

**REMARKS OF FCC COMMISSIONER BRENDAN CARR**  
**AT THE CONSUMER TECHNOLOGY ASSOCIATION'S 5G DAY**  
**"ENSURING THE UNITED STATES IS 5G READY"**

**WASHINGTON, D.C.**

**FEBRUARY 28, 2018**

Thank you to Julie Kearney and the Consumer Technology Association for inviting me to speak at your 5G day. And thank you to CTA's members for the innovations you have brought to consumers across the country. The technological progress we've seen over the past few years has been remarkable.

Let me give you just one example. Not too long ago, the facebook was a bound, hardcopy booklet that schools provided to their students—it was a directory that included the names and pictures of everyone in your class. In fact, I have one with me this morning from my law school days, and I can assure you that there's nothing to "like" about it, but on the upside there is only one unflattering picture of me in this facebook.

Today, as we know, the capital "F" Facebook is a \$500 billion company with over 2 billion monthly users—the majority of whom only access the site via their smartphones and a wireless connection.

There is a lot that happened in the short time between the facebook of my law school days and the Facebook of today. But when I think about how we transitioned from one to the other, the thing that stands out to me is the mobile broadband revolution and all of the innovation, investment, and job creation it has enabled. Having toured the show floor at CES just last month, the trend towards greater connectivity and innovation is clear. We see it in everything from wearables to remote health applications, from drones to the connected home.

Much of this innovation has been enabled by the United States' world-leading wireless networks.

But it was never a forgone conclusion that the U.S. would lead the world in wireless. After all, my colleagues in Europe like to claim that they led the way in 3G. But in addition to the private sector's investment and innovation, the U.S. took concrete steps to ensure that we would lead in 4G. Looking back on that transition from a regulatory perspective, the United States did two important things.

First, we moved quickly to open up spectrum for mobile broadband, including by auctioning off AWS-1 spectrum in 2006 and 700 MHz spectrum back in 2008.

Second, we took tangible steps to facilitate the deployment of 4G infrastructure. In 2009, the FCC adopted shot clocks that sped up deployment, including for large, 4G towers. In 2012, Congress passed the Spectrum Act, which allowed for quick upgrades from 3G to 4G facilities. And in 2014, the FCC adopted rules that further streamlined the deployment of 4G antennas.

Today, consumers in the U.S. are reaping the benefits of these regulatory reforms and the private sector's efforts. Over 99% of Americans have access to 4G LTE. Over 96% of Americans can choose

from three or more facilities-based providers. And nearly 75% of all cellular connections in North America are now LTE, while that figure is only 42% in Western Europe.

With 5G, we're poised to make another big leap—one that could be as transformative as the shift from the facebook to Facebook.

You see, 5G is about more than just faster broadband and lower latency. It is about enabling the next-generation of innovation and entrepreneurship in America. It is about autonomous cars, virtual reality, the Internet of Things, remote surgery and telehealth, public safety and smart city applications, and new competitive broadband offerings, including in rural areas. Just last week, for example, I visited Mississippi and saw C Spire's 5G fixed wireless demo, which is part of the company's efforts to bring gigabit speeds to consumers across the Magnolia State.

As a country, we are not alone in trying to upgrade our wireless infrastructure to 5G. The global race is on. As we speak, regulators from around the world are gathering in Barcelona to discuss their plans to promote 5G deployments. Make no mistake, they are planning on moving aggressively in this space. The rest of the world is very conscious of our leadership in 4G, and they are questioning whether we will have the resolve to take the deregulatory steps necessary to extend our leadership into 5G. Regulators in Europe, Asia, and other parts of the world all want to ensure that their countries lead the way in 5G.

So what's the plan? How do we ensure that the United States extends its leadership in wireless as we upgrade to 5G? In this case, past is prologue—as with 4G, it is about spectrum and infrastructure. But it's going to require action on a much larger scale than ever before.

On the spectrum side, there's no doubt that we're on the right track. In 2016, we became the first country in the world to allocate high-band spectrum for 5G, and we are now working to open up even more 5G bands, including in spectrum below 6 GHz. And just this week, in his speech in Barcelona, Chairman Pai announced that the United States will hold a 5G auction later this year.

