Thank you. It’s a pleasure to be here.

We are approaching the unofficial start of summer, and that means a new slate of movies that spare us too much heavy thinking as we relax through the summer months. This year Hollywood is once again heavily into nostalgia. Have you seen the list of movies coming out? Even beyond the inevitable sequels, we have Superman and the Lone Ranger and The Great Gatsby, which already is being built into a vehicle to bring back styles and music from the “Roaring ’20s.”

Now, I don’t mind a bit of nostalgia in our culture. My kids often point out that much of what I read and almost all of the music I listen to was written by people who are long dead. And it can be interesting to re-visit classics through the lens and technology of the present. The same cannot be said of living in the past in tech policy, yet that unfortunately is what we are doing. I would imagine that everyone in this room has heard of broadband Internet, wireless 4G, texting, mobile apps, Wi-Fi and the cloud. But are you familiar with the Interstate Commerce Act of 1887 or the Mann-Elkins Act of 1910? No? These laws from more than a century ago created the framework under which those 21st technologies I just listed are regulated today. Rather than updating this 19th century policy framework for our 21st century technologies, there are plenty in Washington who want our policy framework to continue to be, to quote the famous last line from “The Great Gatsby”: “Boats against the current, borne back ceaselessly into the past.”

Today I would like to share a few thoughts about our current policy framework for the Internet ecosystem, the impediments to bringing it into the 21st century, and the path forward.

First, let’s talk a bit about the current policy framework. For those who work in telecom, you will be familiar with terms like “common carrier,” “filed rate doctrine,” and
“Public interest, convenience and necessity.” All of these concepts originated in transportation and related to the carriage of freight and passengers. Much of this framework for transportation policy was codified in the Interstate Commerce Act of 1887 to regulate the railroads.

In 1910, the Mann-Elkins Act extended the authority of the Interstate Commerce Commission to regulate telephone, telegraph and wireless companies. And when Congress wrote the Communications Act of 1934 that created the Federal Communications Commission, Title II, which regulates wireline communications, was essentially imported from the Interstate Commerce Act of 1887. The 1996 Telecom Act updated the 1934 Act to reflect the new developments of the 1970s, ’80s and early ’90s, such as the growth of cable television and the breakup of the old AT&T, but many of the fundamental concepts carried forward, and the law has not been updated since. So this is the DNA of our regulatory framework for communications in the 21st century: railroad regulation in the 1880s. One hundred twenty-five years later it is notable both what terms of art and policy arcana live and breathe in America’s communications policy ... and what terms and policies do not. Consider this smartphone ...

It runs on Verizon’s 4G LTE network as well as Wi-Fi, has an Android operating system and applications designed by various companies for texting, location-based services, video, e-commerce, even apps for competitive voice services and data storage in the cloud. And, of course, it provides me with mobile high-speed broadband. Let’s unpack what I just said. Smartphone. Applications. Mobile broadband. Texting. Location-based services. E-commerce. Wi-Fi. The cloud. None of these terms seems odd or strange to us. To the contrary, they are a part of our everyday lives. But how many of them appear in the 1996 law that regulates today’s communications sector? Not a single one.

I’m not pointing fingers at policymakers here. These developments weren’t envisioned at the time the 1996 Act was being drafted. Back then, policymakers and consumers were just coming to terms with a new communications landscape, with new players in local and long-distance voice, wireless voice and Internet and video services. In fact, the ’96 Act has achieved its core objective: it removed regulatory barriers and spurred competition and investment in new information technologies.
Twenty years ago a consumer had a land line phone, a cable TV connection, and, if you were an early adopter, perhaps dial-up Internet and a mobile phone that provided analog voice service.

In the fifteen years U.S. wireline and wireless network operators have invested more than $1.2 trillion to deploy and maintain advanced communications networks and IP technologies. The vast majority of American households have access to at least one broadband network capable of delivering 100 megabit speeds, and most households have competitive choices for their broadband services – wireline and wireless. The U.S. is also now the undisputed leader in 4G LTE wireless technology and has one of the most dynamic and competitive wireless marketplaces in the world.

As a result, consumers today have numerous choices for wireline and wireless broadband Internet; you may get your voice service from a cable video provider, from a telecom provider, a mobile provider, or as an app over your fixed or mobile broadband connection; you may get video from various sources, including numerous sources on the Internet. Today the provider that carries the largest percentage of international voice calls in the world is Skype, which is owned by Microsoft.

So how many of you today spend any time thinking about local versus long distance calling rates, not to mention intra-LATA rates? You don’t, and in that sense – and in the tremendous wave of competition and investment that it unleashed – the 1996 Telecom Act was a success.

But the Act could not have anticipated the policy challenges that we would face 20 years later, particularly given the extraordinary rate of innovation. It has been only six years since the first smart phone was released, so 20 years is an eternity. What guidance does the 1996 Act provide in a world where everyone is carrying a broadband cloud-access device with them? Where video content can be accessed anytime, from anywhere? Where these technologies are beginning to be applied to broader societal challenges like health care, energy management, education and more? Not much. Nor should we expect it to.
A highly innovative 21st century communications marketplace requires a 21st century policy framework. We need a framework to address today’s issues: not local wireline voice competition, but privacy, cyber-security, network management, spectrum policy and more, many of which have a global component.

