

**Before the
Federal Communications Commission
Washington, D.C. 20554**

In the Matter of	
Protecting and Promoting the Open Internet	GN Docket No. 14-28
Framework for Broadband Internet Service	GN Docket No. 10-127
Preserving the Open Internet	GN Docket No. 09-191
Broadband Industry Practices	WC Docket No. 07-52

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Summary¹

Public Knowledge, Benton Foundation,² and Access Sonoma Broadband (“Commenters”) urge the Commission to adopt bright line open internet protections grounded in a firm legal basis. This means classifying broadband internet access as a Title II telecommunications service and making it clear that service providers – be they wired or wireless – cannot create a two-tiered internet. While this means a prohibition against fast lanes and slow lanes, it should also include a prohibition against metered and unmetered lanes. Doing so will finally give everyone involved in the broadband ecosystem certainty that the open internet is something that can be relied upon for the future.

The rules tentatively proposed by the Commission in this proceeding achieve none of these goals. By tentatively relying on Section 706, the Commission traps itself in a paradox: the better job any rules do in protecting a single open internet, the more likely they are to run afoul of the D.C. Circuit’s decision in *Verizon*. By setting up a two-tiered internet, the tentatively proposed rules create short term discrimination and a long term incentive to make sure any network improvements come at a premium price. That premium lane may result in virtual redlining, whereby some communities simply never have the opportunity to access applications and content that rely on the premium fast lane. The result of these rules is an ossification of the internet, where the internet of 2014 becomes the standard for the future.

Rules grounded in Title II would give the Commission the authority it needs to implement rules that truly protect a single, open internet. Such rules would assure that everyone – regardless of how or through whom they connect to the internet – has an opportunity to access the entire internet.

¹ Thanks to Public Knowledge Law Clerks Wendy Knox Everette, Ethan Jeans, and Joseph Savage for their assistance in preparing this filing.

² The Benton Foundation is a nonprofit organization dedicated to promoting communication in the public interest. These comments reflect the institutional view of the Foundation and, unless obvious from the text, are not intended to reflect the views of individual Foundation officers, directors, or advisors.

It has been almost a decade since the Commission issued its Internet Policy Statement. In the years since, the Commission has made a number of attempts to turn the sentiments of that original statement into sustainable, enforceable rules. This proceeding provides the Commission with the opportunity to do just that. Commenters urge the Commission to take that opportunity, and move decisively to protect an open internet.

Argument

I. The Open Internet Fuels a Dizzily Wide Array of Activity

The FCC has found that “the open Internet is an important platform for innovation, investment, competition, and free expression.”³ This is, of course, correct. But it is incomplete – this list of virtues has a definite commercial cast. Naturally, innovation, investment, and competition have noncommercial aspects, just as free expression often takes commercial forms. But much of what makes the internet great is noncommercial in nature. This noncommercial nature makes the Commission’s current proposal to allow “commercially reasonable” traffic discrimination so troubling.

The very standards the internet runs on are noncommercial, and are developed and maintained by noncommercial organizations. The Internet Engineering Task Force (IETF) is responsible for maintaining and developing some of the internet’s most important technical standards, such as TCP/IP. IETF is a nonprofit organization composed entirely of volunteers.⁴ Its parent body, the (also nonprofit) Internet Society, has a mission “to promote the open development, evolution and use of the internet for the benefit of all people throughout the world.”⁵ Some of the internet’s most valuable information resources are nonprofits; Project Gutenberg, The Internet Archive, and Wikipedia can only thrive because of an open internet.⁶ Finally, the internet is not a one-way

³ Preserving the Open Internet, *Report & Order*, 25 FCC Rcd. 17,905, ¶ 12 (2010) [hereinafter *Open Internet Order*].

⁴ *Participate in the Internet Engineering Task Force*, Internet Engineering Task Force, <https://www.ietf.org/about/about-the-ietf-en.pdf> (last visited July 14, 2014)..

⁵ Internet Society, <http://www.internetsociety.org/who-we-are/mission> (last visited July 14, 2014).

⁶ Even users of commercial platforms like Twitter frequently derive more value from the platforms than their owners are able to “monetize.” *Net Benefits: How to quantify the gains that the internet has brought to consumers*, *Economist* (Mar. 9, 2013), <http://www.economist.com/news/finance-and-economics/21573091-how-quantify-gains-internet-has-brought-consumers-net-benefits>. The fact that online services often can create much more value for their users and for the economy than they are able to capture for themselves is a feature of the internet,

medium, but a means for users to express themselves and communicate with each other, where the distinction between “producer” and “consumer” can make little sense. Any change to the FCC’s rules that advantages large content companies over ordinary users, or that puts commercial interests above noncommercial ones could damage the internet’s defining features.⁷

To best ensure that it adopts rules designed to protect all of the internet – not just its commercial aspects – the Commission should require that broadband access providers operate as common carriers.

- A. Common carriage has long been a tool to advance public policy.

While common carriage is often mistaken for a set of regulations, it is actually a description of a type of service. This description can help frame the types of protections that are best suited to advance the public interest.

not a bug. Similarly, when broadband ISPs provide access to the internet, they provide access to a service that generates significant “consumer surplus.” Yet it would be a drag on the economy and bad for consumers if broadband access providers were able to charge significantly more for their service, either from consumers directly or through “two-sided market” transactions. Public policy should favor the creation of surplus value and positive externalities, not disfavor it.

⁷ See Yochai Benkler, *The Wealth of Networks: How Social Production Transforms Markets and Freedom* 3 (2006) (describing how the move “to an economy centered on information” and “to a communications environment built on cheap processors with high computation capabilities, interconnected in a pervasive network – the phenomenon we associate with the Internet . . . promises to enable social production and exchange to play a much larger role, alongside property- and market-based production, than they ever have in modern democracies.”).

1. Broadband providers are common carriers, and common carriers have always been held to a heightened duty of care.

Broadband providers should be treated as common carriers because they are common carriers. This is neither a policy position nor a regulatory determination, but a description. A common carrier is an entity that transports goods, people, or communications for the public. Broadband providers do this.

Under the common law, “public callings” have a “duty to serve all upon reasonable request without unreasonable discrimination at a just and reasonable price and with adequate care.”⁸ “Public callings” included, but were not limited to, common carriers--the duties of a public calling were imposed on various professions, such as millers and bakers.⁹ This was an early way of conceptualizing the general police powers of the state. Over time, however, “with the coming of the industrial revolution and laissez-faire economics, common callings were generally limited to what we would today call infrastructure services in transportation and communications, together with associated facilities such as inns. Common carriage was applied to freight or carriage companies and inland and ocean water carriers.”¹⁰ Their duties began to be elaborated in ways that went further than the duty to serve all at reasonable rates with adequate care.¹¹ These extra duties vary from carrier to carrier, and can only be determined by “reasoning by analogy and the common law’s mechanism of rule by precedent.”¹² But from the beginning of the regulation of electronic communications, the public has required electronic carriers to

⁸ Consumer Groups Response to Interrogatory – Telecom Notice of Consultation 2010-43, *Legal Opinion of Barbara A. Cherry, J.D., Ph.D. in CRTC Telecom Notice 2010-43 – Obligation to Serve (2010)*, at 3, available at <http://apps.fcc.gov/ecfs/document/view?id=7022414744> [hereinafter *Cherry Legal Opinion*].

⁹ *Munn v. Illinois*, 94 U.S. 113, 129-132 (1876).

¹⁰ Eli M. Noam, *Beyond Liberalization II: The Impending Doom of Common Carriage*, 18 *Telecomm. Policy* 435 (1994).

¹¹ *Cherry Legal Opinion*, *supra* note 7, at 4-5.

¹² *Cherry Legal Opinion*, *supra* note 7, 5 (citing Stone (1991) p. 30).

interconnect with other systems and to generally refrain from prioritizing one communication over another.¹³

Common carriers were treated differently from different actors in the economy only in the sense that different rules are appropriate for different occupations. They were not singled out under the law; rather, they were subject to rules that in their case best protected the public, just as other occupations were subject to rules appropriate for their nature. Thus in 1848, Justice Daniel could analogize common carrier rules to the regulation of doctors and lawyers, writing,

[T]here are duties or obligations incumbent on [some parties] resulting from the peculiar position [they] occupies with respect to the public, giving the right to redress to all who may suffer from the violation or neglect of these public obligations. Such are the instances of attorneys, surgeons, common carriers, and other bailees.¹⁴

A few decades later, the Supreme Court even likened common carriage rules to the rules that cover food preparation and hospitality.¹⁵ Whatever the merits of particular rules may be, few would suggest today that it should be up to doctors (or some regulatory body) to decide whether to regulate a doctor as a doctor, or that a baker could escape food safety and consumer protection rules if she creates a website and starts calling herself an e-baker.

This basic point has been lost over the years as part of a deregulatory strategy. Instead of arguing that various common carrier rules are no longer necessary for common carriers generally or some subset of them, various carriers and their advocates (and later, the FCC itself) have instead defined broadband

¹³ See William Jones *The Common Carrier Perspective as Applied to Telecommunications: A Historical Perspective* (1980), available at <http://www.cybertelecom.org/notes/jones.htm> (quoting New York Act of April 12, 1848, NY Laws, c. 265, p. 392).

¹⁴ *New Jersey Steam Navigation Co. v. Merchants' Bank*, 47 U.S. 344 (1848).

¹⁵ *Munn v. Illinois*, 94 US 113, 125 (1876).

providers out of the category. This has transformed “common carrier” from a neutral description of what some entities do, to an optional regulatory category where the Commission must first undergo a process of “classification” if it wishes to prevent them from behaving in ways contrary to the public interest. These definitional games are in no small part responsible for the confused state of the law today.

2. Common carriage is a framework. Title II is an application of that framework to electronic communications.¹⁶

Common carriers are subject in the most general sense to a framework, and not a specific set of rules. Barbara Cherry – whose analysis of these issues is invaluable – describes it this way:

Common carriage principles provide a framework in which the salient questions continue to be debated, that is, a framework for ongoing negotiation on a case-by-case basis as to what is unjust or unreasonable discrimination, a just and reasonable price, and an adequate level of service. The framework of ongoing negotiation enables the “justness”, “reasonableness” and “adequacy” of carrier practices, prices and services to be determined over time under varying situations, conditions and technological capabilities. Thus ... common carriage principles provide mechanisms for both experimentation and stability that confer advantages for adaptability over time and changing circumstances.¹⁷

¹⁶ As will be discussed more thoroughly in Section V, *infra*, communications common carriers are called “telecommunications” providers under the Act, and broadband access providers easily fit the relevant statutory definitions.

¹⁷ Barbara A. Cherry, *Experimenting With Governance for U.S. Broadband Infrastructure: The Wisdom of Retaining or Dismantling Prior Legal Innovations*, TPRC 2010, at 32 (Oct. 2010), *available at* http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1989645.

Importantly, this does not mean that potential *violations* are assessed case-by-case against some broad framework (a policy approach favored in some deregulatory circles). Rather, how to apply common carriage to *different kinds of communications networks* should be approached case-by-case. For example, the specific kinds of anti-discrimination policies that may be appropriate for switched networks versus packet-based networks may be different. The appropriate policies, considered under the general framework, are then reduced to specific, binding rules for particular carriers. But the broad principle of preventing unreasonable discrimination can be applied usefully to networks of any technological makeup.

Title II of the Communications Act is an application of the common carriage framework to a specific circumstance: electronic telecommunications. Partly, Title II restates the framework. For example, 47 U.S.C. § 202 is a more nuanced description of the common carriage prohibition on “unjust or unreasonable discrimination.” But this does not specifically answer what discrimination is reasonable and what is not. Title II also goes beyond the basic common carriage framework and offers specific guidance to carriers (for example, requiring them to publish schedules of charges, 47 U.S.C. § 203). But in large part Title II empowers the FCC to determine, as a matter of policy, how to apply the basic common carriage framework to various situations involving telecommunications networks.¹⁸

Title II was written in a specific time, in response to technologies and market conditions that have since evolved. But when it came time to revisit the Act, Congress neither repealed Title II, nor carved out exemptions for new technologies. Rather, it gave the FCC the authority to flexibly apply certain provisions following a “forbearance” process. Thus, the Commission may relax its treatment of some kinds of carriers if it finds they are operating in a competitive environment, grant blanket permission to carriers to undertake some

¹⁸ *E.g.*, 47 U.S.C. § 205 (2014) (Commission authorized to prescribe just and reasonable charges).

kinds of network improvements, or decide to apply certain of its rules to some kinds of carriers (e.g., telephone providers) but not others (e.g., broadband access providers). The Commission may *not*, however, forbear from the provisions that spell out the basic obligations of a common carrier – rather, forbearance provides the Commission with the leeway to determine how to continue to apply the principles of common carriage to new technologies and changing markets.

Therefore, while Title II does contain many procedures and policies that are specific applications of the common carriage framework, these are best thought of as default rules. For practical purposes the FCC has the authority to regulate broadband providers (or other electronic communications common carriers) as it thinks best, in accordance with the principles of common carriage, as specified in the Communications Act.

