



**NTIA**  
**Keynote Remarks**  
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DOUG KINKOPH: So Miguel wasn't the only one with traffic issues this morning, so we're going to slide Glenn Reynolds into the next speaking spot. Glenn is Chief of Staff for NTIA. In his role Mr. Reynolds provides both policy making and operational support to the Assistant Secretary for Communications and Information. NTIA's program is focused on expanding Broadband and internet access and adoption in America, managing the federal use of Spectrum, and expanding Spectrum availability for both government and commercial uses, and ensuring that the internet remains an engine for continued innovation and economic growth. So join me in welcoming Glenn Reynolds.

GLENN REYNOLDS: Thanks Doug. I appreciate the opportunity to be here today. These events I always enjoy a great deal because I come out of them feeling reenergized about the mission that NTIA has taken on, the administration has taken on, and that everyone in this room has taken on about making sure that Broadband becomes a universally available service as quickly as possible. Before I get started, I did want to throw out special recognition to two individuals from the previous panel. First of course Anne Neville who was, did an amazing job over the last several years at NTIA basically pushing through the national Broadband Map and the effort of creating that and developing the ideas and the technology to support that in the open data that is still available for that effort. Also, I wanted to throw out a special recognition to Commissioner Chong who I dare say when I was at the FCC going on 20 years ago was beginning to shine the light on many of these issues and the importance that Broadband would quickly become to every aspect of daily life.

Here in the heart of Silicon Valley, you all, all of us have seen firsthand how Broadband fuels innovation and economic growth. The Valley companies like Cisco and Google and Apple are doing amazing things that would never have been envisioned without the transforming power

of Broadband. I suppose the traffic that many of us experienced this morning is sort of a testament to that innovation and that growth and hopefully in the not too distant future it will also be part of the solution to that, to the traffic that experienced that many had to deal with this morning coming up here. But as we heard in the previous panel, even in the heart of this, of Silicon Valley, even the heart of California which is where so much of this innovation is started, not everyone is enjoying the benefits of Broadband. There are digital halves and half notes. A report released earlier this year by the California Emergency, Emerging Technology Fund shows that progress is being made in the state, but gaps still exist. 21% of Californians still don't have internet access at home. Now that's actually better than many states, but from the perspective of the Obama administration that I suspect virtually everyone in this room, that's not good enough. We need to close that Digital Divide.

At NTIA we've been working for more than six years on doing just that. We had our Recovery Act program in which we had the great honor of being able to focus \$4 billion dollars' worth of investment to help communities fulfill the problems of Broadband. Even though that program is now complete, the Obama administration has continued to emphasize the importance of Broadband. The next speaker who I have the opportunity to introduce will be able to go into some of the details of those programs and the continuing commitment of the administration. Those programs, many of which have been announced over the past several years, hopefully you will be seeing many more to come are a working progress. As I think our mutual friend, Blaire Laban [ph] always says, all of these programs have to be viewed sort of in data [ph]. And that's one of the great advantages of these types of gatherings because we've learned from each other what works and what doesn't work, and it allows us to adjust these programs. We as the government, everyone who participates in these programs have to be willing to listen and learn

and adjust in order to figure out how to make the best, make the most of the limited resources. Earlier this year actually, the very beginning of the year the President announced the Broadband Opportunity Counsel which NTIA had the honor of being one of the leads along with the Department of Agriculture to push. That was a great effort to identify a number of efforts that various agencies could take to facilitate the Broadband mission. Things that they didn't even realize that they had a role in. One of the great advantages, one of the great things we learned through that engagement was that so many of these agencies have programs that could be utilized to support Broadband and hadn't been thought of in those context because that was not the agency's primary mission. Hopefully through that engagement these agencies now can refocus their missions and understand what benefits they can bring to pushing Broadband through.

The other major effort that we've been working on is, and as Doug mentioned is NTIA's Broadband USA program. We have been working for the last several years to take lessons learned from the BTOP program and apply those lessons learned and share those lessons learned with various communities. One key action of the counsel of the BOC [ph] which NTIA will spearhead will be to create a portal for information on Federal Broadband Funding, the loan programs to help communities easily identify resources that can support Broadband. So it will help communities find Broadband related policy guidance, key agency points of contacts and best practices. We also recently released a Broadband Funding Guide which provides a roadmap on how to access federal funding to support Broadband planning, public access, digital literacy adoption and deployment. We will also work as part of the BOC to collaboratively with many of you hopefully, I know Karen Hansen and some of our other folks have been talking to many of you recently over the last couple of days to get ideas and support and a vision on how to adopt a

connectivity index, which we view as a public/private partnership to help communities benchmark their connectivity. This will require working with interested parties to design and implement the program and we welcome your input as we go forward on that. The recommendations of the Broadband Opportunity Counsel represent an important next step in the administration's efforts and we hope to work all of you all in figuring out how best to move forward.