Our aggressive push to free up spectrum—while necessary to our 5G leadership—is not enough on its own. The second part of the equation is to move just as aggressively to modernize and update our infrastructure deployment rules—to ensure that they are what I call “5G Ready.” This means taking concrete steps to reform our regulations and to incentivize the massive private sector investments necessary to build the networks of the future. After all, deploying 5G might require the private sector to invest \$275 billion over the next few years. Capital is finite, and capital is smart. It will flow to those countries that have updated and modernized their regulatory structures.

The country that leads in 5G will be the one that moves quickly to modernize its regulations. So now is the time for the U.S. to act. I want to ensure that the investment, the innovation, and the potentially 3 million jobs associated with a 5G upgrade are generated here.

To that end, I appreciate that Chairman Pai asked me to lead the FCC's efforts in the wireless infrastructure proceeding. My staff and I have spent a lot of time reviewing the record over the past few months. And today, I am announcing the next step in our efforts to ensure the United States is 5G Ready—it involves reforming the federal historic and environmental review processes that govern the deployment of wireless infrastructure.

The reason we need to update our infrastructure rules is because the 5G network will look very different from today's 4G deployments. 5G will involve the addition of hundreds of thousands of new, small scale facilities with antennas no larger than a small backpack. They can go on the sides of existing buildings, on light poles, and blend in with the surrounding environment. These deployments will look nothing like the hundred-foot towers that many people associate with prior generations of wireless service.

But there's a problem—and it's a big one. Our infrastructure rules were written for the hundred-foot 3G and 4G towers, not backpack-sized 5G deployments. It's the regulatory equivalent of requiring a commercial pilot license to fly a paper airplane. The result? Small cell deployments cost too much and the regulatory approval process takes too long. Left unchecked, this will be the bottleneck that prevents us from leading the world in 5G—that prevents the investments, innovation, and jobs associated with 5G from being realized here in the U.S. For next-gen networks, we need next-gen regulations.

Let me give you some examples of how the historic and environmental review procedures are threatening our country's 5G future.

Right now, the average cost of deploying a small cell runs about \$35,000. But a growing and unsustainable percentage of this cost is going to legacy environmental and historic review procedures developed for large wireless towers. One provider notes that some of the fees associated with these reviews increased over 2,500% over the past seven years in just one part of the country. At a time when we need to make it easier and more cost-efficient for the private sector to add small cells and densify their networks, our record shows that the trend lines are heading in the wrong direction.

A big reason for this has been the rise in fees associated with the Tribal review process or what is known as Section 106 review. I am not referring here to the deployment of facilities on Tribal Lands or within reservation boundaries. Rather, under the FCC's rules, the Tribal review process applies to the deployment of essentially any licensed wireless facility anywhere in the country. There is no doubt that protecting and preserving the cultural and historic interests of Tribal Nations is important work and one that we take seriously at the Commission. But the FCC's current approach is creating the wrong incentives and needlessly diverting resources from serving underserved communities.

Take last year's Super Bowl, which was played at NRG stadium in Houston. The construction of the stadium itself, including the parking lot, did not involve any review under Section 106, despite the substantial ground disturbance and construction activity. But when a provider sought to deploy 23 small cells on the stadium and on poles in the parking lot, it triggered Section 106 review. In the end, the provider paid nearly \$180,000 in Tribal review fees for deployments on this fully-developed property even though it had no adverse impact.

In addition to adding needless costs to deployment, this example illustrates how the FCC's approach is producing anomalous results. Even putting the much larger stadium construction to the side, if that same provider deployed devices of the same size and in the same locations, but operated them on unlicensed rather than licensed spectrum, it likely would not have triggered any Section 106 review.

Unfortunately, the Super Bowl example is not an isolated incident. When one provider deployed a new small cell on a pole outside an industrial steel factory in East Chicago, Indiana, it paid over \$12,000 in Section 106 fees—even though everyone agreed the installation would not affect Tribal interests. That same provider paid nearly \$12,000 in Section 106 fees for one deployment between a highway and a

sidewalk in Ohio. A multi-node deployment in Atlanta resulted in another provider paying over \$1 million in Section 106 fees—again, without any finding of adverse effects. That provider expects to spend \$29 million in Section 106 fees alone for small cell deployments in 2018. When added to the costs our environmental procedures, another provider anticipates spending \$45 million this year in review fees.

