November 13, 2014

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: MB Docket No. 14-57, Applications of Comcast Corp., Time Warner Cable Inc., Charter Communications, Inc., and SpinCo for Consent to Assign and Transfer Control of FCC Licenses and Other Authorizations; MB Docket No. 14-90, Applications of AT&T, Inc. and DirecTV for Consent to Assign or Transfer Control of Licenses and Authorizations; GN Docket No. 14-28, Protecting and Promoting the Open Internet; GN Docket No. 10-127, Framework for Broadband Internet Service; GN Docket No. 09-191, Preserving the Open Internet; WC Docket No. 07-52, Broadband Industry Practices; GN Docket No. 13-5, Technology Transitions; GN Docket No. 12-353, AT&T Petition to Launch a Proceeding Concerning the TDM-to-IP Transition; WC Docket No. 10-90, Connect America Fund; WC Docket No. 96-45, Federal State Joint Board on Universal Service; WC Docket No. 06-122, Universal Service Contribution Methodology; GN Docket No. 09-51, A National Broadband Plan For Our Future.

Dear Ms. Dortch:

Public Knowledge is pleased to submit the attached reports[1] from Dr. John B. Horrigan and CTC Technology and Engineering that shed light on the broadband marketplace for the Commission's consideration.

The Commission and many others frequently measure (and attempt to measure) the state of broadband competition. While these efforts produce valuable results, exercises in broadband measurement can be difficult due to a lack of granularity (for example, data that only reveals what providers exist in a census block, rather than on a per-household basis), or because they compare unlike services (for example, business-class broadband and residential broadband, or wired and wireless connections). Certainly, efforts to directly measure broadband availability should continue and should continue to improve.

However, since the purpose of competition is to benefit consumers—and because broadband choices that are only notionally available to consumers can have little competitive effect—one way to cut through these measurement difficulties is simply to ask consumers themselves for their perspectives on broadband choice. To that end, Public Knowledge commissioned Dr. John B. Horrigan to survey consumers in this regard. One report, *Consumers*

[1] The Horrigan reports were funded by a grant from the Ford Foundation, and were not conducted for the purpose of influencing any specific Commission proceeding. The CTC report was prepared by CTC for Public Knowledge on a pro bono basis.

and choice in the Broadband and wireless markets, summarizes these findings. Among other things, the report finds:

- "In the context of limited choice for very high-speed home broadband service, just one-quarter of Americans have considered switching broadband or wireless providers."

- "Nearly half of all broadband subscribers say they would find it difficult to find comparable service in their neighborhood. However, a majority of rural and low-income broadband subscribers say it would be hard for them to find comparable service where they live."

- "For wireless service, one quarter of have considered switching carriers and most say it would be easy for them to go through the process of switching carriers."

- "Just one-third of cell phone users said it would be difficult to find comparable service in their neighborhood, a much lower rate compared to what broadband customers say when asked a similar question."

These findings demonstrate that most home broadband consumers find competitive options lacking—in contrast to wireless consumers, where there are typically more options for providers.

However, one should not conclude from this that home broadband subscribers can simply switch to wireless service. In another report, *Smartphones and Broadband*, Dr. Horrigan demonstrates that wired and wireless connectivity options are not viewed by consumers as substitutes for each other.

He finds that "[v]ery few respondents said they would give up their home broadband connection in favor of their smartphone alone, and most are very intentional in making choices about what connection type to use for different applications," and that "[m]ost smartphone users are subject to data caps and they rely on Wi-Fi – at home and in public places – to manage data caps. They also find their broadband speeds more satisfactory and in line with their expectations than what they experience on their wireless devices." Notably, Horrigan finds that 92% of those surveyed were at least somewhat unlikely to consider switching away from home broadband and relying entirely on their smartphone.

It is important to note the extent to which users rely on Wi-Fi even on "mobile" devices, both at and out of the home. Typically, Wi-Fi connections are convenient ways to access and share a wired broadband connection—they can no more "substitute" for wired broadband than battery power can "substitute" for mains electricity. Wi-Fi depends on wired broadband just as

batteries depend on being charged. The extent to which mobile users rely on Wi-Fi thus shows that mobile broadband networks are not good substitutes for wired broadband for most users.