With that, I will move on to introducing our keynote speaker, Doctor David Edelman. I don't know how many of you have had the opportunity to work directly with David, but whether you are aware of it or not you've seen the fruits of his labor. David is the Special Assistant to the President for economic and technology policy at the National Economic Council and the Office of Science and Technology Policy. He leads policy development and coordination on issues relating to the digital economy including Broadband competition, access, high tech intellectual property, online privacy, technology trade, and internet governance. Pretty much everything that possibly touches the things that all of you are focused upon. David's basically been with the administration virtually since day one I think. He has served at a number of roles including Senior Advisor for Internet Innovation and Privacy at OSTP [ph]. He served as the Director for International Cyber Policy at the Whitehouse National Security Council where he managed issues at the intersection of Cybersecurity and Foreign Policy, and before he went to the Whitehouse he served as a policy advisor to the State Department Office of Cyber Affairs where he was responsible for developing US diplomatic strategy and international legal doctrine on cyber issues, and he led the negotiations on internet issues at the United Nations. Just a couple of small things. David, among other things relevant to this group is he really was the person who pushed and chatted [ph] and kind of edged all of us on in getting the Broadband Opportunity

Council report done. He's the one that sort of kind of did the blocking and tackling to get out in front of us to help us where we needed the help, and for those of you who have worked with him you know that David is frankly a ball of energy who I think is largely committed to not sleep until January 2017. So with that, I introduce David.

DAVID EDELMAN: One it's great to be back here. Before all of that, I went to high school in San Anselmo. So I say from a position of absolutely no objectivity that it is really great to be back here in California. I would like to give a particular shout out to anyone who commuted here today from the city as I did or from the North Bay. That took the better part of your morning. You probably woke up while it was still dark so really thank you for taking the time to be here today.

When my family moved here from Minneapolis to California, we first got here dial-up internet was the only thing that was available to us and every month we would call the cable company and say, cable internet available at our house now? And they would say, no your house is just a little too far outside of our radius. So the next month we'd call them back, is cable internet available in our house, now? You said it would be just a couple of months. No, it's not available month after month after month. This was decades ago. And yet this is a story that is still happening in this country far too often particularly in rural areas including in California. And when we finally got the internet eighteen months of calling, we got a blazing fast speed 3 megabits per second. 3 megabits I remember saying to my father, there's no way we could ever use all that bandwidth. Really impressed [ph] as I was at the time. That same year the FCC actually released a report where they speculated, at the time of course dial up internet was so completely dominant in the United States they speculated that the American public may just have a growing need for speed online. That may be something coming down the pipe so how wrong

my twelve year old self was, how incredibly right the FCC was and now we find ourselves in a place where the need for speed is absolutely dominating a lot of our discussion right now in terms of Broadband.

The President said at this year's State of the Union address, 21<sup>st</sup> Century businesses need 21<sup>st</sup> Century infrastructure. They need modern ports, stronger bridges, faster trains, and my favorite part, the fastest internet. So we're here today to talk about how we can do that. How we can deliver the fastest internet and deliver it to everyone. So for an overview, first I want to tell you just a couple of case studies, thoughts on why this is so important from the administration perspective. Second, I tell you about just a few of the Broadband initiatives that we have underway and third, talk about how you all can partner with those initiatives and help carry them forward in the next few years and beyond.

So first of all, why do we care? I think it is important that we take a step back and recognize that Broadband and connectivity is not an existential end unto itself. We don't just have connectivity for connectivity's sake. We care about it because of what it enables and who it empowers. And so we focus on Broadband because it is a platform fundamental to modern life. What is new in 2015 and that was not true in 2005 and it was not true when I moved to California is just, how many people for whom it is the platform of their modern life and livelihood. So let's take three examples. First a new small business that is just getting started. Second, a middle school maybe here in California. And third, a low income father who is out of work and looking for an opportunity to get ahead. So for a small business, Broadband is the ability to compete on day one. Think of a company that's just getting started right. One person, they don't have an accounts payable department. They don't have an IT guy or gal. They don't have HR professionals helping with onboarding, they have none of that. They have one person,

