

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Inquiry Concerning the Deployment of)	GN Docket No. 15-191
Advanced Telecommunications Capability)	
To All Americans in a Reasonable and)	
Timely Fashion, and Possible Steps To)	
Accelerate Such Deployment Pursuant)	
To Section 706 of the)	
Telecommunications Act of 1996, as)	
Amended by the Broadband Data)	
Improvement Act)	

REPLY COMMENTS OF PUBLIC KNOWLEDGE

**I. DETERMINING ADVANCED TELECOMMUNICATIONS
CAPABILITY REQUIRES MORE THAN BALD ASSURANCES
FROM CARRIERS THAT DEPLOYMENT IS REASONABLE AND
TIMELY**

The Commission’s section 706 inquiry must reflect the reality of telecommunications as experienced by millions of Americans daily—the world “as-is,” and not “as advertised.” Despite this, mobile broadband providers remain staunchly opposed to the collection and analysis of detailed service metrics, instead taking a position that is, in essence, “deployment is reasonable and timely as long as we say it is.” They point to broad population data and investment numbers as proof positive of their claims. CTIA goes so far as to say that “widespread” deployment and “overwhelming

adoption” render further analysis unnecessary, and that the “section 706 inquiry could (and probably should) end there.”¹

This view of the nature of the Commission’s 706 obligations is both incorrect and myopic. Aside from the obvious risk of letting the fox evaluate the state of the henhouse, the Commission is under no obligation, statutory or otherwise, to make its findings without examining the merit of service providers’ claims.² The statute mandates that “the Commission”—*not* the carriers—“shall determine whether advanced telecommunications capability is being deployed to all Americans in a reasonable and timely fashion.”³ The Commission is well within its statutory authority under section 706 to develop qualitative and quantitative measurements by which to gauge national deployment of advanced technologies. Congress tasked the Commission with collecting extensive data on broadband deployment,⁴ with an eye toward performing in-depth analysis of national availability.⁵ If carriers feel that this constitutes an unnecessary or invasive practice, then they should take their complaints to Congress—not the Commission.

¹ *Comments of CTIA, Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act*, GN Docket No. 15-191 at 7 (Sep. 15, 2015).

² See, e.g., U.S. GOV’T ACCOUNTABILITY OFF., GAO-03-742, *DATA GATHERING WEAKNESSES IN FCC’S SURVEY OF INFORMATION ON FACTORS UNDERLYING CABLE RATE CHANGES* (2003).

³ 47 U.S.C. § 1302(b).

⁴ 47 U.S.C. § 1303 (laying out an extensive list of factors and data types that the Commission is charged with gathering in the course of determining broadband availability, including, but not limited to, technology, subscription rates, cost, actual data transmission speed, common uses and applications, and “any other information the Commission deems appropriate for such purpose”).

⁵ 47 U.S.C. § 1301(3) (acknowledging that “improving Federal data on the deployment and adoption of broadband service will assist in the development of broadband technology across all regions of the Nation”).

A. The Commission Should Reject The “Homes Passed” Metric.

The Commission should therefore reject excuses proffered by the carriers, and continue with its plan to collect more meaningful data that would provide a true picture of broadband deployment. AT&T calls metrics on latency and reliability “arbitrary and unworkable” and suggests that the Commission instead make its judgment based on “overall user experience.”⁶ Verizon makes its case by touting its deployment record, claiming that its network passes some 20 million homes.⁷ However, if the recent experiences of regulators in New York⁸ and New Jersey⁹ have demonstrated anything, it

⁶ *Comments of AT&T, Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket No. 15-191 at 3, 5 (Sep. 15, 2015).*

⁷ *Comments of Verizon, Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996, as Amended by the Broadband Data Improvement Act, GN Docket No. 15-191 at 6 (Sep. 15, 2015).*

