wireless. And I became known as "the WiFi Guy." And the reason -- but the reason I was running and the reason I was promoting WiFi was not so that the kids could open laptops in parks and get online and Google their friends or join Facebook and cocoon, as Norm says, but rather because I believe that organized minorities are always more powerful than disorganized majorities, whether or not they are online or off.

And in New York City, a city council hearing that might address an important funding issue around health care or education or community development happens on a Wednesday at 10 o'clock in the morning when very few working-class people are able to attend. So my vision was that the Public Advocate's Office should be reinvented not as a single person trying to solve the problems of 8 million people, but rather a network of public

advocates, the people who are already cleaning up parks, joining community boards, mentoring in schools and other places where they're already being civic leaders, but aren't connected to each other.

So, for example, if there is a single mother with a child with asthma in the Bronx fighting for better emergency asthma care in the hospitals of the Bronx, she could connect with another single mother fighting for the same thing in Queens or the same thing on Staten Island. And I can assure you that if 30 of them were to show up at a city council hearing at 10 o'clock in the morning, on a Wednesday, all the city council's staff would call the city council people and tell them to actually come to the hearing because they're not normally expecting anybody from the public to attend.

So -- and then you could take that even one step further and maybe the city council hearing itself shouldn't just happen at 10 o'clock in the morning, like this one, but could happen

online and be available in an economy of abundance, where comments or testimony can be delivered not just at the time that the hearing is being had or held, but rather over a period of time, some reasonable period of time, where the most number of voices could connect with each other.

Sounds like a pretty good vision. Well, when I went to the New York Times Editorial Board to get their endorsement I had to spend 30 of my 45 minutes explaining to them what WiFi was. And they couldn't understand how with $1,800,000 budget of this Public Advocate's Office how I could conceivably wire the entire city.

There is -- the reason I'm bringing the subject up and giving you the example is just to give you a vision of what the potential is, but also to point out to you what the dramatic divide there is in imagination between politicians who still don't know what the difference between a server and a waiter. And the potential of a connected citizenry to reinvent democracy and

civic engagement, and to remove probably the most damaging element in our democracy, which is apathy.

MS. GOODMAN: Can I respond to that, too? I think it raises -- and this is something public media institutions are thinking about, but need to do more with about how do you integrate real spaces with virtual spaces with the public square? How do you integrate virtual communities with real communities?

And so just take the example of the mom with the kid with asthma. So you can imagine -- and I think the importance of stories should not be underestimated. So say we had a great -- and I'm sure there is one -- a great science documentary on asthma and its causes and its treatments. Well, in the past, that would have gone out and maybe it would be recycled in schools or maybe it would have some other use, but now you can imagine it's created, there are all sorts of pods and modules that go out to health care providers and NGOs and community groups and then

an activist.

And you can begin to use the real space and public media. Public broadcast stations have these spaces, right? And they're only open half the time, right?

So you're got -- and they're beginning to use these spaces to house, for example, out of work journalists who now can do their stuff using these abandoned offices, these empty offices. They can convene the activists, the moms, and then use the broadband technology to make their voices heard to decision makers, policymakers, to each other.

So those without broadband access and, you know, we should -- obviously mobile is going to change all of that -- can begin to fuse their efforts with those with broadband access.

MR. ORNSTEIN: Just a couple of words. I was on the PBS Board for six years and one of my passions was, as we moved to the digital age, to try to create two digital channels. One was a public square channel, which I hope eventually we

will get. The other was a health channel. And my vision of this was that you would have on the health channel, for example, national programs that would focus in some ways around, say, terrible diseases, like Crohn's. And then you would have local stations that would follow up with their own activities in local areas; that you could create virtual dialogues with patients, with families to share experiences; and then hook them in with specialists that they wouldn't have access to otherwise to try and create a different kind of structure, to give people best practices, how you deal with these issues in your own families, and the like.