These are real dollars that could be used to expand 5G coverage. But instead, the money is going to review deployments where everyone involved agrees there's no impact.

The record is clear. The process is broken. And regulatory incrementalism is not going to fix it. We need a major upgrade to our infrastructure deployment rules.

Here's how we're going to do it. At our March 22nd open meeting, the FCC will be voting on an order that modernizes the historic and environmental review procedures that apply to wireless infrastructure deployments. The text of the document will be available for everyone to see tomorrow, but today I will highlight the three key pieces of the proposed decision.

First, the proposed order would modernize our approach to small cell deployments, reflecting the very different impact that these deployments entail. It would determine that they are not “federal undertakings” or “major federal actions.” In other words, small cell deployments would no longer be subject to the federal historic or environmental review process designed for macrocell towers. Rather, these deployments will now have the same status under the law as that of Wi-Fi routers, consumer signal boosters, and similar unlicensed equipment—none of which have ever been subject to the type of federal processes that we have been applying to small cells.

It simply no longer makes sense from either a legal or policy perspective to treat these small-scale deployments the same as large macrocell towers, which have a very different footprint and impact. So if the antenna associated with a deployment fits within 3 cubic feet, it is a small facility and can proceed without the need for federal NEPA or NHPA review.

At the same time, providers must continue to comply with the state and local processes that govern the deployment of facilities, including appropriate zoning rules. While our action would remove certain federal procedural requirements, it does not greenlight any particular deployment.

The idea of excluding small scale deployments from these review procedures is not new. In fact, it has generated significant support, including in Congress where bipartisan legislation has been introduced that would exclude at least some types of small scale deployments from these types of review procedures. Moreover, the European Commission's 5G Action Plan includes steps to streamline the regulatory treatment of small cell deployments. These issues are ripe for action, and it is imperative that we move now to ensure the U.S. stays competitive in the race to 5G.

Second, for traditional, large cell deployments, the order would streamline the historic preservation requirements that will continue to apply to them. This will cut unnecessary red tape while ensuring that larger deployments—including those 100-foot macrocell towers—continue to undergo review. It will do this by updating the Section 106 Tribal review process, including by eliminating up-front fees, clarifying the approach to Tribal consultations, and adopting a clear time period for providers to deploy in cases where Tribes do not respond, among other actions.

Third, for traditional large cell deployments, the order would also revise the FCC's approach to environmental review procedures. It would do so by adopting, for the first time, a shot clock for the FCC's own processing of Environmental Assessments (EAs). And it would address an issue that generated significant interest in the record—deployments in floodplains. It would do so by determining that EAs are no longer necessary for deployments at least one foot above the base flood elevation.

Getting these reforms across the finish line will deliver real results by pushing the regulatory costs out of the system and freeing up more capital for 5G deployments. At the same time, the order focuses the historic, tribal, and environmental review processes on those larger deployments that are more likely to require scrutiny. In the end, these reforms will put us on the path to winning the race to 5G.

I have thrown a lot of stats and figures out there today, but I want to close with a few more—and these might be the most important, so take one more sip of coffee. Our updated approach to small cells could reduce the regulatory costs of deployment by 80%, while cutting deployment timelines by more than half. The resulting cost savings, the record shows, can be used to deploy more small cells and thus bring 5G coverage to even more Americans. Indeed, these reforms will likely result in the deployment of several thousand additional small cells across the country in the next 12 months.

But beyond the numbers, what does this plan mean for consumers and communities across the country?

It could mean advanced, life-saving healthcare. It could mean autonomous vehicles. And turning back to last month's CES show floor, it could mean the difference between those cutting-edge, 5G-enabled devices launching here in the United States or watching consumers in other countries benefit from them first.

I know where I stand on this one. I look forward to casting my vote on March 22nd in favor of innovation and in favor of winning the race to 5G.

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Finally, while this is our next and, thus far, most important step in our wireless infrastructure proceeding, it certainly will not be our last. In the weeks and months ahead, we will be continuing our review of the state and local requirements that can also operate as barriers to 5G deployment. I look forward to working with my colleagues and all stakeholders to address those issues.

Thank you.