3. Common carrier regulation is partly responsible for the growth of the commercial internet and mobile phones.

Without Title II common carriage regulation there would be no commercial, residential broadband service. Users were also only permitted to use modems with their telephone connections because of the Title II *Carterfone* decision in the first place.¹⁹ Also, the dial-up ISPs and other services early users connected to with their modems were only able to exist because of Title II: it was Title II that guaranteed them access to the phone lines they needed to provide service.²⁰ Telephone companies at the time disliked this: they felt these services were getting a “free ride.” However, policymakers rightly required those carriers

¹⁹ Use of the Carterfone Device in Message Toll Telephone Service, *Decision*, 13 FCC 2d 420, 424 (1968).

²⁰ Jason Oxman, *The FCC and the Unregulation of the Internet*, FCC Office of Plans and Policy Working Paper No. 31 (July 1999), at 5 (“Open access across the telecommunications network has driven the deployment of innovative and inexpensive Internet access services.”).

to continue to make their services available in a nondiscriminatory way.²¹ The policy confusion surrounding the shift to broadband is the only thing that enabled ISPs to avoid the duty to operate their infrastructure in a nondiscriminatory way.

Additionally, there would be no mobile phones without Title II. Consumers began to use mobile phones only because they were able to place and receive calls to and from any other wired or wireless telephone network – a guarantee afforded them by Title II. Today, every mobile phone sold in the United States is a Title II device – indeed, most wireless carriers won't allow any phones onto their networks unless they can place and receive calls.

Consumers have shown repeatedly that they value the protections afforded by Title II. If the Commission rightly applies Title II to broadband access networks, treating common carriers as the common carriers they are, it should expect that consumers will similarly place a higher value on broadband access itself.

4. Common carriage rules are not “monopoly” rules.

Common carriers can operate in competitive, concentrated, and monopolistic markets. The common carrier framework is not a set of rules designed only to ameliorate harms caused by market power or a lack of consumer choice. Rather, the common carriage framework is a set of broad principles designed to protect the public under many circumstances, and that can be applied differently in different conditions, including different competitive conditions. It may be that a practice that is reasonable when consumers have a realistic competitive alternative is unreasonable when they do not. The same

²¹ Access Charge Reform, *First Report & Order*, 12 FCC Rcd. 15,982 ¶¶ 346-347 (1997) (“We also are not convinced that the nonassessment of access charges results in ISPs imposing uncompensated costs on incumbent LECs . . . we do not believe that incumbent LEC allegations about network congestion warrant imposition of interstate access charges on ISPs.”).

framework (and the same statutes) can lead to a different result when the facts are different. But the often repeated, ahistorical fallacy that the common carriage framework is merely a species of competition law is false:

Some modern commentators focus on a modern concept of economic criteria and overlook the importance of the historical social criteria for imposing this special obligation on an industry or firm. In particular, some erroneously interpret legal history by claiming that common law imposition of a duty to serve requires the existence of monopoly.... [U]nder the common law the imposition of the duty to serve was originally, and often continues to be, independent of the existence of monopoly.²²

Thus, while there are many important things that policymakers should do to enhance competition in broadband markets, these necessary actions are further additions to, not replacements for, common carrier rules.

5. Common carrier rules are not “utility” rules, though broadband providers may be utilities.

In contrast to the common carrier framework, utility regulation typically is directed towards monopolies. Specifically, utility regulation often targets natural monopolies: essential services with high fixed costs, low marginal costs, and high barriers to entry. There may be overlap between the duties of a common carrier and the duties of a natural monopoly. A public utility might be required to serve all residences within an area (e.g., for water or electric service); a common carrier may likewise be required to extend its facilities to meet demand.²³ But common carriers might be subject to rules that are not applicable to utilities (for example, rules preventing the prioritization of messages are probably not relevant to a gas

²² Cherry Legal Opinion, *supra* note 7, at 1.

²³ Cherry Legal Opinion, *supra* note 7, at 23-24.

company) and certain telecommunications rules (for example, pole attachments) might better be conceptualized as utility regulation.

Because of this overlap, and because in recent history the most prominent common carrier (the telephone system) was also considered to be a natural monopoly, the boundaries between common carriers and utilities have blurred, to the point where many observers think that “common carrier” is synonymous with “utility.” But this is not the case.

To be sure, wired broadband in particular appears to share many characteristics with natural monopoly utilities. It shares the same general cost profile, and most people do not have a competitive choice between different high-speed broadband providers. However, there are complications: due to technological convergence, networks that once served different purposes (copper line telephone and cable TV) both began offering similar services, providing some (imperfect) competition. Due to technological advances, new entrants – such as fiber providers – have an opportunity to enter a market and win customers away from incumbents. Wireless services can be a partial substitute for some users, some of the time, to wired services. And broadband networks, while costly to deploy, are still cheaper than many other forms of infrastructure, meaning that overlapping networks can be sustained economically in certain high-population density areas.

At some point, the FCC and other policymakers may have to address these issues, and decide whether broadband is a public utility. But that choice is not before the Commission today. While the Commission should determine that broadband providers are common carriers, this does not imply public utility regulation. Nor do the Commission’s near-term objectives with regard to broadband require such regulation. The comparatively limited common carrier framework where the Commission prevents unjust or unreasonable discrimination ensures a just and reasonable price. It also ensures an adequate level of service and empowers the Commission to protect the open internet, ensure Universal Service, protect consumers, and safeguard economic growth.

- B. Common carrier protections can ensure that ISPs' interests are aligned with the public interest.

When applied to broadband internet access providers, common carrier rules can work to align public interest with private commercial interest, thus fueling the virtuous cycle.

1. ISPs have the means and incentives to break the open internet.

Broadband access providers have the means, motives, and incentives to break the open internet and undermine the network compact.²⁴ This stems largely from their market power as terminating monopolies over residential broadband access, combined with vertically integrated business segments that compete directly with edge provider applications in many upstream markets, including VoIP (voice-over-internet protocol) telephony and pay television. These incentives to advantage affiliated content and foreclose competition in upstream markets directly affect “the basic rights of consumers and the basic responsibilities of network operators” and therefore go to the very heart of why the Commission has developed the concept of the network compact in the first place.²⁵

2. Access networks have terminating monopolies over residential broadband.

Open internet protections, while always necessary, would take a different form if there were robust last-mile competition in broadband service.²⁶ A greater

²⁴ See Open Internet Order, *supra* note 2, at ¶ 11-42.

²⁵ See Tom Wheeler, Chairman, Fed. Commc'ns Comm'n, Prepared Remarks of FCC Chairman Tom Wheeler (Dec. 2, 2013), *available at* https://apps.fcc.gov/edocs_public/attachmatch/DOC-324476A1.pdf.

²⁶ See Jon M. Peha, *The Benefits and Risks of Mandating Network Neutrality, and the Quest for a Balanced Policy*, 1 Int'l J. Commc'n. 644, 645 (2007) (“[I]f there were rigorous competition, network operators who use discrimination to harm consumers or fail to use discrimination to benefit consumers would lose customers to their rivals.”); Gary S. Becker *et al.*, *Net Neutrality and Consumer*

level of competition would allow customers to punish abusive or anticompetitive practices by switching internet providers. But broadband users in the United States often do not have a competitive choice, because large broadband providers have effective termination monopolies over residential broadband access due to a combination of limited broadband options, poor differentiation among service offerings, and high switching costs. This gives network operators substantial market power via exclusive control over the only reliable path providing broadband access between a residence and the broader internet.

3. U.S. residential customers have little broadband choice.

In the U.S., overall levels of broadband competition are modest. Although the competitive situation for high-speed broadband has improved since the Commission's order in 2010,²⁷ few Americans have truly robust broadband options. As of June 30, 2013, for example, 54% of census tracts had 3 or more providers providing broadband access of at least 10 Mbps downstream and 1.5 Mbps upstream, and roughly 8% had one or no options for broadband of that speed.²⁸ It remains unknown how many Americans can choose from 4 or more providers. Speeds of 10 Mbps are an appropriate benchmark for measuring broadband competition, since they can support multiple simultaneous video

Welfare, 6 J. Competition Law & Econ. 497, 502 (2010) (“Competition among broadband access providers, including cable, DSL, and, increasingly, wireless broadband, enables consumers to switch providers if they are not satisfied with the service from their current provider.”). *See also* Open Internet Order, *supra* note 2, at ¶ 27.

²⁷ Open Internet Order, *supra* note 2, at ¶ 32.

²⁸ *See* Internet Access Services: Status as of June 30, 2013, *Report*, 9 (June 2014), http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0625/DOC-327829A1.pdf [hereinafter *Internet Access Services Report*] (report includes 4G fixed wireless as an option for at least 10 Mbps downstream connections, although most wireless services are encumbered with data caps that limit their substitutability for traditional wired connections).

streams (such as one HD and one SD stream), plus incidental online activity, which is a common usage pattern in multiple-person households.²⁹ In addition, in part because video streaming has become an increasingly commonplace internet application, the FCC is currently planning to solicit public comments on revising the definition of broadband. The new definition would only include services offering 10 Mbps or faster downstream speeds, up from the current figure of 4 Mbps.³⁰ However, competition figures are virtually identical if one examines a more modest service level of at least 6 Mbps downstream and 1.5 Mbps upstream.³¹

Furthermore, these competition figures are upper estimates, with actual competition likely to be lower. First, providers may not offer service everywhere in each census tract where it reports a certain speed; even serving one residence counts is sufficient for reporting service to the census tract.³² Second, these figures measure maximum authorized speeds, not actual speeds, so they may overestimate broadband availability of faster service tiers.³³ Although wired ISPs have improved their average actual speeds to closely match advertised figures,

²⁹ Netflix, for example, recommends a 5 Mbps connection for an HD stream and 3 Mbps connection for an SD stream. See Netflix, Internet Connection Speed Recommendations, <https://help.netflix.com/en/node/306> (last visited June 24, 2014).

³⁰ Brian Fung, *The FCC May Consider a Stricter Definition of Broadband in the Netflix Age*, Wash. Post (May 30, 2014), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/05/30/the-fcc-may-consider-a-stricter-definition-of-broadband-in-the-netflix-age>.

³¹ Internet Access Services Report, *supra* note 28, at 9.

³² *Id.* (“[A] provider that reports residential fixed-location connections of a particular speed in a particular census tract may not necessarily offer service at that speed everywhere in the census tract.”)

³³ Instructions for Local Telephone Competition and Broadband Reporting (FCC Form 477) at 6, <http://transition.fcc.gov/Forms/Form477/477inst.pdf> (“In categorizing connections as “broadband,” filers should consider the end user’s authorized maximum information transfer rate (“speed”) on that connection.”)

the Commission has found that some ISPs continue to offer speeds less than 90% of their advertised numbers.³⁴

Even if one believes the fantasy that this is a healthy competitive market for broadband, the implications for policing network openness policies are not straightforward. As the Commission has noted, the competition that does exist matters only if companies differ significantly on open internet policies and provide users with distinct choices about network management.³⁵ Such differentiation is not common in areas such as data cap implementation and therefore U.S. consumers currently possess little power to discipline blocking behavior by switching providers.³⁶ In industries where lighter open internet protections apply, such as wireless broadband, companies rarely compete on openness features such as unlocking policy or handset restrictions.

4. U.S. customers face significant switching costs.

The ability of competition to discipline anticompetitive Internet Service Provider (“ISP”) practices is also limited by switching costs, which are endemic to residential broadband service. As a recent report notes, the “economic literature sets out a wide range of switching costs that may exist in a market. In practice, virtually all are present in broadband, particularly for those consumers (more than 80%) who purchase broadband as part of a bundle.”³⁷ For example,

³⁴ 2014 Measuring Broadband America Fixed Broadband Report, *Report*, 11 (2014), <http://data.fcc.gov/download/measuring-broadband-america/2014/2014-Fixed-Measuring-Broadband-America-Report.pdf>.

³⁵ Open Internet Order, *supra* note 2, at ¶ 27.

³⁶ See Stacey Higginbotham, *Want to know if your ISP is capping data? Check our updated chart*, GigaOm (Nov. 15, 2013, 12:01 PM), <http://gigaom.com/2013/11/15/data-cap-2013/> (noting that a majority of broadband providers have data caps).

³⁷ Robert Kenny & Aileen Dennis, *Consumer Lock-in for Fixed Broadband*, Computers & Comm. Industry Ass’n Report, 4 (Sept. 5, 2013), <http://www.cciainet.org/wp-content/uploads/2013/10/Consumer-Lock-In-For-Fixed-Broadband.pdf>. See also Patrick Xavier & Dimitri Ypsilanti, *Switching Costs and Consumer Behavior: Implications for Telecommunications Regulation*, 10(4) Info 13 (2008).

standalone broadband customers face at least five major categories of switching costs: search costs for finding and researching new service, uncertainty costs relating to the potential quality of new service, compatibility costs of owned equipment that may be rendered obsolete, contractual costs, and transaction costs (the direct costs of making the transition).³⁸ The Commission has noted similar switching fees incurred by residential ISP customers, including early termination fees (a contractual cost); the inconvenience of ordering, installation, and equipment setup (transaction costs); temporary interruption of service (a transaction cost); problems learning a new service (a learning cost), and the potential loss of a personal website or email address (a transaction cost).³⁹

This significantly reduces the overall ability of customers to switch broadband providers even when faced with objectionable ISP behavior or policy.