On the public square it was something where you might be able to create a much better dialogue around health care reform at the national level, then replicate it at the local level and have virtual town meetings so that you could get the best of the old technology -- the New England town meeting -- done in a virtual frame, but organized around a national platform. Those, I

think, are very doable things and which you can merge old and new technologies, but create those platforms and empower people and connect them with others they might not otherwise have any contact with.

You think about people who suddenly need a kidney transplant. How do you know what to do, where to go, how to go about those things? There are ways we can empower people and give them information and connect them to those who have been through this experience before; that didn't exist and now are available. It's going to take some resources.

MR. HUANG: Thank you. Kristen?

MS. KANE: I have a question about global pace setting in this area in general. And putting aside the statistics Beth shared regarding the bid, are there specific examples internationally that we can look to that we should be taking a serious look at in terms of the plan we'll be developing models for, whether it's eDemocracy, civic participation more broadly?

Anything come across in your work that we should be focusing on?

MR. RASIEJ: Well, I mean, just what we just witnessed with the Twittering and the posting of videos from Iran should give not only everybody interested in what civic engagement might mean regardless of a democracy, but give all totalitarian authorities pause as to what it means to try to control information. Sure, there are lots of problems. You can't be sure that the Tweet is -- you know, the veracity of a Tweet or the date or the time or the place of a video. But we're clearly seeing a connected world of, you know, 7 billion people where 80 to 90 percent of them by the year 2012 are going to be connected to cell phones. And the cell phones that they're going to -- or what's called 3G phones. Because by the time we get to 2012, the phones they're going to have are going to make the iPhone of today look like a Motorola brick from 5 years ago or 10 years ago.

So there are -- you know, obviously

there are the protests in Moldavia. The people are starting to figure out that they can use these tools to organize themselves and to protest to maintain free speech. And there's a clear need for some sort of international accord on the right to connect, the freedom to connect, and the freedom to be able to share information with others in privacy related to free speech that are going beyond our borders.

So what you may -- what we can pretty much predict with some certainty now is that borders and nation states are going to start being thought of differently, mainly as the places where we keep the guns and the soldiers. And the citizens are going to start connecting with each other and we're going to see an age of 21st century diplomacy, citizen- to-citizen diplomacy, where we go from P to P, to P to P to G, and G being government.

MR. HUANG: John?

MR. WONDERLICH: In the context of IT in legislatures, there's a very strong example in the

Global Center for ICT in Parliaments, which is co-organized out of the United Nations. And they, I think, provide a great example where sometimes countries in Africa or countries that are still developing have a stronger or more transparent legislature because they don't have to fight against entrenched interests or to reinvent legacy systems that they've already invested in. So I think that's one context where you can see really strong coordination and sharing of best practices and a rigorous study of exactly what is necessary to make a legislature transparent and enabled through they would call it ICT.

MR. HUANG: We have a question for you, John, and this probably also applies to you, Beth, as well, from our online audience, Walter Neary from Lakewood, Washington. The question is what two or three specific steps would you recommend that the average person take to help drive a more engaged government? And what specific steps should the citizen take now?

MR. WONDERLICH: Well, I would say one

of the first ones is to find out what's going on near you and to understand who your representatives are and what the different levels of government are around you, to engage in that. And then the first question, to me, one should always ask yourself when becoming involved is what is knowable in this space? I think that's one of the most powerful things you can do to begin with is to say what can I know about here, because that information is what allows you to be an actor.

And then beyond that, other things I would say, the other big thing is to become technologically competent and to experiment online and to engage in communities. And I think for a lot of people for jumping in and making a first blog post or commenting or e-mailing a letter to the editor for the first time, that's very uncomfortable for people at first. But after diving in and starting to do it, it becomes addictive. It can be very empowering. So I would say experimenting with civic activism online generally, and feeling like it's okay to make

mistakes, would be the other piece of advice.