American grit and determination. That is what small business in America is based on. And the question that they're asking themselves at that moment is, how can I possibly compete? How can a small business in this country after they get through all of their incredibly streamlined California registration forms to start a new business, how do they start that new business? And how could they possibly compete with a five person outfit in the next town, let alone how can they compete with a global behemoth, the global enterprise? And all of that can come down on some level to the new technologies and new services that are available to that business because of Broadband. And so consider what today's digital tools offer that small business. They offer them incorporation forms online with the state. They offer them the ability to put files in the cloud. I am old enough to remember when any company that wanted to actually have any file storage had to buy their own servers and buy their own hard drives. This seems like a thing of the past now. Email is a service that is available online. It was not always so and of course who's managing the HR and whose managing the benefits, these are services that even the smallest businesses can take advantage of and perform at scale from day one. This is a triumph of American ingenuity, but it is not so for everyone. It is not so for those businesses that don't have the basic connectivity to be able to take advantage of them. And so more importantly, with the right Broadband connection and with a little grit that small business today has the tools to reach a billion global consumers. They do. That's the most important empowerment that this technology can provide. So the tools of growth that are available now are previously almost unimaginable. Small business can compete in a way they never could before and if you want any more examples of how those businesses can grow in scale at speed, 15 miles in any direction will pretty much tell you why that's important. So that's the small business perspective.

Now consider a middle school. Any middle school, could be here in California. For a middle school or a high school, Broadband provides the opportunity to keep kids of all abilities in the same classroom learning together and moving forward, and fast Broadband in a school can make sure that one's ZIP code age 12 does not determine your future chances in life. That's a big deal. Look, school is full of struggle but imagine for a second a student, you've all known this student who is sitting in the back of the classroom. The teacher, maybe it's a math class, the teacher is teaching fractions. The student in the back doesn't understand it that first time, puts their hand up. Can you please do that lesson again? Okay, teacher does the lesson again. Still doesn't sink in. The student is sitting in the back. This time she's embarrassed. She doesn't want to raise her hand again. She knows that if she doesn't get the information she's not going to build that foundation of knowledge that particularly in a place like middle school, if you begin to fall behind then you can expect to continue to fall behind in every subsequent class. But the social pressures of the classroom are such that student might not raise their hand, and she might fall behind again. Now envision this scenario with just one added tool, just one, not all the tools available just a tablet in her hand with a lesson there. One that she can take home that night and repeat until she understands it. One that she can slow down or speed up. One that maybe if English isn't her first language, she can actually have an active translation for words that she doesn't understand. That is basic technology, but put it into the hands of a middle school student can be completely transformative. This is the promise of what we call "Personalized Learning." And all of this personalized learning is not possible without a basic internet connection and basic Wi-Fi in the classroom, and then flip that perspective. Think about it from the teacher's standpoint. Every day we ask teachers to go into the classroom and to basically do the impossible. We arm them with you know a piece of chalk. If they are lucky, a whiteboard

marker and an eraser. And we expect them to be able to tell from the puzzled looks on student's faces whether or not lessons are sinking in, and then we ask them with their ten minutes of individualized attention time that they might have while still trying to keep control over the class, exactly the lesson that's not sinking in with exactly the student that deserves that individualized attention. They are triaging constantly and right now, the reality is that without connectivity American classrooms are one of the most data-poor environments that exists in the modern day. The promise of technology is to turn the classroom from a data-poor environment to a data-rich environment that can allow that teacher to do his/her job better and that student to do their job of learning better and more effectively all the time. That's the opportunity that can happen if there is Broadband in the classroom, and I'll talk about this in a second. But when we began this effort two and a half years ago, 2/3<sup>rd</sup>s of American classrooms had no solid connectivity, 2/3<sup>rd</sup>s all over the country.

So finally think about a low income parent. Broadband for them can be a ladder of opportunity. This one makes a lot of sense to those of you who are in this room of course, today even entry level jobs have to be applied for online. Then they'll get an email when the time for the interview is. If they don't have reliable internet they might miss that interview. They might not have the opportunity to apply online or worst, they might have to be walking all over time taking public transit and the time that they don't have off of their current job to go apply for a new one, that's a structural barrier. If they want to have the opportunity to earn higher wages or see what other career paths are out there. Instead of having to go to a career training opportunity center, they actually can look online and find out different career paths. And perhaps most importantly, they're opportunities that did not exist before, for job training and job matching. Just today the Department of Labor announced \$100 million dollars in grants as part of what's

called the Tech Hire Program. This is a program that helps provide people with in-demand skills. Often they're doing that instruction online. So today the Department of Labor is announcing a \$100 million dollars, but a lot of that opportunity is not going to be available to those that don't have the chance to get online and to get those job skills to a higher paying job and to enter the middle class if they're not already there.