The commonplace practice of telecommunications bundling—in which customers receive discounted service if they purchase telephone, internet, and/or pay-television services from the same provider—intensifies many of these costs. Consumers have a strong preference for telecommunications bundles; a majority of Consumer Reports readers that have bundled telecommunications services are happy with those arrangements, for example,⁴⁰ and the ability to offer additional triple- and double-play bundles is prime motivation in the proposed AT&T-DirecTV merger.⁴¹ However, this reduces consumers’ ability to switch broadband providers significantly by adding at least two more broad categories of switching costs for consumers—shopping costs associated with buying three new services at once and learning costs associated

³⁸ Kenny & Dennis, *supra* note 36, at 10.

³⁹ Open Internet Order, *supra* note 2, at ¶ 34. The categorization of costs is based on descriptions given in Kenny & Dennis, *supra* note 36, at 8-10.

⁴⁰ *Save a Bundle on Telecom Services*, Consumer Reports (May 2013), <http://www.consumerreports.org/cro/magazine/2013/05/save-a-bundle-on-telecom-services/index.htm>.

⁴¹ Description of Transaction, Public Interest Showing, & Related Demonstrations, *Public Interest Statement*, MB Docket No. 14-90 (2014).

with becoming familiar with multiple new types of equipment.⁴² As with the more general categories of switching costs, bundling reduces firm-specific elasticity of demand and thereby lowers overall subscriber churn.⁴³ Research suggests, in fact, that cable companies and other firms in recurrent service industries explicitly use bundled offerings as a means to reduce customer churn by increasing customer switching costs.⁴⁴

Switching providers incurs uncertainty costs because it is very difficult for consumers to assess the quality of a new service in advance. However, allowing paid prioritization and other blocking systems can create additional sources of uncertainty that magnify access networks' market power. In particular, customers may not be able to ascertain the sources of internet access problems, and therefore may attribute quality of service issues to edge providers instead of network operators. Regardless of what party might be responsible for the situation, "[t]he fact that the quality of the network services is opaque to consumers under discrimination, confers additional market power to access networks."⁴⁵

5. Wireless broadband is not currently a suitable substitute for fixed-line service.

The growth of wireless broadband does not *currently* change the essential points about terminating monopolies, although there is a possibility that this

⁴² Kenny & Dennis, *supra* note 36, at 10.

⁴³ Nicholas Economides, *Why Imposing New Tolls on Third-party Content and Applications Threatens Innovation and Will Not Improve Broadband Providers' Investment*, in *Net Neutrality: Contributions to the Debate* 87, 96, available at http://www.stern.nyu.edu/networks/Economides_Imposing_New_Tolls.pdf.

⁴⁴ See Jeffrey Prince, *The Dynamic Effects of Triple Play Bundling in Telecommunications*, Time Warner Cable Research Program on Digital Commc'ns: Winter 2012 Report, 15, http://www.twcresearchprogram.com/pdf/TWC_PrinceReport.pdf ("[W]e present a novel explanation for firms to bundle that is particularly pertinent in recurrent service industries – reduction of churn.")

⁴⁵ Economides, *supra* note 42, at 96. See also Open Internet Order, *supra* note 2, at ¶ 27.

might change in the future. This conclusion holds even if one sets aside differences in regulatory treatment of wireless and wireline broadband connections, which are discussed in more detail below.⁴⁶

First, wireless broadband does not offer the same capabilities as fixed-line service. It is typically more expensive than wireline broadband service, offers lower maximum speeds for very fast service, and is subject to significantly lower data caps and/or throttling behavior. Wireless speeds are also more susceptible to congestion; although the Commission is currently collecting user information on mobile broadband speeds, it has not yet released the data or any analysis publicly, so the extent of disparity, if any, between advertised and actual speeds remains unknown.

Second, both empirical econometric and survey research indicate that wireless broadband is currently a complement, not a substitute, for fixed broadband service in developed countries. There is a significant negative relationship between fixed broadband price and mobile broadband penetration, indicating “that in many OECD countries, mobile broadband service is a complement to fixed broadband service.”⁴⁷ Consumers also perceive significant differences between the two products; in a survey of 6000 European and U.S. customers, analysts found that more than 70% of respondents who expressed an opinion “agreed with statements that mobile broadband was slower, less reliable and more expensive than fixed broadband.”⁴⁸ More anecdotally, the fact that many consumers pay for both wired and wireless broadband internet subscriptions simultaneously suggests that they are not fully substitutable.

⁴⁶ See discussion *infra* Section II.

⁴⁷ Sangwon Lee et al., *An Empirical Analysis of Fixed and Mobile Broadband Diffusion*, 23 *Info. Econ. & Pol’y* 227, 227 (2011).

⁴⁸ *Western Operators Should Position Mobile Broadband as a Complement to Fixed Broadband, not a Substitute, Says Analysys Mason*, Analysys Mason (Feb. 3, 2011), <http://www.analysysmason.com/About-Us/News/Press-releases1/mobile-broadband-should-complement-fixed-not-substitute>.

6. Termination monopoly allows ISPs to block or disadvantage edge applications.

Termination monopolies are problematic because ISPs can use their monopoly to exercise market power not only by increasing customer prices but also by charging edge providers “a fee, not for transport, but *to reach their customers*.”⁴⁹ This could allow ISPs to engage in several practices that are problematic or abusive to consumers, including “allow[ing] the carrier to maintain a low price, while forcing other parties to extract the full payment for internet service from the consumer,” “the use of the termination monopoly in either strategic or arbitrary ways,” or creation of new barriers to entry by forcing new market entrants to buy access to customers.⁵⁰ When ISPs are allowed to engage in such practices, they can appropriate much of the value of internet access from both edge providers and residential internet users, which directly harms edge-provider innovation as well as social and noncommercial online activities.

7. ISPs have incentives to advantage affiliated content.

Most ISPs are vertically integrated companies that typically sell many additional products in addition to broadband access, including pay television and voice-over-IP or traditional telephony service. These products directly compete with many popular applications provided by edge providers, including over-the-top television and standalone VoIP services. A termination monopolist with control over an essential or bottleneck facility can foreclose competition from rival services by blocking access to its residential customers.⁵¹ Alternatively,

⁴⁹ Tim Wu, *Understanding Net Neutrality as a Pricing Rule*, 2, http://www.timwu.org/NN_as_pricing.pdf (last visited June 23, 2014)

⁵⁰ *Id.* at 3-4.

⁵¹ Nicholas Economides, *The Economics of Networks*, 14(6) *Int'l J. Industrial Organization* 673, 692-693 (1996), http://www.stern.nyu.edu/networks/Economides_Economics_of_Networks.pdf
f. *See also* Open Internet Order, *supra* note 2, at ¶ 22.

ISPs may gain greater benefits by extracting edge provider profit margins through implementation of a vertical price squeeze, “charging a significantly higher price to the opponent for the use of the monopolized link than it ‘charges’ itself.”⁵² This significantly reduces the profitability of entering edge application markets and may stifle innovation significantly. As some scholars note, “the type of discrimination that deserves closest scrutiny in a balanced [net neutrality] policy is discrimination that allows a provider of last-mile broadband internet access to extract oligopoly rents from upstream competitive markets.”⁵³

Discrimination against competing providers need not take the form of direct blocking or degradation, however. ISPs can also directly advantage their affiliated content in ways that diminish the appeal of competing services. This has happened repeatedly in recent years around data caps. For example, Public Knowledge has argued that Comcast’s decision to exempt its own Xfinity online video application on Xbox and TiVo from its self-imposed data caps is discriminatory “against every unaffiliated OTT video service,” to the detriment of innovation and consumers.⁵⁴ Public Knowledge has expressed similar concerns about harming innovation in relation to AT&T’s “sponsored data” plan⁵⁵ and T-Mobile’s recently announced “Music Freedom” service, which exempts many popular music streaming services from counting against subscribers’ monthly data allowance.⁵⁶

⁵² *Id.* at 693.

⁵³ Peha, *supra* note 25, at 645.

⁵⁴ Petition of Public Knowledge, *Petition to Enforce Merger Conditions in Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. for Consent to Assign Licenses*, MB Dkt. No. 10-56 (Aug. 1, 2012) available at <https://www.publicknowledge.org/files/Comcast-Xbox%20FINAL.pdf>.

⁵⁵ Michael Weinberg, *AT&T’s New Sponsored Data Scheme is a Tremendous Loss for All of Us*, Public Knowledge (Jan. 8, 2014), <https://www.publicknowledge.org/news-blog/blogs/attas-new-asponsored-dataa-scheme-tremendous>.

⁵⁶ Michael Weinberg, *T-Mobile Uses Data Caps to Manipulate Competition Online, Undermine Net Neutrality*, Public Knowledge (June 19, 2014),

8. ISPs can shake down all successful edge providers.

The potential negative impacts of termination monopolies are not restricted solely to upstream markets in which ISPs directly compete, however. Discrimination allows ISPs to potentially extract value from all successful edge applications – including digital media sales, online advertising, and music and video streaming – even without a direct partnership and even over objections from that edge provider.⁵⁷ In fact, “[i]f perfect discrimination were possible, network operators could then drive consumer surplus to zero in every upstream market – a terrible blow to internet users.”⁵⁸

In practice, however, one-sided action by ISPs is unlikely; rather, ISPs are more likely to partner with one or more edge providers to provide preferred service.⁵⁹ These arrangements may include direct payment for prioritization, or equity partnership with the edge provider. In either case, edge providers that make such partnerships have the ability to charge prices higher than even a monopolist service provider could; they can take advantage of the ISPs’ direct billing relationships and database of online behavior to more perfectly price discriminate against customers.⁶⁰

<https://www.publicknowledge.org/news-blog/blogs/t-mobile-uses-data-caps-to-manipulate-competition-online-undermine-net-neutrality>.

⁵⁷ Peha, *supra* note 25, at 654.

⁵⁸ *Id.* at 654-655.

⁵⁹ *Id.* at 654 (“[N]etwork operators would probably focus their attention on a few upstream markets with big companies that are generating significant margins,” and describing the operation of Cisco Service Control Solution.).

⁶⁰ *Id.* at 655 (“Again, network operators can exploit all of the information available regarding a user’s online behavior and they have far more information than upstream content and service providers do. For example, a network operator knows more about the location of sender and receiver, and can add a surcharge to every VoIP call that is based on what telephone companies would charge for the same call, or on the credit rating of the parties involved. Even a monopoly VoIP provider would not be able to charge the user this much.”).

Such partnerships will unintentionally disadvantage small-edge players, whose smaller profit margins make them unappealing targets for partnerships, and with whom the cost to establish a new billing relationship may exceed potential new revenue for the ISP. Even with no-blocking protections, such small providers will face significant new barriers to entry and growth, since they will suffer degraded performance in relation to larger companies that garner the interest of (and can afford to partner with) ISPs for network-level quality-of-service guarantees. This creates positive feedback loops and strengthens the position of large, incumbent edge providers. This is particularly problematic on the internet, where low barriers to entry have allowed niche, free, and specialized content to flourish in ways not feasible in traditional media with high capital costs such as broadcasting and print. Much of the internet, in fact, is non-commercial in nature but still highly valuable to end users; such services – for example, Wikipedia – will rarely if ever be able to afford to upgrade their quality-of-service.

II. The Commission Should Not Create A Special Regulatory Category for Wireless Offerings

Commenters disagree with the current proposal's conclusion that it should continue to distinguish between wireless and wireline and apply weaker open internet rules to wireless access service.⁶¹ Despite the Commission's acknowledgement in its 2010 order that "the benefits of ensuring internet openness outweigh the costs" on both wireline and wireless, it cautiously elected to apply weaker standards to wireless for blocking and exempting it from unreasonable discrimination entirely.⁶² It insisted this "more measured"⁶³

⁶¹ Protecting and Promoting the Open Internet, GN Docket No. 14-28, *Notice of Proposed Rulemaking*, FCC 14-61 at ¶ 62 (May 15, 2014) [hereinafter *NPRM*].

⁶² See *Open Internet Order*, *supra* note 2, at ¶ 8.

⁶³ *Id.* at ¶¶ 96, 105.

approach was prudent in light of the fact that “mobile broadband is at an earlier stage in its development than fixed broadband and is evolving rapidly.”⁶⁴

While the Commission may have ultimately deemed it reasonable to treat mobile differently from wireline in 2010, its justification for that distinction finds no basis in the marketplace four years later and is in fact counterproductive to preserving a meaningful open internet. The wireless marketplace is now sufficiently established and robust to support strong protections on par with those provided to wireline subscribers.

Furthermore, in many communities wireless remains the sole option for internet access. Allowing wireless ISPs to block or discriminate would create a second class internet and widen the digital divide. This is particularly harmful for the many traditionally disadvantaged communities that rely on wireless as their only internet connection. Fortunately, to the extent that a technical difference between wireless and wireline exist, reasonable network management policies can accommodate it.

As such, the Commission should erase the distinction between wireless and wireline broadband access services created in the 2010 order and implement a single unified set of open internet rules.

- A. Wireless internet service is more established and robust than in 2010.