MS. WHITE: And I would just say, to echo, I think, the comments we heard before from the mayor, you know, there was -- it's finding out, you know, what's out there. As we were doing these meetings through, you know, Chicago and working with these people, each one of these aldermen's office -- often the constituency is unaware of the things that are available. And I think as we're seeing -- the programs we talked about earlier this morning where things are becoming easier to follow, easier to find, and a little more user-friendly in that dashboard mode of being able to look things up, we've done the same thing with our site. You know, we have -- you know, trying not to bury things, trying to make them easy to find and so they know what it is. As you said, it's knowable what they're looking for and asking for it.

I think that's the other thing, too, is asking your elected officials for that and talking to them. These old (off mike) meetings that we've

been going through and meeting with these folks, that they're there and they're taking those notes and they want to hear what it is people are looking for in their government.

MR. HUANG: Great. Thank you. I'm going to open it up -- the floor to our audience here in Washington, if there are any questions.

MR. RASIEJ: We solved the problem.

MS. KANE: I have another question.

MR. HUANG: Yes, Kristen, please.

MS. KANE: Will we ever see online voting in our democracy? And would that be desirable?

MR. ORNSTEIN: The latter answer is no. We're already running into significant problems with vote by mail and other kinds of remote voting, difficulties that we see in -- there's a much higher level of corruption when you lose the zone of privacy that occurs in a voting booth. And we're nowhere near the point that you could have online voting without the possibility of some massive intervention from outside or ways of

corrupting the process. We had -- there was a conference that Cisco sponsored a couple of years ago at Brookings where, you know, the giants of the Internet world were saying to be able to do this with any level of real certainty that you didn't have somebody manipulating the process would take a long time.

But even if you can get there, voting should be a community experience, a collective experience. We should encourage people to go to the polls and to vote, to be with their citizens, but then do that supremely private act in a -- with a closed curtain, of voting. And the damage to the civic fabric that comes if you can do this at home, I think, is just very, very great.

So I hope it doesn't happen, but I think even if we move in that direction, and perhaps inexorably we will because people like convenience and it's cheaper, we're going to have to take a long time to solve some of the other problems that would come with it.

MR. RASIEJ: I have to take a completely

contrarian point of view and say that I believe that we are going to see online voting, but with the proviso that the term "online" will be redefined and the term "voting" will be redefined.

An example, and it's just a nascent example, of people voting and creating something of value is Wikipedia, where there's over 200 million total hours of human time put in together where people through reputations develop a consensus about what they think is the most important information about any given topic. And so they may not have actually gone into a voting booth and pulled a lever, but they voted through a process that was collaborative, crowd sourced, and technologically enhanced. And if you think about our democracy's failure to actually expand voting beyond Tuesdays, the lack of ballot access because of technological lack of imagination, and a lack of vision about how to create a civically engaged society that does more than just pull a lever yes or no, but could conceivably leave a comment, which may not change the vote, but the total

comments, could you imagine what a tag cloud of comments would look like post an election? We have an opportunity to reinvent voting in our lifetime to make voting as we think of it today in a voting booth look like a horse-drawn buggy does to somebody on an Acela.

MR. HUANG: Well, please join me in thanking each of our panelists.

And I'd like to personally thank all of our speakers for contributing their thoughts and insights to the Workshop on Open Government and Civic Engagement today. Each of them has demonstrated that broadband as a disruptive technology can energize open government initiatives and transform civic engagement.

I'd like to point out, you know, in our use of new online technologies, we had at our peak over 175 individuals participating online, over 125 individuals through the WebX platform and approximately 15 individuals at its peak on Second Life. So, to our audience here in Washington, you were augmented by more than 175 others online.

As we close today, I invite and encourage each of you to continue your participation by providing your thoughts, questions, and insights online at www.broadband.gov.

Thank you to each and every one.

(Whereupon, at 12:09 p.m., the PROCEEDINGS were adjourned.)

* * * * *

CERTIFICATE OF NOTARY PUBLIC

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

/s/Carleton J. Anderson, III

Notary Public in and for the
Commonwealth of Virginia
Commission No. 351998
Expires: November 30, 2012