So with all this illustrates that depending on, regardless of where you're coming from that Broadband is essential to keeping up and to going ahead in America today. The President said it best, "today high speed Broadband is not a luxury it's a necessity." This is not about streaming your Netflix more quickly or scrolling through your Facebook newsfeed more quickly, though that's great. This is about helping local businesses grow and prosper and compete in an increasingly global economy and an increasingly competitive economy. This is about giving an entrepreneur or a small business person on Main Street the chance to compete with all the companies here in Silicon Valley and across the globe. It's about giving a student access to online courses or her father the opportunity to get a new job and a higher paying job. Let me say it again, high speed Broadband is no longer a luxury it's a necessity. And that's the North Star that is guiding the Whitehouse's work on this issue, has been for the last several years and will be until our last day in office.

We've been making some incredible progress as a country together, states, municipalities, the federal government to help make that a reality. So let me just talk about three. First are efforts that the President announced in Cedar Falls, Iowa last January to promote more Broadband competition and to access in areas where the market is just not keeping up. This is a new initiative that built on some really solid foundations, some of which you may have heard about already today. The President recognized early on in this administration that

Broadband is infrastructure and that even during the worst economic downturn in a generation, we had the opportunity to make some investments in the future and that's why we created the Broadband Technology Opportunities program run by the NTIA, which to date has run over 114 thousand miles of fiber across this country. That's enough fiber to encircle the globe four times. Hooked up tens of thousands of schools, libraries, medical facilities, community organizations, and other community anchors. It's made incredible progress and yet, at the same time that public infrastructure was happening, the private sector was making unprecedented investment in part due to some smart tax incentives. In total, there has been even in the worst economic downturn over the last six years, a \$160 billion dollars of investment in Broadband infrastructure just we at the federal government are able to track. That's a world change. It's a world-leading advance and it's led to technologies that you and I can use every day. The US was the first country to deploy at scale 4G LTE wireless technology. That's a huge step forward. 98 = % of Americans today are covered by RG LTE wireless. That's an incredible number particularly given how new this technology is, and its leadership that we need to maintain. But the reality is that while that's a great top line number for availability, there are still too many communities in this country that are falling behind. And they are being left behind either because they're left with slow speeds or the ISP isn't upgrading their infrastructure or there's no competition to drive down the prices and so internet becomes unaffordable or all of the above. And so we launched two initiatives to help address this particular issue.

The first is Broadband USA, which you've already heard us talk about which brings us here today, which is designed to help empower cities, states around the country to learn from the best expertise that we in the federal government offer and to help you all build partnerships necessary to deliver faster better Broadband. The second is the Broadband Opportunity Council,

which you've heard a little bit about. The Broadband Opportunity Council was the first of its kind, all hands on deck effort that had 25 agencies take part in it. Now it was pretty important to bring 25 federal agencies together, because when you have someone like the NTIA people understand how the NTIA related to Broadband. Information is in their name, telecommunications is in their name, not so much necessarily with the Department of Housing and Urban Development. You have to think about it a little bit. Even less so with General Services Administration or the DOD. And what this Broadband Opportunity Council signaled to our agencies and our federal government is that there is no agency in the federal government for whom Broadband is not part of their mission. It is now part of every agency's mission to think about how they can use their programs more effectively to get more Americans online, to increase speeds, to increase competition, to increase investment and to invest in infrastructure and everyone has a role, not just those that are spending their day dealing with Broadband. That is what the Broadband Opportunity Council was about. It released its first report in August, which I would encourage many of you to take a look at. The President reviewed that report, approved its recommendations. Now every one of those agencies is taking on their own activities to improve Broadband investment and competition with the tools that they have at their disposal. But to be perfectly clear, the federal government's tools here are somewhat limited. There is a lot more work, I dare say that can be done and a lot more good that can be done in states, in municipalities by taking the same approach of all hands on deck of bringing leadership together and communicating to everyone in the government at whatever level that this is part of the core mission. So I would encourage you all to the extent that it is helpful to take a look at that report to think about pulling together your own agencies and your own officials to think about what else you can do to really challenge individuals to help promote more Broadband

investment and competition. And certainly if the NTIA which co-lead this effort can be supportive in helping guide you down to doing that, some of the dos and don'ts. If we can at the White House do that, we are more than happy to do it because this is an exercise that we found tremendously beneficial and one that we think others can benefit from as well.