The Communications Act defines a telecommunications service as “the offering of telecommunications for a fee directly to the public, *regardless of the facilities used.*”⁶⁵ The plain language of the statute makes it clear that in determining the regulatory status of an offering, the Commission should not look to the technology underlying that offering. Nonetheless, the Commission’s

⁶⁴ *Id.* at ¶ 8.

⁶⁵ 47 U.S.C. § 153(46) (2014).

current proposal tentatively and ill-advisedly considers creating distinct rules for wireless access.⁶⁶

Regardless of the wisdom of treating wireless differently from wired internet access in the Commission's original order, today the Commission must take into account the substantial mobile marketplace changes since 2010.⁶⁷ The Commission's 2010 "developing marketplace" rationale for incremental monitoring⁶⁸ of the marketplace no longer applies in 2014. In fact, the realities of today's marketplace underscores the need to provide the same protections for users of wireless internet as are applied to wireline.

In the time since the 2010 order was written, wireless networks have grown significantly more robust. Even as internet connections overall are growing, the greatest increase has been in mobile networks. In June 2013, the number of connections with downstream speeds of at least 10 Mbps increased by 118% over June 2012, to 103 million connections, including 45 million mobile connections.⁶⁹ The most recent FCC data on internet access service shows that the number of mobile internet subscription connections with speeds over 200 kbps in at least one direction increased by 18% year over year to 181 million.⁷⁰

In fact, wireless networks are now sufficiently robust that providers are no longer concerned about their own network capacity. Carriers are able to offer content companies a way to buy their way around the data caps – the same data caps which the providers implemented, in theory, to alleviate temporary congestion on overburdened wireless networks. AT&T's Sponsored Data Plan offers just such a "differentiated access" service to any edge providers willing to

⁶⁶ NPRM, *supra* note 60, at ¶ 108.

⁶⁷ In fact, in the 2010 Order specifically referred to "ongoing developments in the mobile marketplace as a basis for potentially applying the rules to wireless in the future." Open Internet Order, *supra* note 2, at 59,212.

⁶⁸ *Id.*

⁶⁹ Internet Access Service Report, *supra* note 27.

⁷⁰ *Id.*

pay for the cost of premium access to the user.⁷¹ T-Mobile President John Legere has assured the public that today data scarcity on wireless networks is an “illusion.”⁷² Evidently, providers are now able to “unburden” any temporary congestion on their network sufficiently to enable certain information to flow freely over wireless once more – once a content provider pays that toll. From this the Commission can conclude that wireless networks are now robust enough to remove the kinds of technical network basis that justified treating wireless networks differently in 2010.⁷³

Note that it does not follow that wireless is as robust *as wireline*. However, the improvement of the network does highlight two important attributes about wireless networks. First, wireless networks have passed out of their infancy. The costs to society of exempting them from strict open internet rules can no longer be justified on the grounds that wireless networks are in a fragile, early state of development. Second, wireless networks are evolving quickly. Building a presumption of inadequacy into the rules themselves was questionable in 2010 and is ill-advised in 2014. By 2016 or 2018 such network determinism may appear foolish at best, and destructive at worst.

⁷¹ Press Release, AT&T, AT&T Introduces Sponsored Data for Mobile Data Subscribers and Businesses (Jan. 6, 2014) (on file with author).

⁷² Kevin Fitchard, *The Gigaom interview: T-Mobile's John Legere on the myth of mobile data scarcity*, Gigaom (Jun. 19, 2014, 12:51 PM), <http://gigaom.com/2014/06/19/interview-with-t-mobile-ceo-john-legere/> (“I do believe there have been artificial barriers and scarcity put up by the duopolists’, Legere said. Part of the reason is pure capitalism, he thinks: AT&T and Verizon want to maximize the return on their investments, so they charge as much as they can for data. By preserving the illusion that data is a limited resource, they can justify such high rates.”).

⁷³ See Open Internet Order, *supra* note 2, at ¶¶ 104-105.

- B. Allowing wireless ISPs to block or discriminate would create a second class internet and further widen the digital divide.

The Commission's proposal to exempt wireless from discrimination and impose lowered nonblocking standards will result in a two-tiered internet. Such an exemption would relegate wireless to a second-class service.

Presumably, the Commission deems any rules it adopts necessary to protect consumers on the internet. But under the current proposal, consumers engaging in identical behaviors and at identical risk for ISP abuses might nonetheless be unprotected based solely on the means of access they use. The result is "unneutral" open internet rules that protect only a portion of all internet users – those fortunate enough to be using wireline – while the remainder are left to languish in a degraded "second-class" wireless world.

If those protections are not applied to wireless, then communities that rely on wireless as their only connection to the internet become marginalized again. They end up relegated to the back seat of participation in the digital world. And these networks would only continue to fall increasingly behind their wired counterparts over time, perpetuating the existing digital divide.

Strong protections against discrimination and blocking in a world where incumbents have the incentive and technical ability to quash startups and disruptive technologies are only effective when they apply to all types of connectivity. The new rules must be written to protect all users on all platforms, not reserved just for those privileged enough to access the internet via wireline service.

- C. Many traditionally disadvantaged communities rely on wireless as their only internet connection and thus have the most to lose from discrimination over wireless.

The detrimental impact of creating a "second class" internet is compounded by the fact that wireless is disproportionately the only access option for many populations that already are underrepresented in the mainstream media. Although not a sufficient substitute to wireline, wireless

provides the only on-ramp to the internet for many rural, low-income, and traditionally marginalized communities.⁷⁴ Adults living in poverty are much more likely than both adults living just above the poverty line and higher income adults to be living in households that only rely on wireless communications.⁷⁵ According to the latest FCC Broadband Progress Report, fixed broadband networks do not reach 19 million Americans.⁷⁶ Of those not served or underserved by fixed broadband networks, 14.5 million live in rural areas and nearly a third live in tribal lands.⁷⁷ Many low-income households do not have the luxury of purchasing two internet connections and choose wireless as their only connection to the internet.⁷⁸

Exempting wireless service from open internet rules would therefore undermine what has been one of the most important effects of the internet – providing an alternative means of representation to underrepresented demographics. Rural, low-income, and minority communities have generally had less access and disproportionately low representation in all forms of media. The advent of internet-delivered media on a neutral basis created an opportunity to change that for everyone, but it was particularly instrumental for underrepresented populations. As such, weak protections for wireless pose the greatest threat to many populations to whom the internet has arguably been of the most benefit.

⁷⁴ Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, GN Docket No. 11-121, *Eighth Broadband Access Report*, FCC 12-90 (August 21, 2012) [hereinafter *Eighth Broadband Access Report*].

⁷⁵ Steven J. Blumberg & Julian V. Luke, *Wireless Substitution: Early Release of Estimates From the National Health Interviews Survey, July-December 2013*, National Health Interview Survey (July 2014), <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf>.

⁷⁶ See *Eighth Broadband Access Report*, *supra* note 73, at ¶5.

⁷⁷ *Id.*

⁷⁸ See Stephen J. Blumberg *et al.*, *Wireless Substitution: State-level Estimates from the National Health Interview Survey 2010-11*, National Health Statistics Report no. 61 (Oct. 12, 2012), <http://www.cdc.gov/nchs/data/nhsr/nhsr061.pdf>.

It is also unlikely that wireline will become significantly more available to these underserved communities any time soon. ISPs have little economic incentive to prioritize build-out to these populations and often redline their wireline build-out policies.⁷⁹ In rural areas, 4G wireless connections are typically pitched as replacements for decommissioned wired connections or as ways to affordably bring high speed internet to hard to reach areas.⁸⁰ The trend of wireless serving as a connection of last resort for many traditionally disadvantaged communities is unlikely to change soon, further increasing the need for robust open internet protections for those who rely on wireless connections.

Preserving the internet as a platform where individuals and organizations can speak on their own behalf to wider communities is essential. Applying the same nondiscrimination and nonblocking rules to wireline and wireless will ensure an equal footing for underrepresented communities for whom wireless continues to be their only available access to that platform.

- D. To the extent that legitimate differences between wireless and wireline exist, reasonable network management can accommodate them, just as it does for differences between DSL, cable, and fiber.

Although wireless and wired networks should be subject to identical open internet rules, those rules should be applied in a manner that reflects the realities

⁷⁹ See *Wireless Broadband and the Redlining of Rural America*, New America Foundation, (April 2010) <http://newamerica.net/sites/newamerica.net/files/policydocs/Wireless%20Broadband%20and%20the%20Redlining%20of%20Rural%20America.pdf>. See also Gary Kim, *Broadband Stimulus: Who is 'Unserved,' and Why?*, IP Carrier (Mar. 18, 2009), <http://ipcarrier.blogspot.com/2009/03/broadband-stimulus-who-is-unserved-and.html>.

⁸⁰ See, e.g., National Telecomm. & Info. Admin., *Broadband Availability Beyond the Rural/Urban Divide*, (May 2013), available at http://www.ntia.doc.gov/files/ntia/publications/broadband_availability_rural_urban_june_2011_final.pdf. See also Eighth Broadband Access Report, *supra* note 73, at ¶¶ 38, 40.

of the underlying network technologies. Reasonable network management allows ISPs to apply the open internet rules in a way that accommodates technical differences between networks.

The Commission acknowledged in its original 2010 Order that the rationale for open internet rules was as applicable to mobile broadband is to fixed broadband service.⁸¹ The Commission also recognized congestion may legitimately occur at cell sites due to the unique nature of architecting wireless networks.⁸² To the extent that this occurs due to technical limitations in network architecture, reasonable network management should allow carriers to alleviate congestion *in a neutral manner*.⁸³ Wireline ISPs have already demonstrated they can implement reasonable network management policies to address congestion issues without unduly discriminating against or blocking content.⁸⁴

Of course, wireless ISPs will likely experience different types of technical problems than their wireless counterparts, and thus require network management practices tailored to the unique constraints of their network. Where there are spectrum shortages in particular geographic locations or dependencies upon special access provisions where the carrier cannot control backhaul to the cloud, reasonable network management may provide carriers with the leeway to maintain network functionality. Similarly, the Commission may deem it reasonable to prioritize low bandwidth communications in emergency situations,⁸⁵ or natural disasters that may leave only a few sites functioning.^{86 87}

⁸¹ See Open Internet Order, *supra* note 2, at ¶ 49.

⁸² See *id.* at ¶ 82 (“A network management practice is reasonable if it is appropriate and tailored to achieving a legitimate network management purpose, taking into account the particular network architecture and technology of the broadband internet access service”).

⁸³ See *id.* at ¶ 103.

⁸⁴ Comcast Corporation, Network Management Transition Compliance Plan (Oct. 1, 2008) (on file with author).

⁸⁵ A notable example would be emergency situations due to unforeseen manmade events, where networks may be overburdened by the surge in traffic, as occurred directly following the bombing at the Boston Marathon in April 2013,

⁸⁶ Open Internet Order, *supra* note 2, at 59,212.

The Communications Act recognizes that there *are* real technical constraints and accordingly does not unduly restrict carriers from acting to mitigate these situations. Technical differences between wireline and wireless networks do not mean that wireless carriers should be entirely exempted from basic common carrier regulations and given full discretion as to what content they transmit.

In sum, there is no valid legal or policy reason to distinguish between wireless and wireline in the Commission's rules. Although there are some important differences between wireless and wired offerings, and even within wireless and wired offerings, the Communications Act is capable of adapting to those distinctions as they manifest. Bringing all broadband access services under the same rules will create regulatory uniformity while at the same time allowing the Commission to rapidly adapt to changes in technology.

III. The Current Proposed Rules are Inherently Flawed as a Matter of Both Policy and Law

The Commission's proposed rules create a two-tiered internet that allows ISPs to act as gatekeepers for innovation. As such, they are bad policy.⁸⁸ To the extent the rules try to avoid splitting the internet by creating quasi-common carrier obligations for ISPs, they likely run afoul of the D.C. Circuit's ruling in *Verizon v. FCC*.⁸⁹ As such, they are legally problematic.

⁸⁷ To the extent that the cost of moving data is an issue, such as inability to get cost-effective data roaming agreements or where there is overly high special access, the Commission should take steps to address those problems.

⁸⁸ See Open Internet Order, *supra* note 2, at ¶¶ 2-4.

⁸⁹ *Verizon v. FCC*, 740 F.3d 623 (2014).

- A. The more effective the proposed rules are, the more likely they are to be struck down as common carrier obligations.

As in 2010, the Commission's current proposal invokes its Section 706 authority to promulgate new open internet rules. The D.C. Circuit in *Verizon v. FCC* held that the Commission cannot use Section 706 to impose common carrier rules. Specifically, the court said the Commission could not impose the core common carrier rules of nondiscrimination and nonblocking common carrier rules on ISPs under 706 – two protections which are also the defining qualities of meaningful net neutrality. Any rules that effectively protect the open internet from discrimination or blocking by ISPs under 706 authority are therefore unlikely to withstand court scrutiny.⁹⁰ The only Commission rules grounded in Section 706 authority that will survive before the court will have to allow for discrimination and blocking, thus failing to preserve meaningful net neutrality rules.