⁸ See, e.g., Patrick McGeehan, *As Service Gaps Remain, City Says Verizon Broke Promise on FiOS*, N.Y. TIMES, Aug. 27, 2015, at A18 (“Verizon had agreed to have fiber-optic cable for FiOS pass all three million homes in the city by the end of last year. Lawyers for each side, however, are arguing about the definition of “pass””); Jon Brodtkin, *Verizon ordered to finish fiber build that it promised but didn’t deliver*, ARS TECHNICA, Jun. 18, 2015, available at <http://arstechnica.com/business/2015/06/verizon-ordered-to-finish-fiber-build-that-it-promised-but-didnt-deliver/> (citing CITY OF NEW YORK, DE BLASIO ADMINISTRATION RELEASES AUDIT REPORT OF VERIZON’S CITYWIDE FiOS IMPLEMENTATION (Jun. 18, 2015), <http://www1.nyc.gov/office-of-the-mayor/news/415-15/de-blasio-administration-releases-audit-report-verizon-s-citywide-fios-implementation> (last visited Sep. 24, 2015), “Verizon has not run fiber throughout enough of the City’s residential neighborhoods to deliver on its commitments”); Kate Cox, *New York City Audit Calls Out Verizon For Failure To Build Out FiOS Network As Promised*, CONSUMERIST, Jun. 19, 2015 available at <http://consumerist.com/2015/06/19/new-york-city-audit-calls-out-verizon-for-failure-to-build-out-fios-network-as-promised/> (“In November, 2014 Verizon told the city they had ‘passed’ all residential households in the city, meaning they could — and would be obligated to — accept orders for service from all residential buildings in the city. But complaints kept mounting, to the point where the city developed concerns ‘that these anecdotes did not reflect occasional irregularities, but possibly broader failures by Verizon to fulfill the obligations it undertook in the 2008 franchise agreement’); Bruce Kushnik, *Verizon’s Coverage Area of NYC for Fiber Optic FiOS Is a Miserable 46% to 59%; Upstate NY Is Worse*, HUFFINGTON POST, Jun. 4, 2015, available at http://www.huffingtonpost.com/bruce-kushnik/verizons-coverage-area-of_b_7513958.html (“According to the City, there are 3.4 million housing units and Verizon had ‘passed’ only 1.7 million of them”); Ryan Knutson and Josh Dawsey, *New York City Criticizes Verizon on FiOS Delivery*, WALL ST. JOURNAL, Jun. 17, 2015, available at <http://www.wsj.com/articles/new-york-city-criticizes-verizon-on-fios-delivery-1434578104>, et al.

is that “homes passed” is a metric susceptible to extremely broad interpretation and fails to provide information on actual adoption.

B. LTE deployment is not an indicator of speed or functionality.

Carriers’ continued reliance on LTE deployment numbers is no substitute for adequate data on speed and usability. The United States, despite having the widest 4G LTE deployment of any nation, nonetheless has one of the slowest LTE networks on record. A study by network analysis group OpenSignal found that fifty-four nations have average download LTE speeds up to *3.5 times faster* than the 10 Mbps average download rate in the United States.¹⁰ American carriers have “failed to keep up with the rest world in both spectrum and technology,” leading to subpar speeds despite early adoption of LTE.¹¹

⁹ See, e.g., Russell Brandom, *Verizon is weaseling out of its deal to bring FiOS to New Jersey's poorest regions*, THE VERGE, Sep. 14, 2015, available at <http://www.theverge.com/2015/9/14/9322481/verizon-fios-access-new-jersey-deal-loop-hole>; Jon Brodtkin, *Verizon's required FiOS builds leave 150,000 addresses in NJ unserved*, ARS TECHNICA, Sep. 17, 2015, available at <http://arstechnica.com/business/2015/09/verizons-required-fios-builds-leave-150000-addresses-in-nj-unserved/> (“Verizon has failed to deploy its FiOS fiber network to about 150,000 buildings in New Jersey despite a requirement to offer service throughout the state’s most densely populated municipalities”); Kate Cox, *New Jersey Mayors “Concerned” That Verizon FiOS Buildout Seems To Be Skipping The Low-Income Areas*, CONSUMERIST, Sep. 15, 2015, available at <http://consumerist.com/2015/09/15/new-jersey-mayors-concerned-that-verizon-fios-buildout-seems-to-be-skipping-the-low-income-areas/> (“Any property that doesn’t let Verizon just straight up have access is considered under the franchise agreement to be waiving their right to FiOS access, and Verizon can walk away with its obligation still considered met”); *et al.*

¹⁰ Dan Frommer, *The 54 Countries with Faster LTE than the US*, QUARTZ (Sep. 24, 2015), <http://qz.com/510574/the-54-countries-with-faster-lte-than-the-us/>.