So what is impeding our way forward? I would suggest that there are two broad, inter-related issues: first, the history of comprehensive, technology-specific legislation and second, the very human tendency towards incrementalism in our approach to technology and regulation.

If you think about the brief chronology I outlined earlier, you will note that 62 years passed between the 1934 Communications Act and the first (and only) major overhaul to that Act. More than 17 years have now passed since the 1996 Telecom Act. This isn’t surprising: major legislative efforts are multi-year affairs that take significant time and focus, and Congress has many pressing priorities. But this means that in a marketplace where cycles of innovation can be less than a year and new business models crop up as quickly as new technologies are developed, we have had two major legislative updates in 80 years.

Of course, we can’t expect Congress to update communications laws at the pace of technological change. That would be impossible. Nor should we expect Congress to anticipate future technology decades in advance. Just think of the change that has taken place in the past 15 years. Who among us wouldn’t love to have a crystal ball to foresee what the next 15 or 20 years will bring? But none of us has such a crystal ball, and we should not expect Congress to have one. Rather, the answer is to move away from large, technology-specific legislative set pieces and focus on a technology-agnostic policy framework that puts consumer-protection at its center.

A related challenge is our tendency to think in incremental terms, whether about technology or regulation. It is difficult to make large cognitive leaps, so we tend to try to understand new developments within a context of things we already understand. This even manifests itself in what we name things. Behold the wireless phone! This made sense in the early days: it makes and receives calls like a phone, but – look! – no wires. If you are like me, however, you struggle with what to call these devices we all carry with
us. The fact that it doesn’t have a wire and that it can make and receive calls doesn’t begin to capture the value of it or my use of it. Rather, we now carry around mobile devices for broadband access to cloud computing resources, but our early conceptions – and nomenclature – of the technology were unable to capture that.

One of my favorite examples is the horseless carriage, which some of you may now know as the automobile or the car. In fact, one of the auto association’s early trade journals was called “Horseless Age.” It was just like a horse-drawn carriage but – look! – no horse. The term automobile is really just a slightly more oblique way of saying the same thing: “auto mobile” … it moves itself. In other words: no horse! We are now on the verge of having “driverless cars,” so perhaps at some point “automobile” really will have been a prescient term.

These days there are regular panels in DC where we talk about various transitions, like copper to fiber or wireline to wireless. I can imagine similar panels in 1900 talking about the transition from the horse-drawn carriage to the horseless carriage. We now have more than a century of perspective on the ways in which the automobile has changed the way in which we live our lives: where and how we live and work; the movement of people and goods; the structure of cities, suburbs and rural life, etc.

But at the time, the perspective likely was a bit more narrow: A horse can stop by the side of the road and eat grass; where’s the emergency back-up fuel on a horseless carriage? Life will get better for street cleaners, but will that mean that many of them will lose their jobs? And what about the mushroom farmers? They rely on all that manure for their farms! And just imagine the consternation at the glue manufacturers union. These certainly would be valid questions in the context of the time, but they don’t capture the broader context of costs and benefits of the automobile that we have seen over the past 100-plus years.

On a slightly more serious note, we see evidence of incrementalism in the development of transportation policy throughout the 20th century. As I noted earlier, the purpose of the Interstate Commerce Act of 1887 – and the Interstate Commerce Commission that it established – was regulation of the railroad industry. But the early 20th century witnessed a revolution in transportation: automobiles and trucks and
buses; the airplane; expanded development of inter-coastal waterways. As early as the 1920s, trucking had developed into a meaningful competitor to the railroads. For example, in 1920 almost all inter-city passenger travel took place by rail, but by 1929 over 80% was in automobiles.

Over the next 40 or so years, however, as trucking, buses and airplanes competed more and more with the railroads, the policy focus still tended to reflect incremental thinking at the ICC based on the context of its original mission to regulate the monopoly that the railroads had once had over the transportation of passengers and freight. The logic was: we regulate the railroads; other technologies now compete with the railroads; therefore our regulatory regime should apply to those other technologies. The original premise was that the ICC’s mission was to regulate the railroads, so the rest of the syllogism followed. But this premise was flawed. The ICC’s mission was not – or at least should not have been – to regulate the railroads; rather, the mission should have been to protect consumers. Starting from this premise leads to questions that weren’t always asked.

For example, if the goal is to protect consumers, then the question is whether regulation is needed to do so, and why. If the answer is that regulation of the railroads is needed to protect consumers because there are no other transportation choices for the movement of passengers and freight, then the introduction of competition to railroads should have led to a different syllogism than the one above (I regulate railroads; trucking competes with railroads; therefore I regulate trucking). Rather, it would be: these railroad regulations were meant to protect consumers because they had no other option than the railroads; there now are competitive options to the railroads; therefore ... we should revise our regulatory framework because the premise no longer is valid.