1. The D.C. Circuit said that if the Commission uses Section 706, it cannot impose common carrier rules.

The Telecommunications Act specifies that “a telecommunications carrier shall be treated as a common carrier under this [Act] only to the extent that is engaged in providing a telecommunications service.”⁹¹ The *Verizon* court held that the Commission's attempt to use 706 authority in its 2010 rules violated that mandate: “even though section 706 grants the Commission authority to promote broadband deployment by regulating how broadband providers treat edge providers, the Commission may not, as it recognizes, utilize that power in a manner that contravenes any specific prohibition contained in the Communications Act... the Commission has done just that because the anti-discrimination and

⁹⁰ *Verizon*, 740 F.3d at 650.

⁹¹ See 47 U.S.C. § 153(51) (2014).

anti-blocking rules ‘subject [] broadband Internet access... to common carrier regulation, a result expressly prohibited by the Act.’⁹²

2. Strong open internet rules are built on nonblocking and nondiscrimination – core common carrier principles under Title II.

Title II requires that common carriers in communications service everyone on fair terms and prevents unreasonable discrimination.⁹³ These requirements have been the core rules for all common carriers since long before the advent of the internet.⁹⁴ They ensure that transmission across essential service is not intentionally hindered by the providers who control the access to those services.

For similar reasons, nondiscrimination and nonblocking rules are also the quintessential open internet protections and apply readily to the internet ecosystem. Under true open internet rules, ISPs that possess the incentive and ability to prioritize or degrade users’ access to internet content are prevented from exercising that power.

3. Open internet rules grounded in Section 706 that sufficiently prevent discrimination and blocking would likely be considered common carrier provisions and fail to survive court scrutiny.

The court’s decision in *Verizon* struck down the FCC’s attempt to impose common carrier obligations on ISPs because the Commission failed to classify ISPs as Title II common carriers: If the “requirements imposed by the Open Internet Order subject broadband providers to common carrier treatment ... then, given the manner in which the Commission has chosen to classify broadband providers [as information services], the regulations cannot stand.”⁹⁵ That decision therefore flatly prohibits the FCC from prohibiting discrimination and

⁹² *Verizon*, 740 F.3d at 650-651.

⁹³ See 47 U.S.C §§ 201, 202 (2014).

⁹⁴ See Section I.A, *supra*.

⁹⁵ *Verizon* 740 F.3d at 650.

blocking unless it classifies broadband internet service as a Title II telecommunications service.

In case there were any doubts, the court explicitly disposes of the option to pursue meaningful open internet rules under *any other provisions* than Title II. Absent reclassification, any rules must “‘leave sufficient room for individualized bargaining and discrimination’ so as not to run afoul of the statutory prohibitions on common carrier treatment.”⁹⁶ Any attempt to impose the nondiscrimination and nonblocking protections that define net neutrality also by definition impose common carrier regulations. The only alternative for the Commission under 706 is to allow discrimination and blocking, which will survive court scrutiny but fail to preserve meaningful net neutrality rules.

- B. The proposed rules will create a fast lane and a slow lane, undermining net neutrality and harming innovation and investment.

In light of the court’s decision in *Verizon*, the current proposal’s use of Section 706 includes room for individualized bargaining and discrimination arrangements between ISPs and edge providers. The Commission has insisted that despite this requirement to allow discrimination, the proposed rules prevent ISPs from degrading existing levels of service,⁹⁷ enabling “consumers to access the content, services, and applications they demand and ensur[ing] that innovators and edge providers have the ability to offer new products and services.”⁹⁸ But the new rules specifically allow edge providers to pay for “commercially reasonable” arrangements for prioritized access to users.⁹⁹

The goals of establishing a minimum level of access that allows some forms of paid prioritization while still preserving an open internet are in

⁹⁶ *Id.* at 658 (quoting *Cellco P’ship v. FCC*, 700 F.3d 534, 548 (D.C. Cir. 2012)).

⁹⁷ Tom Wheeler, *Setting the Record Straight on the FCC’s Open Internet Rules*, Official FCC Blog (April 24, 2014), <http://www.fcc.gov/blog/setting-record-straight-fcc-s-open-internet-rules>.

⁹⁸ NPRM, *supra* note 60, at ¶ 98.

⁹⁹ NPRM, *supra* note 60, at ¶¶ 116-121.

fundamental conflict. Establishing a minimum level of access will automatically cleave the internet in two, with a prioritized “fast lane” for those who can pay, and baseline tier “slow lane” for everyone else. Such a system is the diametric opposite of a true “open internet.” Renaming these lanes “fast” and “faster” does not change this dynamic. Since speed is a relative, creating two lanes inevitably results in one that is “fast” and one that is “slow.” This is true even if the “slow” lane is required to run a minimum baseline speed, as the Commission proposes.¹⁰⁰

This is fundamental departure from the traditionally unified platform for innovation and investment since its inception. The resulting bifurcated network will reduce incentive for investment in network build-out, disrupt potential sources of innovation, and irrevocably harm users and content creators alike.

- C. The proposed rules could lead to “virtual redlining” where only some communities have access to fast lanes.

Dividing the internet into fast lane and slow lanes allows ISPs to charge edge providers a premium fee in order to reach ISP subscribers. If forced to pay such fees, there is no reason to believe that edge providers would agree to pay to reach all of an ISP’s subscribers.

Instead, it is much more likely that edge providers would seek to reach only a subset of ISP subscribers. For example, when forced to pay a premium to reach households, an edge provider may only elect to reach households in zip codes with household income greater than \$100,000, or top urban markets. Many edge providers may simply decide not to pay a premium in order to reach low income, rural, or other economically disadvantaged households.

Over time, this could lead to certain types of service that are not available to large portions of the country. This type of “virtual redlining” could potentially further expand the digital divide, and implicates policies of 47 U.S.C. §§ 151, 254(b)(3), 257, and 1302. The Commission’s ability to counteract this type of

¹⁰⁰ NPRM, *supra* note 60, at ¶¶ 97-103.

virtual redlining by requiring ISPs to offer prioritization on an “all or nothing” basis is severely limited by the *Verizon* decision, which explicitly found that a mandate to serve all customers identically is the essence of common carrier obligation.¹⁰¹

D. Paid prioritization lowers overall network throughput and disproportionately harms low-priority traffic.

Any form of paid prioritization will lower overall network throughput and raise barriers to entry for new edge providers.¹⁰² First, network operators must often scan incoming traffic to perform traffic management,¹⁰³ particularly as traditional port-based traffic management systems become less useful.¹⁰⁴ Deep packet inspection is considered “[t]he most important current technology for traffic management,” for example.¹⁰⁵ This increases transmission delay and consumes network resources.

¹⁰¹ See *Verizon*, 740 F.3d at 56.

¹⁰² Traffic discrimination performed by network operators at the request of end users is commonplace, primarily in enterprise or middle-mile contexts, and is not usually considered problematic for the open internet. See M.C. Riley & R. Topolski, *The hidden harms of application bias*, 2 n.4, Free Press & New America Foundation (Nov. 2009), http://www.freepress.net/sites/default/files/fp-legacy/The_Hidden_Harms_of_Application_Bias.pdf; New America Foundation, *Letter to FCC Secretary Marlene H. Dortch*, GN Docket No. 09-191, GN Docket No. 10-127 (September 1, 2010), available at http://newamerica.net/publications/resources/2010/letter_to_fcc_secretary_marlene_h_dortch_secretary_re_preserving_the_ope.

¹⁰³ Riley & Topolski, *supra* note 101.

¹⁰⁴ See Alberto Dainotti *et al.*, *Issues and Future Directions in Traffic Classification*, 35, IEEE Explore (Jan. 2012), http://ieeexplore.ieee.org/xpl/login.jsp?tp=&arnumber=6135854&url=http%3A%2F%2Fieeexplore.ieee.org%2Fxppls%2Fabs_all.jsp%3Farnumber%3D6135854 (discussing how “historical developments over the last two decades have rendered less accurate the traditional method of using transport-layer (TCP and UDP) ports to infer most Internet applications”).

¹⁰⁵ *Report ISP Traffic Management Technologies: The State of the Art*, Can. Radio-television & Telecomm. Comm’n (Jan. 2009), <http://www.crtc.gc.ca/PartVII/eng/2008/8646/isp-fsi.htm>. See also Milton L.

Second, TCP/IP algorithms are not optimized for managing traffic with differential treatment at routing points, resulting in several inefficiencies. TCP/IP algorithms assume packets are processed in order of arrival, not according to a prioritization hierarchy, for example.¹⁰⁶ When packets are delayed beyond a certain threshold, TCP algorithms typically resend all unacknowledged data packets on the assumption they have been lost due to congestion, causing duplicate information to be sent to the ISP network and causing further congestion.¹⁰⁷ Moreover, this has disproportionate impacts on low-priority traffic; because TCP assumes that congestion (not queuing delay) is the source of dropped packets, timeouts activate TCP congestion control processes that throttle back transmission speeds much faster than speeds are allowed to increase.¹⁰⁸

Thus, low-priority packets are disadvantaged in several ways – they suffer general congestion delays, they suffer from additional queuing delays due to precedence of high-priority packets, and they are much more likely to fall back into low-speed modes of operation. This directly raises the cost of entry for new edge providers, who must either pay for prioritized service or face disproportionate difficulties reliably reaching residential customers.

- E. Individualized bargaining rules will create an incentive to reduce investment and capability of the slow lane.

Because the fast lane will produce premium revenue for ISPs, ISPs have every incentive to construct a slow lane that performs poorly enough to justify extra payments from those edge services who can afford to do so. The slow lane

Mueller, *Convergence of control? Deep packet inspection and the future of the Internet*, 2 *Comm'ns & Convergence Rev.* 2, 92-103 (2010).

¹⁰⁶ Geoff Huston, *The Future for TCP*, 3 *Internet Protocol J.* 2, at 4 (2000) (“TCP assumes that the switching elements use simple FIFO [first in, first out] queues to resolve contention within the switches.”).

¹⁰⁷ *Id.* at 3-4.

¹⁰⁸ *E.g.* slow-start or additive increase, multiplicative decrease (AIMD). *See id.* at 3.

will always be at least inadequate enough to urge a critical mass of users and edge providers towards the prioritized lane.

Paying for prioritization is only rational if it offers significant performance improvements, providing strong incentives for ISPs to create significant quality gaps between paid and basic service tiers. ISPs can take advantage of this by increasing bandwidth and quality of service for paid prioritization tiers, which will drive more edge providers pay for discrimination.¹⁰⁹ In addition, ISPs have little incentive to improve bandwidth for low-tier applications, since increasing congestion in basic tiers also drives edge providers toward paying for prioritization. Shifting investment patterns from general network investment to focus on prioritized services thus raises the cost of reaching residential users and leads to increasing barriers to entry over time.

1. The stagnated status quo “minimum baseline” quashes innovation and irreversibly harms users and edge providers.

Over time, the increased investment in the fast lane and the ongoing incentive to degrade the slow lane means that the fast lane gets faster while the slow lane stagnates and feels progressively slower by comparison. Imagine: if that tiered market structure had been the status quo when the FCC defined broadband in 1999 as 200 kbps or in 2010 at 4 Mbps, every “premium” service that required a 1 Mbps connection in 2008 or a 5 Mbps connection in 2014 would have been forced to pay an ISP gatekeeper. Consumers would have drifted away from potentially better products that could only afford to run on the slow lane. That abandonment “is death for a small website.”¹¹⁰

¹⁰⁹ Since prioritization is only relevant during congestion, such capacity increases will provide little benefit in uncongested environments.

¹¹⁰ Preserving an Open Internet: Rules to Promote Competition and Protect Main Street Consumers: Hearing Before the S. Comm. on the Judiciary, 113th Cong. (July 1, 2014) available at <http://www.judiciary.senate.gov/download/07-01-14-orton-testimony> (statement of Caleb Orton, Proprietor, The Vermont Country Store).

Such stagnation would not necessarily happen overnight – it would be subtle at first, but systemic and difficult to reverse. Small businesses that might have competed on equal footing with incumbent companies will find themselves stuck in the slow lane. Local businesses that might have grown a worldwide consumer base never get a chance to realistically compete on that level because Walmart and Amazon can afford faster shopping experiences for consumers.¹¹¹ Traditionally marginalized and disenfranchised voices that arguably benefited more than anyone from the open internet’s low barrier to entry may see control once more consolidated in the hands of gatekeepers. Most troubling, the future of the internet may not get a chance to benefit from the type of disruptive innovations that might have occurred in a unified, dynamic internet – a harm that is nearly impossible to quantify because consumers cannot miss what they never had.

In fact, a tiered network system undermines the entire “virtuous cycle”¹¹² of both broadband and content innovation. The Commission has emphasized, and the court has found “reasonable and grounded in substantial evidence,” this cycle, in which “new uses of the network – including new content, applications, services, and devices – lead to increased end-user demand for broadband, which drives network improvements, which in turn lead to further innovative network uses.”¹¹³ The Commission determined that this cycle “depends upon low barriers to innovation and entry by edge providers, which drive end-user demand” and that “[r]estricting edge providers’ ability to reach end users, and limiting end users’ ability to choose which edge providers to patronize, would reduce the rate of innovation at the edge and, in turn, the likely rate of improvements to network infrastructure.”¹¹⁴ A two-tier internet will increase barriers to entry for most edge

¹¹¹ *Id.*

¹¹² Open Internet Order, *supra* note 2, at ¶¶ 40-42.