So let me talk about a second program, Connect Ed. It gets to the school example. Connect Ed is one of the things that we are proudest of in the administration over our last six years. We started it in June of 2013 when as I mentioned 2/3<sup>rd</sup>s American schools did not have what we consider to be even basic Broadband connectivity in the classroom. The E-Rate program [ph] which is an incredible program. It was a Clinton era program that was designed for a world of computer labs, a single room in a school. Not for a world where you have a tablet or a laptop at every desk, that's just the pace of technology but the program had not been reformed in that amount of time. So the problem was clear that you could not do the kind of personalized learning that I was talking about without having basic connectivity to the school and Wi-Fi in the classroom. It's just the first piece, but we realized that the lack of connectivity in schools was the limiting re-agent to a potential revolution in American education. And so, we called on the country to meet this ambitious goal and the ambitious goal was to connect 99% of schools in their classrooms to high speed Broadband and wireless within five years, 99% within five years. And just two and a half years in we've actually made some tremendous progress there. The FCC rose to the challenge and committed \$8 billion dollars revitalized and modernized the E-Rate program and found an extra \$2 billion dollars specifically for Wi-Fi because a lot of schools had great internet connectivity to the school and then once you got inside the walls nothing because Wi-Fi was a nice to have. That changed. Now there is a \$2 billion dollar surge fund that many schools in California are applying for right now to

dramatically up their connectivity. Those \$2 billion dollars are going to result in 20 million more students getting online in the classroom in the next two years. So that's a leap forward. The private sector also rose to the challenge. The private sector, a lot of the companies within ten miles of here committed a total of \$2 billion dollars with a B, \$2 billion dollars of free technology for classrooms, free tablets, free wireless connectivity for the home, free software, free training for teachers, free content. This is technology that is available for free, no purchase necessary for your schools right now. [WhiteHouse.gov/connected](http://WhiteHouse.gov/connected) is one portal to get at them. You can also go to the individual company sites. This is technology that is there for the offering and whether it's something that is built into an entire school's curriculum or whether it just enriches one media arts class, whether it's done in one classroom or across an entire district these are free resources that are available now because we wanted to help send the signal that the time to do this revolution in K12 learning with technology is now. So I would encourage you all to take advantage of that.

And third and most importantly as part of this overall effort, we put together something called the Future Ready Network. California has been a huge leader here. These are a collection of districts, over 2 thousand of them all over the country that have committed to make this Connect Ed transition. All told Future Ready Network has over 15 million students that are covered by it, and these are superintendents that want to take leadership and want to get this done. It's happening all over and it could not happen, Connect Ed could not happen without the leadership of this Future Ready community coming together. So I encourage you all to think about that. Connect Ed is something that you all can take advantage of in your cities in your towns, all over the state. Apply for the funding, get the E-Rate funding right, apply for the

commitments join Future Ready, all this is available. The tools are here.

[WhiteHouse.gov/connected](https://www.whitehouse.gov/connected). If we can help connect you with any of it we are happy to do it.

And finally, I just want to mention one of our newest initiatives is Connect Home.

Connect Home which we launched in July has 28 communities and it's exclusively partnership based. 28 communities who are coming together committed to ensuring that every family in a HUD housing and HUD assisted housing has either low-cost or no-cost Broadband and the tools and the skills to use it. This is a case where folks came together because of regional determination. We in the federal government put up the template, but that was it. In 28 communities rose to the challenge, said they wanted to be a part of it, and put together that partnership between the private sector, between their city leadership, between their schools, between their PHAAs and others come together to deliver that technology and the opportunities that come with it to those in public housing. Again a chronically underserved population. So we're just at the beginning of that Connect Home initiative and we encourage all of you to take a look because I wouldn't be surprised to see another round of Connect Home where we expand that even further and provide that same support to even more than just the first 28 communities.

So together these three efforts, the Broadband Opportunity Council, Connect Ed, and Connect Home are aimed at making a big dent in the Digital Divide to ensure that no one, not schools, not those in public housing, not underserved communities are left behind from all of those benefits that I described at the beginning. And the common thread that runs through every one of those initiatives is partnership with community leaders, with school leaders, with industry leaders coming together to ensure that everyone can get online. Leaders like you all in this room today. It is no longer an open question for public policy whether there are benefits to being connected, and that is a tremendous relief. That debate is settled and so now against the

backdrop of some amazing progress that we've made over these last six years it is time to finish the job. And that's why we're all here today, that's why we are so lucky to have your expertise and the expertise of the NTIA here to help us. We have made some great progress but we can only finish the job with all of us coming together. So thank you for being here today and for our economy for our schools, and for our communities. Let's get, let's get online let's get to work, and let's bring everyone together. Thank you very much.

DOUG KINKOPH: I'd like to thank David and the administration for the leadership they have given us on Broadband over the last seven years and I think the initiatives David just mentioned are reflective of that. At this time we're going to take a break, ten minute break so that we're a little bit behind. We're going to still stick to that so at 10:27 we're going to kick off so please be back in the room.

[END]