Eventually, transportation policymakers did get to this conclusion, but it took until the deregulatory initiatives of the 1970s and 1980s. Railroads were failing and there was growing consensus that consumers and shippers had not, in fact, been well-served by the heavy regulation of the transportation sector. Unfortunately, we will never know the counter-factual scenario of the investments and innovation that might have taken place in transportation technology during those many decades.
Turning back to our industry, we need to ensure is that we do not let an increasingly outdated regulatory regime for the Internet ecosystem slow innovation and investment. The 1996 Telecom Act succeeded in what it was designed to achieve, but almost two decades later it is leaving the FCC struggling to shoehorn Internet-era technologies into phone-era regulations. I am not suggesting that the answer is to abolish all regulation. But I am suggesting that we need a 21st century policy framework that is designed for 21st century technologies and marketplaces, not 19th century ones.

We need to start by asking the right questions. It has been suggested that a key question for the next FCC chairman will be how to keep the FCC relevant in the Internet era. I believe that is the wrong question. I recognize, of course, that tactical battles to secure budgets and resources are part of any organization or entity, including the federal government. But a strategic view of policymaking starts by asking what objective we are trying to achieve, and then asking whether regulation is needed, why it is needed, and who is best placed to administer it.

So as we consider a 21st century policy framework, let’s start with defining what we want to achieve. I would suggest four core objectives.

First, protect consumers. How do we best protect consumers within the rapidly changing Internet ecosystem? Consumers and the Internet and the communications sector all have benefited from having what is commonly called a “multi-stakeholder governance model.” Mostly voluntary, privately led global organizations, working with policymakers, have helped manage most of the Internet’s technical and operational issues as they have arisen.

Under this model the framework would set broad guidelines for the Internet space, with a focus on consumer expectations for privacy, security, transparency and fair treatment. There is a role for government, via an enforcement agency, which would use the multi-stakeholder process to develop guidelines for behavior and enforce them. This model has long worked well for advertising, where the law sets broad guidelines to protect consumers, the Better Business Bureau runs a process to adjudicate disputes involving allegedly deceptive advertising, and the Federal Trade Commission acts as an enforcement body where needed.
This approach has the added value of being generally accepted outside of the U.S., and adopting this model here provides global leadership as organizations such as the European Union and the International Telecommunications Union seek to develop similar policy frameworks.

Second, encourage innovation. We often point to the benefits of private sector solutions over government solutions, and this sometimes is misunderstood as suggesting that those in the private sector are somehow smarter or more capable than those in government. That is not true. The benefit of the private sector is that a thousand groups can try a thousand solutions and 999 can fail while only one needs to succeed. There is only one federal government, in contrast, and the government therefore has only one chance to get it right. Policymakers shouldn’t try to anticipate outcomes or pick winners and losers. Rather, create a fertile environment and let innovators sow a thousand seeds and see what grows. There is a survivor's bias, a sense of inevitability about success stories, but for every IBM, Microsoft, Apple, Google or Facebook there are hundreds of others that didn’t thrive. It can be chaotic, but you can’t have innovation without failure.

Third, encourage investment. Innovation is important, but for new ideas to grow and scale they also require investment, and that requires certainty. Even successful investments take time to bear fruit, so investors need clear and stable rules. About ten years ago, Verizon committed billions of dollars to build FiOS after the FCC provided clarity that it would forebear from heavy regulation of this type of next-generation fiber network. This investment has been a tremendous benefit to consumers, but it would not have happened without regulatory clarity. Incremental rulemaking originating from expansive views of ancillary jurisdiction over the Internet creates uncertainty and will inhibit investment.

Fourth, be technology-agnostic. Technology changes too quickly to build legislative or regulatory frameworks on specific technologies. The local/long distance dichotomy of the 1996 Telecom Act is largely irrelevant to consumers today. Let’s look at the smartphone again. If a consumer is harmed, why should she have to figure out which government agency to turn to, based on whether the issue is with the network
operator, the apps developer, the device manufacturer, or the operating system? All may be different companies, but each plays a critical role in the consumer experience. One set of consistent, federal rules for all players in the ecosystem, with a clear enforcement agency to address issues, is the best approach to protect consumers and to ensure that the rules aren’t obsolete as soon as the ink is dry.


It has been said that in the broadband industry you can define an optimist as someone who believes that the future is uncertain. We are only a few years into the possibilities enabled by broadband, mobility and cloud computing. These platforms provide extraordinary opportunities to transform healthcare, energy management, education and more. The only certainty is that ten years from now we will look back in wonder at how far another decade will have carried us. The Internet ecosystem has flourished so far because the participants focused on consumers and have responded quickly and constantly to breakthroughs in technology with yet more innovation and new investment. For this 21st century technology ecosystem, we need a 21st century policy framework that likewise focuses on consumers and encourages innovation and investment without trying to guess the technological future. If we achieve that, the opportunities will remain limitless.

Thank you.