¹¹³ Open Internet Order, *supra* note 2, at ¶ 14.

¹¹⁴ Open Internet Order, *supra* note 2, at ¶ 14.

providers and limit their ability to reach end users, thereby directly harming innovation and investment.

Although a minimum level of access may protect some typical edge users, it does not protect atypical uses. For example, an internet end user is likely to have “reasonable expectations” only for services and applications that already exist.¹¹⁵ In determining the initial definition of broadband, the Commission focused on capabilities robust “enough to provide the most *popular* forms of broadband” (emphasis added),¹¹⁶ and when updating the definition to 4 Mbps focused on changing “consumer expectations.”¹¹⁷ Innovation, on the other hand, is “the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.”¹¹⁸ By definition, these could not involve either “popular” services or strong “expectations” on the part of consumers. Thus, even an evolving standard based on changing technical or social expectations is likely to harm the virtuous cycle by freezing service at a level useful for existing applications but not conducive to the development of new ones.

These are not simply theoretical issues. Some venture capitalists have already stated that, because of the possibility of paid prioritization, they plan to “‘stay away from’ startups working on video and media businesses”¹¹⁹ and have

¹¹⁵ NPRM, *supra* note 60, at ¶ 104.

¹¹⁶ Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, *Report*, 14 FCC Rcd 2398, 2402, 2446-48 (1999) [hereinafter *First Report*].

¹¹⁷ Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, 25 F.C.C.R. 9556, 9557, 9558-59 ¶¶ 10-11 (2010) [hereinafter *Sixth Broadband Deployment Report*].

¹¹⁸ *Oslo Manual Guidelines for Collecting and Interpreting Innovation Data*, OECD 46, http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oslo-manual_9789264013100-en (last visited July 14, 2014).

¹¹⁹ David Talbot, *Talk of an Internet Fast Lane Is Already Hurting Some Startups*, MIT Tech. Rev. (May 7, 2014),

noted that “[t]he latest proposal from the FCC on net neutrality now adds another impediment to the already challenging fund-raising environment for digital media startups.”¹²⁰ Kickstarter CEO Yancey Strickler has said that paid prioritization “roadblocks would have created enormous logistical and financial hurdles – ones so big they might have shut us down before we got started.”¹²¹ Actual residential customers also dislike the idea; nationally, 58% of Americans oppose paid prioritization.¹²²

2. There is no reason to believe that additional revenue earned from paid prioritization arrangements would be reinvested in build-out.

ISPs insist that the ability to charge content companies for better access to consumers ultimately benefits the entire industry because it will fund future network build-out and investment in infrastructure. But ISPs are already profitable, yet network build-out does not reflect proportional reinvestment.

It is unclear why, if today’s ISP profits are not reinvested into the network, future profits based in part on monetizing subpar network performance would be. At what point do ISP profits reach the high water mark where ISPs can finally start to turn more of the profits into improvements in consumer experience or

<http://www.technologyreview.com/news/527006/talk-of-an-internet-fast-lane-is-already-hurting-some-startups/>.

¹²⁰ Alex Wilhem, *Despite Furor, Proposed Net Neutrality Changes Appear Headed For A Vote*, TechCrunch (May 9, 2014), <http://techcrunch.com/2014/05/09/despite-furor-proposed-net-neutrality-changes-appear-headed-for-a-vote/>.

¹²¹ Yancey Strickler, *FCC’s ‘fast lane’ Internet plan threatens free exchange of ideas*, Washington Post (July 4, 2014), http://m.washingtonpost.com/opinions/kickstarter-ceo-fccs-fast-lane-internet-plan-threatens-free-exchange-of-ideas/2014/07/04/a52ffd2a-fcbc-11e3-932c-0a55b81f48ce_story.html.

¹²² *Net Neutrality: 58% Say Government Should Not Allow Paid Prioritization Deals in New Consumer Reports Survey*, Consumers Union (June 20, 2014), <http://consumersunion.org/news/net-neutrality-58-say-government-should-not-allow-paid-prioritization-deals-in-new-consumer-reports-survey/>.

access? Without concrete evidence to support this claim, it is difficult to justify taking such unsubstantiated promises of further build-out to heart as deserving weight in the current policymaking process.

- F. Even the proposed rule is unlikely to withstand court scrutiny because the “minimum baseline tier” would still be subject to common carrier rules.

Should the Commission ignore the significant economic and regulatory problems and go forth with its current proposal, it still faces the same legal challenges of the previous rule because the “minimum baseline” would likely operate subject to identical common carrier principles overturned in *Verizon*. If the proposal implements a “minimal level of access” for all consumers, the baseline tier would presumably have to treat all traffic across that tier equally – in other words, would be subject to some form of nondiscrimination requirement.¹²³

As a result, the court could very well deem this tier-specific nondiscrimination to be directly contradictory to their holding in *Verizon*. The only foreseeable outcome of the “minimum access” rule that the Commission currently proposes would be to leave sufficient room for individualized bargaining and discrimination in terms so as not to run afoul of the statutory prohibitions on common carrier treatment,” or else be thrown out.¹²⁴ Even a slow lane would then require “different edge providers to negotiate at different prices.”¹²⁵

The current proposal results in the worst of both worlds. It allows discrimination on its face, thus running counter to the fundamental tenets of network neutrality rules. It also prolongs the current legal purgatory that began with the 2010 Open Internet Order and was perpetuated by the *Verizon* decision

¹²³ NPRM, *supra* note 60, at ¶¶ 97-99.

¹²⁴ *Verizon*, 740 F.3d at 60-61 (quoting *Cellco P’ship v. FCC*, 700 F.3d 534, 548 (D.C. Cir. 2012)).

¹²⁵ *Verizon*, 740 F.3d at 60.

in January because it is unclear whether its attempt to create a baseline within its discriminatory framework would be considered a common carriage rule. The simple reality is that any rules not adopted under Title II *must* either authorize massive network discrimination and individualized bargaining,¹²⁶ and thus are antithetical to meaningful network neutrality, or else will be struck down again.

G. The Commission's specific proposals are unworkable.

In addition to the flaws described above, the Commission's proposals fail as constructed. The mechanisms to maintain a minimum level of access would be doomed to lock the United States into a pattern of a slowing open internet.

1. The "commercial reasonableness" rule does not mitigate abusive practices.

The Commission's proposed rules would allow some forms of paid prioritization but "would be subject to scrutiny under the proposed commercial reasonableness rule and prohibited under that rule if they harm Internet openness."¹²⁷ However, commercial reasonable is a subjective standard that is prone to abuse, and in other instances subject to similar rules, "commercial reasonableness" has not reduced problematic practices.

For example, T-Mobile has stated, in relation to the Commission's order mandating mobile data roaming,¹²⁸ that "real-world industry experience shows that providers continue to be stymied in their efforts to negotiate data roaming agreements on commercially reasonable terms,"¹²⁹ and that "[s]ince adoption of

¹²⁶ NPRM, *supra* note 60, at ¶¶ at 60-61 (citing Cellco, 700 F.3d at 548).

¹²⁷ NPRM, *supra* note 60, at ¶ 97.

¹²⁸ Data Roaming Order, *Report & Order*, WT Docket No. 05-265, 1 (2011), https://apps.fcc.gov/edocs_public/attachmatch/FCC-11-52A1.pdf.

¹²⁹ Petition for Expedited Declaratory Ruling of T-Mobile USA, Inc., *Petition*, WT Docket No. 05-265, 2 (2014)(available at <http://apps.fcc.gov/ecfs/document/view?id=7521151798>) [hereinafter *T-Mobile Petition*]. See also *id.* at 10 n.42 (citing Letter from Donald J. Evans, Fletcher, Heald & Hildreth, P.L.C., Counsel to Youghioghny Communications, LLC, to Philip Verveer, Senior Counselor, FCC, WT Docket No. 13-193, at 4 (filed Feb. 6, 2014)

the data roaming rule ... carriers have continued to report that 'the negotiation of data roaming agreements has not meaningfully progressed.'"¹³⁰ Specific problems cited include proposed data roaming rates orders of magnitude greater than a carrier's retail rates to its data customers, delays of eight months to obtain responses to roaming requests, penalties for deviating from traffic projections, and testing procedures that take an undisclosed or indeterminate time to complete.¹³¹ Given that the Data Roaming Order serves as a blueprint for the current proposal's "commercial reasonableness" standard for both the court and the Commission, similar abuses seem highly likely in the edge provider market.

2. A best-efforts minimum level of access with paid prioritization is not the same as a best-efforts internet, and offers little protection for most edge providers.

In its first attempt to define a minimum level of access, the Commission proposes that ISPs "apply no less than a 'best effort' standard to deliver traffic to end users," noting that the internet has traditionally relied on best-effort delivery

("[W]e feel that the rule mandating 'commercially reasonable rates' has been an utter failure in ensuring that reasonable rates are available. The roaming rates currently being offered are patently outrageous by any measure."); *id.* at Ex. 1, Declaration of Dirk Mosa ¶ 9 ("In my view, certain "must-have" carriers are using the ambiguity of the *Data Roaming Order* as a shield to protect and extend unreasonable roaming practices. T-Mobile currently is unable to obtain data roaming at commercially reasonable rates and terms from these carriers. While these problems are not limited to any one carrier, T-Mobile's experience with AT&T provides a concrete example of the need for further action by the Commission.")

¹³⁰ T-Mobile Petition, *supra* note 128 at 11. See also Reexamination of Roaming Obligations of Commercial Mobile Radio Service Providers And Other Providers of Mobile Data Services, Comments Of Public Knowledge, Open Technology Institute at New America Foundation, Benton Foundation and Common Cause, WT Docket No. 05-265, (2014), available at <http://apps.fcc.gov/ecfs/document/view?id=7521374919>.

¹³¹ *Id.*

of packets by network operators.¹³² However, a best-efforts internet that also allows one or more paid prioritization tiers does not offer the same functionality as a best-efforts internet, and in fact offers little protection for those not paying for traffic prioritization.

In particular, when paid prioritization is allowed, best-efforts routing may not allow transmission of *any* traffic that has quality-of-service requirements. In the worst case, when no specific minimum level of service is provided and there is enough usage of paid traffic prioritization, the only reliable services that will be delivered will be those with very high latency and jitter tolerance – that is, basic data transfer. Given the popularity of streaming media, interactive communication tools, and online gaming services, this is real and substantial decline in the utility of the basic internet to the average user.

Furthermore, one of the reasons that a “best-efforts” system results in high performance is that all data is treated equally. If an ISP wants to improve the performance of a given application, it must upgrade the network for all. If ISPs are allowed to offer a priority service, they lose their incentive to make sure that “best-efforts” are good enough for every application a subscriber might want to access.

Fortunately, ISPs themselves acknowledge that, from a technical perspective, an open, best-efforts is sufficient for foreseeable broadband needs. For example, Verizon’s David Young, the company’s vice president of federal regulatory affairs, has said that the “best-effort Internet is even good enough for 4K video streaming. Ten years ago no one would have believed what we are able to do on the Internet today. And yet it’s happening. And innovation will continue. We will find new ways to make it work as network speeds and

¹³² NPRM, *supra* note 60, at ¶ 102.

demand for data increase. And *we can do this without prioritizing network traffic*” (emphasis added).¹³³

3. A minimum level of access defined in more specific terms will be difficult to administer.

The Commission’s second and third proposals use benchmarks to establish a minimum level of access in more specific terms. The second proposal uses technical parameters, such as a minimum speed,¹³⁴ while the third proposal uses an “evolving” “level that satisfies the reasonable expectations of a typical end user.”¹³⁵ These are both superior to the best-efforts model, in that they offer a set level of performance and require at least modest investments from network operators over time to maintain service levels. However, both proposals still fail to protect the open internet for similar reasons.

In particular, the Commission has demonstrated that even when it has a statutory duty to periodically update the definition of a telecommunications level of service, it typically uses highly conservative numbers, revising them slowly only after a robust set of applications already exists.

For example, the Commission first defined broadband as having at least 200 kbps downstream capability in 1999.¹³⁶ It took *eleven* years for the

¹³³ Marguerite Reardon, *Verizon vs. Netflix: What’s This Really About? (Q&A)*, CNET (June 7, 2014, 4:00 AM), <http://www.cnet.com/news/verizon-vs-netflix-whats-this-really-about/>.

¹³⁴ NPRM, *supra* note 60, at ¶ 103.

¹³⁵ NPRM, *supra* note 60, at ¶ 104.

¹³⁶ First Report, *supra* note 115, at 2446-48. See also 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, Report, CC Docket No. 98-146, 20, (1999) (available at http://transition.fcc.gov/Bureaus/Common_Carrier/Reports/fcc99005.txt) (“[W]e define “broadband” as having the capability of supporting, in both the provider-to-consumer (downstream) and the consumer-to-provider (upstream) directions, a speed (in technical terms, “bandwidth”) in excess of 200 kilobits per second (kbps) in the last mile. . . . We have initially chosen 200 kbps because it is enough to provide the most popular forms of broadband – to change web pages

Commission to revisit this benchmark, only raising the definition to the relatively low 4 Mbps downstream in 2010.¹³⁷ The Commission is only now considering raising the definition again, to 10 Mbps or more downstream, well after rising use of smartphones, tablets, and connected electronics has led to an explosion in the number of broadband devices and online streaming video that cannot easily be supported at 4Mbps has become commonplace.¹³⁸

Even if this Commission is able to successfully increase its definition of broadband to 10 Mbps—a speed that is fractions of what is available in many other countries¹³⁹—there is no guarantee that future Commissions will continue the trend of revising minimum speed levels upward. Furthermore, any nationwide guaranteed minimum standard will slow the growth of higher speed networks by locking in a speed that is slower than is available in many parts of the country.¹⁴⁰ While 10 Mbps connections may be an improvement for some parts of the country, ISPs may be able to charge supracompetitive prices for higher speed tiers in other areas with more robust existing broadband connections.