Mobile users' behavior is shaped in part by billing practices and pricing structures. As Horrigan finds, "among the 55% of smartphone users with a data cap, more than half – 52% – have altered their online behavior because of the cap – either by not doing some online activities out of concern for hitting the limit or by waiting until they were within Wi-Fi range." The very different pricing structure of wireless connections compared with home broadband is more evidence the products exist in complementary markets. But the technical characteristics of different broadband options play a part in consumer perception, as well, and can explain why Horrigan found that wired broadband customers tend to be more satisfied with the performance of their connections than wireless consumers.

These technical issues are explored in greater depth in *The State of the Art and Evolution of Cable Television and Broadband Technology*, a report prepared for Public Knowledge by CTC Technology and Energy. This report provides explanations rooted in the technical characteristics of different broadband and connectivity options. Based on this technical analysis, CTC concludes, among other things, that "[w]ireless networks offer tremendous benefits with respect to mobility and convenience, but are limited in speed and cannot provide the consistency that wireline networks provide. Wireless will therefore always serve as complements—not alternatives—to high-bandwidth wired connections like cable." CTC also explains why cable broadband technology has become the dominant form of wired broadband access in the United States compared with other wired options, like DSL. Cable operators have leveraged the inherent technical superiority of their networks to achieve significant scale, which makes them formidable competitors. While other technologies, such as fiber-to-the-home (and, to a limited extent, fiber-to-the-node), are comparable to cable in terms of technical performance, the higher infrastructure costs associated with building out these networks limits their competitive potential.

Taken together, the Horrigan results and the CTC analysis paint a picture of a wired broadband market that is far from a picture of competitive health. These findings are relevant from an antitrust perspective, because they show how easily a broadband provider—particularly a cable provider—can impose at least a "small but significant and non-transitory increase in price"[2] on its customers. This test is a way of determining whether a company has market power—whether it can, in effect, just "turn a knob" and increase its profits without fear of customers defecting to competing providers (or doing without service entirely) to a degree that would offset the profit-boosting effects of the price increase. Not only do companies with such market power harm consumers through high prices, they can create a "deadweight loss" where

[2] DoJ Horizontal Merger Guidelines, http://www.justice.gov/atr/public/guidelines/hmg-2010.html#4c.

customers who would be willing to pay for service at a level that would cover the provider's costs nonetheless are not offered any affordable options. Only companies with market power, such as the nation's dominant ISPs, can increase their profits by deliberately leaving consumers behind.

These findings are relevant to several ongoing FCC proceedings. Public Knowledge has argued that buying Time Warner Cable would give Comcast excessive gatekeeper power in the broadband market. Its control over a large portion of the consumer broadband market would turn it into an effective "monopsonist" when it comes to delivering broadband and video content into American households. These findings underline just how much power a merger with Time Warner Cable would give Comcast—most of its subscribers would be "captive," seeing little ability to switch to an alternate provider, which strengthens Comcast's bargaining power with respect to content providers such as Internet edge providers and video programmers.

These findings also inform the Open Internet, or "net neutrality" debate. The fact that consumers see little ability to switch providers—and the very strong position of some broadband providers when compared with their competitors or potential competitors—means that certain ISPs have the leeway to act in ways detrimental to their subscribers, while their subscribers have no way to discipline them in the marketplace. What's more, the lack of competitive choice means that consumers can lack even a baseline of comparison to judge their ISP's performance against competitors in the same area.

Finally, these findings should inform the Commission's analysis of a range of communications issues ranging from the IP transition, to extending universal service to broadband, to public safety. Much of the Commission's agenda is imperiled by the competitive state of American broadband. Chairman Wheeler's recent comments[3] on the state of broadband choice are a welcome departure from a persistent failure of policymakers to properly engage with the state of broadband. Policymakers should both work to improve broadband deployment and competition and, in markets that are not competitive, adopt public policies to ensure that providers are serving the public interest.

Respectfully submitted,

November 13, 2014

/s/ John Bergmayer
Senior Staff Attorney
PUBLIC KNOWLEDGE

[3] Prepared Remarks of FCC Chairman Tom Wheeler, "The Facts and Future of Broadband Competition," 1776 Headquarters, Washington, D.C., September 4, 2014, http://www.fcc.gov/document/chairman-remarks-facts-and-future-broadband-competition.