¹¹ OPENSIGNAL, THE STATE OF LTE (September 2015), available at <http://opensignal.com/reports/2015/09/state-of-lte-q3-2015/>.

II. WIRELESS COMMENTERS PERSISTENTLY MISREPRESENT DATA ABOUT MOBILE *DEVICE* USAGE AS DATA ABOUT MOBILE *NETWORK* USAGE.

The carriers support their fundamentally weak position with repeated citations to the rise of “mobile video consumption,” footnoted by multiple references to a recent study by industry analysis group comScore.¹² While this reinforces that those lucky enough to have access to broadband adequate for video streaming now take advantage of it, this does little to answer the fundamental question of whether or not mobile networks provide adequate capacity – and to whom. The most recent comScore study addressing the usage of mobile networks over wireline-based Wi-Fi was published in 2013, when data showed that 42% of mobile phone usage and 94% of tablet usage takes place *over Wi-Fi*, and *not* over the mobile data networks, as commenters imply.¹³ AT&T goes so far as to credit mobile broadband with the rise of the Internet of Things—conveniently ignoring that almost all of these devices operate on wireline-based, unlicensed Wi-Fi access.¹⁴ This is an important distinction. As we showed in our initial comments, consumers treat mobile and fixed broadband differently, and primarily treat wireless as a complement to, not a substitute for, fixed broadband.¹⁵ 83% of smartphone users have home broadband in addition to their mobile broadband provider, and those with “smartphone only” access perform a much more limited range of tasks than those with access to both fixed and

¹² *Comments of AT&T* at fn 35, 36.

¹³ COMSCORE, MOBILE FUTURE IN FOCUS 2013 at 18 (Feb. 2013), *available at* <http://www.comscore.com/Insights/Presentations-and-Whitepapers/2013/2013-Mobile-Future-in-Focus>.

¹⁴ *Comments of AT&T* at 11-12: (“...providers’ investments in the rapid deployment of these advanced mobile technologies have enabled dramatic growth throughout the wireless ecosystem, as evidenced by the enormous growth in the ‘Internet of Things’”).

¹⁵ “The Facts and Future of Broadband Competition,” Speech of Chairman Tom Wheeler, Federal Communications Commission, 1776 Headquarters, Washington, D.C., Sept. 4, 2014, at 2 (“[T]oday it seems clear that mobile broadband is just not a full substitute for fixed broadband, especially given mobile pricing levels and limited data allowances.”).

mobile broadband.¹⁶ Over 90% of consumers described themselves as “very” or “somewhat” unlikely to cancel their fixed broadband subscriptions and switch to all-mobile,¹⁷ and most users reserve certain activities for fixed connections.¹⁸ Further, as Commissioner Rosenworcel has eloquently noted in her speeches on the “homework gap,” many students use public Wi-Fi because they cannot access Wi-Fi in their home – either because of the high cost or because adequate broadband is simply not available.¹⁹ Indeed, in the recent AT&T/DIRECTV transaction, AT&T claimed that making 1.5 Mbps available at affordable prices would constitute an important public interest benefit in certain communities.²⁰ A claim a mere three months ago that 1.5 Mbps at an affordable rate is a “public interest benefit” of the transaction belies AT&T’s claim here that ubiquitous mobile broadband is affordably available to all.

¹⁶ Remarks of John B. Horrigan, Vice President & Director, Media and Tech. Inst., Broadband Adoption and Usage: What Has Four Years Taught Us? (Feb. 7, 2013), *available at* http://moody.utexas.edu/sites/communication.utexas.edu/files/images/content/tipi/Horrigan.FCC_.Summit.02.06.pdf.

¹⁷ JOHN B. HERRIGAN, PHD, SMARTPHONES AND BROADBAND: TECH USERS SEE THEM AS COMPLEMENTS AND VERY FEW WOULD GIVE UP THEIR HOME BROADBAND SUBSCRIPTION IN FAVOR OF THEIR SMARTPHONE at 2 (Nov. 2014).