Slowly changing definitions of broadband may have limited impacts on innovation in a fully open environment, where all potential new edge providers share the benefits of network investments. However, when paid prioritization is

as fast as one can flip through the pages of a book and to transmit full-motion video.”).

¹³⁷ Sixth Broadband Deployment Report, *supra* note 116, at ¶¶ 10-11.

¹³⁸ Brian Fung, *The FCC May Consider a Stricter Definition of Broadband in the Netflix Age*, Wash. Post (May 30, 2014), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/05/30/the-fcc-may-consider-a-stricter-definition-of-broadband-in-the-netflix-age>.

¹³⁹ See OECD Communications Outlook 2013 105-111 (2013).

¹⁴⁰ See, e.g., Rank > Metropolitan Statistical Area > Within Nation Metric > Speed Download Greater Than 25 Mbps, National Broadband Map (June 30, 2013), <http://www.broadbandmap.gov/rank/all/msa-metropolitan-statistical-area/percent-population/within-nation/speed-download-greater-than-25mbps/ascending>.

allowed, such lags cause disproportionate damage to the virtuous cycle of innovation, since they reduce the excess network capacity accessible to most potential edge providers, which in turn dampens innovation and the development of new applications.

IV. Data Caps Threaten an Open Internet

Although much of the discussion surrounding the open internet has focused on fast lanes and slow lanes based on speed, data caps can also have a negative impact on the open internet. Caps can be used to influence user behavior, influence the development of new types of applications, and put ISPs in the position to determine winners and losers online.

- A. Data caps are designed to create and monetize artificial scarcity online.

Although there was a time that ISPs pointed to network congestion as a justification for data caps, that justification is no longer valid. First, monthly data caps were never a logical response to network congestion. Network congestion happens at specific place and specific time on the network. There is no evidence that reducing overall data use would drive people away from using the network during peak (and presumably high congestion) times.

Second, and perhaps more importantly, network congestion is no longer a threat to networks. NCTA President Michael Powell admitted as much in 2013.¹⁴¹ Just last month, T-Mobile President John Legere described the concept of data scarcity as an “illusion.”¹⁴² These words have been backed up by actions by ISPs.

¹⁴¹ John Eggerton, *NCTA's Powell: Usage-Based Pricing About Fairness, Not Capacity*, Broadcasting & Cable (Jan. 17, 2013), <http://www.broadcastingcable.com/news/washington/nctas-powell-usage-based-pricing-about-fairness-not-capacity/61022>.

¹⁴² Kevin Fitchard, *The Gigaom interview: T-Mobile's John Legere on the myth of mobile data scarcity*, GigaOm (June 19, 2014, 12:23 AM), <http://gigaom.com/2014/06/19/interview-with-t-mobile-ceo-john-legere/>.

Comcast would not be turning its residential routers into public wifi hotspots¹⁴³ if it were worried about network congestion. Similarly, neither AT&T nor T-Mobile would be exempting certain data from the data caps that they impose on customers if their networks were simply overcrowded.

Instead, data caps allow ISPs to create artificial scarcity online. They limit the availability of an abundant resource and, in doing so, position ISPs as gatekeepers online. AT&T CEO Randall Stephenson highlighted this truth last year. After telling investors that AT&T planned on reducing expenditures on network building, Stephenson explained that data caps were designed to create a mechanism that allowed AT&T to charge content providers.¹⁴⁴

- B. Metered and unmetered lanes raise the same concerns as fast and slow lanes.

While discussions about an open internet are often framed in terms of fast lanes and slow lanes, speed is not the only way to bifurcate broadband access. Data caps can be used to achieve many of the same goals and speed-based lanes, often in even more opaque ways.

By creating a fast lane and slow lane, and by determining which services are allowed in which lanes, ISPs assert themselves as gatekeepers to success online. The fast lanes allow services to function better, giving them an advantage in the marketplace.

Data caps create an almost identical dynamic. Once a data cap is in place, ISPs can then exempt some services from the cap, thus giving them an advantage over competitors. Metered/unmetered lanes can be just as harmful to the open internet as fast/slow lanes.

¹⁴³ Adam Clark Estes, *Comcast Wants to Turn Home Routers into Public Wi-Fi Hotspots*, Gizmodo (May 10, 2014, 2:40 AM), <http://gizmodo.com/comcast-is-turning-your-home-router-into-a-public-wi-fi-1588745053>.

¹⁴⁴ Michael Weinberg, *AT&T CEO: Data Caps Are About Charging Content Providers*, Public Knowledge (May 15, 2013), <http://www.publicknowledge.org/blog/att-ceo-data-caps-are-about-charging-content->.

However, by their very nature data caps contain the potential to make this harm even greater. To their credit, slow lanes give end users immediate feedback that the service they are using is being restricted in some way. While the slowed service may perform suboptimally, assuming it functions at all the only penalty for use is poor performance and lost time. While poor performance and lost time should not be dismissed lightly – oftentimes that will be enough to undermine the viability of a service – for many consumers they are preferable to overage fees associated with data caps.

C. Data caps stifle innovation and ossify the internet.

Today’s data caps are essentially set at random. While some ISPs insist that caps are designed to only impact heavy users, ISPs have been unable to explain exactly how the caps themselves are established.¹⁴⁵

Even if we are to assume that the caps were somehow indexed to actual usage patterns when they were imposed, there do not appear to be any mechanisms in place to adjust those caps over time. The history of the internet is littered with examples of technology that started with early adopters – presumably what is inevitably describe as the “small number” of users punished by data caps when they are established – that quickly spread to everyday use. In light of that, any assurances that data caps only target today’s “heavy users” should provide cold comfort for the future.

¹⁴⁵ See Letter from Public Knowledge and New America Foundation’s Open Technology Initiative to Sharon Gillett, Chief, Wireline Competition Bureau, FCC, Public Knowledge & New America Foundation’s Open Technology Initiative (May 6, 2011), <http://www.publicknowledge.org/letter-to-FCC-on-ATT-Data-Caps> ; Letter from Public Knowledge, et al. to Julius Genachowski, Chairman, FCC, Public Knowledge (July 14, 2011), <https://www.publicknowledge.org/files/docs/GenachowskiDataCapLetter.pdf> ; Letter from Public Knowledge to CEOs of AT&T, AT&T Mobility, Comcast, Cox, Sprint, T-Mobile, Time Warner Cable, Verizon, and Verizon Wireless, Public Knowledge (April 23, 2012), <https://www.publicknowledge.org/documents/letter-to-ceos-on-data-caps>.

Since data caps are essentially static, their existence impacts which services are developed. Developers begin “designing to the cap,” ignoring innovations that might require “too much” data and instead focusing on features that were already part of normal web behavior when the cap was set. This results in a homogenization and ossification of innovation online.¹⁴⁶

Limited exemptions to caps, like those offered by AT&T and T-Mobile, can actually exacerbate this problem. By identifying specific mature types of apps (such as music), or creating a pay-for-exemption option to the best-funded services, exemptions can release some of the pressure on ISPs to lift caps more generally. This further discourages the creation of new services that either cannot afford to pay their way around the caps or do not yet have a constituency capable of demanding a categorical exemption.

D. Data caps are especially problematic in the context of video.

While data caps can have a significant and negative impact on many new services, they are especially problematic in the context of video for at least two reasons. First, today video is the most widely adopted high-bandwidth activity only. Although it would be foolish to assume that it will be the only widely adopted high-bandwidth activity in the future (or even that video’s bandwidth requirements will appear comparatively high in the future), today it occupies a special position in the broadband ecosystem. It draws attention as an especially bandwidth-intensive activity and tends to define the outer edge of the debate.

Second, many ISPs are also in the pay-television business. In fact, there is an almost 1:1 correlation between ISPs capable of offering truly high speed internet – cable and fiber providers – and those offering a pay-television offering. Today competitors to an ISP’s pay-television business rely on the ISP’s broadband network to reach customers. That makes them vulnerable to network manipulation by ISPs. And since video is especially susceptible to data cap restrictions, data caps are an attractive way to accomplish just such manipulation.

¹⁴⁶ See Section III.E, *supra*.

Today's wired data caps are evidence of just such manipulation. Many wired data caps are set at monthly levels between 150 and 300 GB/mo. Although ISPs have historically been unable to explain how these levels are set, they are often quick to assure the public that they provide more than adequate data for normal users.

Unfortunately, that normal use assumes that subscribers are not replacing an ISP's pay-television service with an online competitor. According to estimates that Comcast provided to the Commission during its merger with NBC-Universal, fully replacing a traditional cable television subscription with an online competitor would require 648 GB of data per month. Even assuming a subscriber used her internet connection for nothing but watching video, that exceeds most wired data caps by at least a factor of two.

While complete over the top replacements for pay-television services may be relatively rare today, it is not hard to imagine them becoming commonplace soon. But without a mechanism forcing ISPs to increase data caps to keep up with evolving usage patterns, such services may be all but impossible for subscribers living under a cap.

E. Data cap abuses are not merely speculative.

The Commission need not rely on speculation that data caps could create problems for an open internet. We are already seeing ISPs use data caps to manipulate subscriber experiences online.

1. Comcast used data caps to advantage its own online Xfinity video offering.

In addition to linear cable television services and traditional video-on-demand, Comcast also offers subscribers an online Xfinity video app. Among other platforms, subscribers can access the Xfinity video app through their Xbox 360 consoles and Tivo devices. In order to access the Xfinity app, subscribers must subscribe both to cable television and broadband internet – a subscriber who only has television service will be unable to access the Xfinity app. When

installed, the Xfinity app appears alongside other internet-delivered video options such as Netflix, YouTube, and others.

However, the Xfinity app differs from its online video competitors in at least one significant way. Unlike Netflix, YouTube, and other online video services, the Xfinity video app is exempt from the data caps that Comcast imposes on its customers.¹⁴⁷ Thus, Comcast's broadband subscribers are presented with a choice: watch video from a provider unaffiliated with Comcast and risk hitting your data cap, or stay with Comcast to watch as much online video as you wish. Data caps allow Comcast to leverage its control of its broadband network to advantage its pay-television business.¹⁴⁸

2. AT&T's Sponsored Data program allows it to monetize artificial scarcity and creates a disincentive to increase caps over time.

Earlier this year, AT&T announced a new "sponsored data" plan for its wireless customers.¹⁴⁹ After imposing low data caps on its subscribers for years,¹⁵⁰ AT&T's program would allow edge providers to buy their way into an unmetered lane. In other words, having firmly entrenched artificial scarcity with caps, AT&T began monetizing that scarcity. This was months after AT&T informed investors that they anticipated reducing network-related capital

¹⁴⁷ See Applications of Comcast Corporation, General Electric Company and NBC Universal, Inc. For Consent to Assign Licenses and Transfer Control of Licenses, *Petition to Enforce Merger Conditions*, MB Docket No. 10-56 (August 1, 2012), available at <https://www.publicknowledge.org/files/Comcast-Xbox%20FINAL.pdf>.

¹⁴⁸ At the time of writing, the FCC has failed to act on Public Knowledge's petition in this matter filed almost two years ago.

¹⁴⁹ Russell Brandon, *Sponsored Data: AT&T will now let companies buy out your data charges for specific videos and apps*, The Verge (Jan. 6, 2014, 12:00 PM), <http://www.theverge.com/2014/1/6/5279894/at-t-announces-net-neutrality-baiting-sponsored-data-mobile-plans>.

¹⁵⁰ Peter Svensson, *AT&T Kills Unlimited Data Plan for iPhones, iPads*, HuffingtonPost (June 2, 2010, 7:22 PM), http://www.huffingtonpost.com/2010/06/02/att-data-plan-caps-phone-_n_597285.html.

expenditures, and that data caps were really about charging content providers in order to access the network.¹⁵¹

This puts AT&T in the classic position of internet gatekeeper. AT&T is now in a position to tax any person or service that wants to connect to millions of AT&T wireless subscribers. Even if AT&T makes this opportunity to pay open to all comers, its very existence provides an extra advantage to established services that can afford to pass the fee onto their customers. Startups considered too “data intensive” simply will not get funded and will be unable to get off the ground.

It also illustrates how data caps perpetuate themselves. Once ISPs are making money from providers willing to pay to avoid them, there is no incentive to increase or eliminate them.

3. T-Mobile’s music exemption illustrates the problems inherent with trying to create classification-based exemptions online and reduces pressure to increase caps more generally.