¹⁸ *Id.*

¹⁹ *See, e.g.*, Commissioner Jessica Rosenworcel, *How to Close the Homework Gap*, MIAMI HERALD, Dec. 5, 2014, *available at* <http://www.miamiherald.com/opinion/op-ed/article4300806.html> (“While low-income families are adopting smartphones with Internet access at high rates, a phone is not how you want to research and type a paper, apply for jobs or further your education.”); *Bridging the Homework Gap*, HUFFINGTON POST, June 5, 2015, *available at* http://www.huffingtonpost.com/jessica-rozenworcel/bridging-the-homework-gap_b_7590042.html (data “suggest that as many as one in three households do not subscribe to broadband, due to lack of affordability and lack of interest”).

²⁰ *Ex parte of AT&T*, Applications of AT&T Inc. and DIRECTV for Consent To Assign or Transfer Control of Licenses and Authorizations, MB Docket No. 14-90 (Jul. 1, 2015) (referring to deployment of “broadband wireline DSL service at speeds up to 1.5 Mbps” as a “pro-competitive, public interest benefit” to the transaction).

III. MOBILE AND WIRELINE FACE FUNDAMENTALLY DIFFERENT LIMITATIONS AND SHOULD BE TREATED SEPARATELY IN THE COMMISSION'S ANALYSIS

Carriers seem to be of two minds when discussing the relative capabilities of mobile broadband. On one hand, they tout its ubiquity, its alleged capacity to meet all consumers' needs, and, in particular, the popularity of mobile video (despite the above-mentioned misleading data interpretation, and apparent failure to account for the relative file size difference between video and non-video applications). They then turn around and invoke numerous technical limitations that prevent mobile broadband networks from operating consistently or even reliably across service footprints.²¹

Despite carriers' assertions to the contrary, there is ample data to demonstrate that consumers perform different functions depending on whether they are connected to wireline or mobile broadband networks. Consumers reach for "different devices depending on the online activity or task," and the share of desktop versus mobile device usage "can vary widely" by content category.²² As the Commission will recall, carriers made similar claims with regard to the inability to develop metrics for wireline speed, until the Commission actually developed such metrics.²³ The Commission should treat the claims here with similar skepticism.

²¹ *Comments of AT&T* at 14-15 ("The performance of wireless networks varies substantially from location to location and from time to time, depending on a variety of factors (*e.g.*, available spectrum, propagation, terrain, buildings materials, concentration of users, peak usage times, end-user device capabilities, services being used by end-users, and so on)").

²² COMSCORE, 2015 U.S. DIGITAL FUTURE IN FOCUS REPORT at 4 (Mar. 2015), available at <http://www.comscore.com/Insights/Presentations-and-Whitepapers/2015/2015-US-Digital-Future-in-Focus>.

²³ *See, e.g., Comments of AT&T*, In the Matter of International Comparison and Consumer Survey Requirements in the Broadband Data Improvement Act *et al.*, GN Docket No. 09-47 *et al.* (Dec. 14, 2009) (claiming that "formulation of meaningful performance metrics – particularly in a dynamic industry that features multiple competing network architectures" is too complex a task for the FCC to undertake on its own).

As for the carriers' assertion that section 706 "plainly prohibits the Commission from carving up the broadband marketplace based on technology,"²⁴ this claim clearly proves too much. As the statute plainly requires the Commission to adopt actual measurement statistics, the logical outcome of the carriers' argument is to apply one uniform standard to both mobile and broadband. As this is clearly not what the carriers had in mind, we can only assume that they would prefer a world without standards, in which each network is a special snowflake, and determinations of advanced telecommunications capability are awarded as gold stars for effort – a result directly contravened by the plain language of the statute and all past Commission practice.

IV. THE COMMISSION SHOULD ADDRESS ISSUES REGARDING SPECTRUM ALLOCATION AND TOWER SITING.

Finally, the Commission should use the opportunity provided by the 2016 report to address the impact of spectrum and tower siting policy on deployment.

The spectrum field is particularly ripe for improvement. While more spectrum (particularly unlicensed spectrum) is always beneficial to carriers and the public alike, the practical aspect of increasing the reserve presents substantial logistical challenges. There are, however, specific steps that the Commission can take to improve the landscape in this area, such as resolving the ongoing 3.5 Mhz proceeding.

Because state and local restrictions are constructed specifically to preserve the quality of life of local residents, any alteration in tower siting regulations should be done cautiously.

²⁴ *Comments of Verizon* at 8.

Respectfully submitted,

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