Most recently, T-Mobile announced that it was exempting selected music services from its data cap. While T-Mobile is not charging these services for their exempt status, the mere existence of the plan highlights the artificial nature of caps: an arbitrary exemption to an arbitrary cap that prioritizes one vaguely defined class of services above all others.

Now, new music services (assuming their definition of music service aligns with T-Mobile’s) have to find a way to register with T-Mobile for a data cap exemption. While asking permission from an individual ISP should be an unnecessary burden for any edge service, it becomes stifling if this type of service were to expand to other ISPs. Should every website or online service be required to file paper with every ISPs with customers it hopes to reach? Such bureaucratic overhead is anathema to an open internet.

¹⁵¹ Michael Weinberg, *AT&T CEO: Data Caps Are About Charging Content Providers*, Public Knowledge (May 15, 2013), <https://www.publicknowledge.org/news-blog/blogs/att-ceo-data-caps-are-about-charging-content>.

Furthermore, identifying which services actually qualify as “music” services will inevitably illustrate the problems with even well-intentioned attempts by ISPs to serve as gatekeepers. When does a site that streams music become a “music service”? Will services with experimental business models have problems qualifying? What about podcasts and other services that mix music with other audio content? None of these questions are impossible to answer, but each of them can be challenging to anticipate. By inserting itself as a gatekeeper, T-Mobile is essentially requiring services to be of a pre-existing class that has already occurred to T-Mobile executives before the service can be considered for exemption. This inevitably stifles the kind of unexpected creativity and innovation that has traditionally been the hallmark of the internet.

- F. Data caps undermine the viability of wireless as a competitor to wired internet.

Data caps are a significant (although not the only) reason why wireless internet connections are not truly substitutes for wired ones. Even if speeds are comparable, most wireless internet connections come with data caps that would be unthinkable low on wired connections. For communities who rely on wireless internet connections – especially rural communities and low-income communities – this effectively creates a two-tier internet where many services are simply unavailable.

This dynamic is exacerbated by the nature of data cap penalties. While slow connections may make using the internet a frustrating experience, data caps with financial penalties can make it financially dangerous. Especially in low income communities, data cap penalties disincentivize using the internet – exactly the opposite of the incentive structure that should exist.

- G. Data caps impose significant costs with little benefit.

As detailed above, data caps impose significant costs on almost every player in the internet ecosystem except ISPs. ISPs and other data cap supporters sometimes justify caps because they can facilitate price discrimination, allowing

heavy users to pay a greater cost of network improvements.¹⁵² While price discrimination on broadband networks is of course a legitimate practice, a closer examination makes it clear that data caps are a poor tool to implement such market sorting.

1. Price Discrimination and Internet Access

In the history of the consumer internet, there have been at least three different proxies for price discrimination in the market. Data marks a clear move away from consumer-friendly and innovation-encouraging proxies such as speed.

- a. Time

The first proxy for price discrimination in the market was time. In the dial-up era, originally most people accessed the internet at a per-minute rate. In many ways, time served as an effective proxy for how much a consumer valued her connection. People who used the internet more presumably valued it more and therefore paid more. People who used the internet less presumably valued it less and therefore paid less. As an added benefit, people had an existing understanding of time and could (reasonably) accurately estimate how much time they were spending online.

For all of its benefits as a price discrimination tool, per-minute pricing was not popular with customers. It turned every session into an exercise in watching the clock, getting the information you needed as quickly as possible and then getting off. The per-minute structure discouraged browsing for new information and trying new services. It made the internet a precious thing that could be stressful to begin to explore.

¹⁵² See Daniel A. Lyons, *The Impact of Data Caps and Other Forms of Usage-Based Pricing for Broadband Access*, Mercatus Center (Oct. 2012), <http://mercatus.org/publication/impact-data-caps-and-other-forms-usage-based-pricing-broadband-access>; Johannes M. Bauer and Steven S. Wildman, *The Economics of Usage-Based Pricing in Local Broadband Markets*, Mich. State Univ. (Dec. 14, 2012), http://i.ncta.com/ncta_com/PDFs/Wildmanreport_web.pdf.

Fortunately, the dial-up ISP market was fiercely competitive. This competition drove per-minute prices down and, eventually, led to unlimited monthly access fees. Suddenly, consumers could explore the internet at their leisure. They could try new things and seek out information they did not even realize that they wanted. It also made trying the internet for the first time less fraught with anxiety. These were all positive developments for the growth of the internet.

b. Speed

However, the move to unlimited monthly access made price discrimination much harder by eliminating time as an available proxy. But just as dial-up was going unlimited, ISPs began rolling out always-on broadband. This presented a new proxy for price discrimination: speed.

Like time, speed served as a reasonable proxy for price discrimination. People who valued the internet highly valued speed. High speed meant that they could do more things, and that more advanced applications worked better.

Speed also excelled as a signaling device of value to consumers. It gave consumers immediate feedback that they might be high-value internet users. For example, if a particular website always loaded slowly, the consumer could evaluate – in real time – if they valued a speedy load time for that site enough to pay more for a faster tier. Being annoyed by a slow load time once an hour suggested that it was time for a faster connection. Conversely, if the annoyingly slow download was a rare occurrence, it might not be worth paying extra to speed it up.

Just as importantly, speed had none of the drawbacks of time. There were no financial penalties for exploring the internet and trying new things. There was no meter to keep track of, or minutes to count. Doing something new – like building a website or streaming a song – did not require a user to decide what established internet habit she was going to give up for the month.

As a result, speed fueled a virtuous cycle of broadband expansion. Liberated from keeping an eye on the clock, users were free to explore the

internet and try new things. As they discovered more and more new things, their demand for faster connections increased. Consumers moving up the pricing scale helped fund further network improvements making speed more accessible and restarting the cycle once again.

c. Data

In some ways, speed was too good of a proxy. It was a metric that consumers understood and that allowed them to effectively sort themselves. Slow tiers reduced the chance of someone being priced out of connectivity altogether. Faster tiers gave high-value users a reason to pay more. But the ease of understanding speed also meant that there were fewer people overpaying for a tier they did not really need.

While ISPs might want people to over-pay for their internet connection, in a competitive market that wish would go unfulfilled. The market would quickly punish any ISP that moved from a proxy that consumers accepted to a proxy that consumers hated. However, in a market with limited competition it might be possible to replace a consumer-friendly proxy with a more ISP-friendly one. That appears to be what is happening as ISPs move towards using data as a major tool of price discrimination.

Pricing connectivity according to data consumption is like a return to the use of time. Once again, it requires consumers keep meticulous track of what they are doing online. With every new web page, new video, or new app a consumer must consider how close they are to their monthly cap. Using the internet becomes an exercise in worrying about paying overage fees, not in exploring and trying something new.

Inevitably, this type of meter-watching freezes innovation. Instead of seeking out new applications and then demanding connections that can support them, consumers stick with what they know and assume what they have is

“good enough.” This is good news for ISPs who would prefer to avoid spending on network upgrades, but bad news for everyone else.¹⁵³

Data caps introduce new problems as well. Unlike time, almost no one has an intuitive understanding of data. Most consumers do not understand what a megabyte is, or how they relate to the gigabytes that are used to define their caps. Furthermore, file sizes can be hard to estimate. A minute of internet access is always equal to a minute of internet access. But a minute of video can require a highly variable amount of data.¹⁵⁴ Simply intuiting one’s data consumption can lead to frequent, and costly, errors. In fact, measuring data usage is so complicated that few ISPs are able to present independent certification that their own meters are accurate.¹⁵⁵

Finally, data massively delays the feedback loop offered by speed. As described above, speed expresses itself to a consumer *while she is engaged in the data-intensive activity*. If a user’s video is buffering, she can ask herself how often she watches online video and if that activity justifies moving up to the next price tier. In sharp contrast, a user does not find out that she exceeded her data allowance until she receives an alert that she must pay an overage fee. At that moment, she must try and reconstruct days, weeks, or even a whole month’s worth of usage and try to identify which data-intensive activities she was engaged in, how important they are to her, and if they are worth paying extra to

¹⁵³ This is especially true as capital investment in cable networks have slowed as the profitability of those networks have increased. See Hibah Hussain *et al.*, *Capped Internet: No Bargain for the American Public*, New America Foundation (Feb. 20, 2013), http://www.newamerica.net/publications/policy/capped_internet_no_bargain_for_the_american_public.

¹⁵⁴ Streaming rates change not only from ISP to ISP, but also from month to month on the same ISP. See, e.g., *The ISP Speed Index from Netflix*, Netflix (June 2014), <http://ispspeedindex.netflix.com>.

¹⁵⁵ See Stacey Higginbotham, *More bad news about broadband caps: Many meters are inaccurate*, GigaOm (Feb. 7, 2013, 5:00 AM), <http://gigaom.com/2013/02/07/more-bad-news-about-broadband-caps-many-meters-are-inaccurate/>.

support. In light of this uncertainty, it should come as no surprise that many consumers choose to over-buy and under-use data.

2. Stepping Back Instead of Moving Forward

There is no doubt that price discrimination can benefit consumers and increase broadband availability. But how price discrimination is implemented is just as important as whether it is implemented in the first place. In that regard, moving from speed-based discrimination to data-based discrimination represents a step in an anti-consumer direction. When compared to speed, data is harder to understand, discourages experimentation, and may intimidate novice internet users. This shift undermines our national goal of a digitally-literate citizenry constantly innovating online.

V. The Commission Should Recognize That Broadband Access Is “Telecommunications” That Providers Offer as a “Telecommunications Service”

In the years since the Commission’s decision in the *Cable Modem Ruling*,¹⁵⁶ the broadband market has matured, developing certain common features and attributes that clearly constitute a specific, distinct, non-integrated offering of “broadband access service.” The Commission has consistently defined this offer to use the TCP/IP protocol suite to transport information created by the customer on the customer’s own equipment as the “telecommunications component” of broadband access service.¹⁵⁷ In light of market developments,

¹⁵⁶ *Inquiry Concerning High-Speed Access to Internet Over Cable & Other Facilities, Internet Over Cable Declaratory Ruling, Declaratory Ruling & Notice of Proposed Rulemaking*, 17 FCC Rcd. 4798, 4843-44, ¶ 83 (2002), https://apps.fcc.gov/edocs_public/attachmatch/FCC-02-77A1.pdf [hereinafter *Cable Modem Ruling*].

¹⁵⁷ See, e.g., *GTE Tel. Operating Cos., Mem. Op. & Order*, 13 FCC Rcd. 22,466, 22,477-78, ¶ 20 (1998); *In re Commc’ns Assistance for Law Enforcement Act & Broadband Access & Servs., First Report & Order & Further Notice of Proposed Rulemaking*, 20 FCC Rcd. 14,989, 14,996-97, ¶ 15 & nn.52-53 (2005), pet. for review denied sub nom. *Am. Council on Educ. v. FCC*, 451 F.3d 226, 229-35 (D.C.

recent Congressional action, and the *Verizon v. FCC* decision, the Commission has a responsibility to assess whether this offer of telecommunications meets the traditional *NARUC* test for “telecommunications service,” and whether the offer is sufficiently distinct to constitute a clearly understood unique offering as part of the bundle of services offered by providers.¹⁵⁸

Under well-established precedent, the *NARUC* analysis looks strictly to the nature of the offer made by the provider to determine how the abstract “member of the public” would perceive the offer.¹⁵⁹ Tellingly, even in the *Cable Modem Ruling*, the Commission never required any evidence of subjective consumer impressions. Indeed, to require such evidence would appear to violate the *NARUC* court’s formulation that “a particular system is a common carrier by virtue of its functions.”¹⁶⁰ Given that the Commission gave no indication in the *Cable Modem Ruling* that it intended to depart from the long-standing *NARUC* test with regard to the nature of the “offer,” and given that the *Cable Modem Ruling* did not rely on any evidence with regard to consumer use and perception, the Commission should not require any such evidence here.

Similarly, the *NARUC* factors make no distinction based on the nature of the technology, the platform, or the competitive environment.¹⁶¹ To the contrary, as the Commission found in the *Cable Modem Ruling*, and the Supreme Court affirmed in *Brand X*, the relevant inquiry hinges entirely on the nature of the

Cir. 2006) (recognizing “well-settled distinction” between “‘information services’ and the underlying ‘telecommunications’ that transport them”).

¹⁵⁸ Nat’l Ass’n of Regulatory Util. Comm’rs v. FCC (*NARUC*), 525 F.2d 630, 644 (D.C. Cir. 1976).

¹⁵⁹ Nat’l Cable & Telecomm. Ass’n v. Brand X Internet Servs. (*Brand X*), 545 U.S. 967, 976 (2005) (citing *In re Amendment of § 64.702 of the Comm’n’s Rules & Regulations* (Second Computer Inquiry), Order, 77 F.C.C.2d 384, 417-23, ¶¶ 86-101 (1980)); *Time Warner Telecom, Inc. v. FCC*, 507 F.3d 205, 217 (3d Cir. 2007); *Vonage Holding Corp. v. FCC*, 489 F.3d 1232, 1238-39 (D.C. Cir. 2007); *Am. Council on Educ. v. FCC*, 451 F.3d 226, 230 (D.C. Cir. 2006).

¹⁶⁰ *NARUC*, 525 F.2d at 644.

¹⁶¹ *NARUC*, 525 F.2d at 640-44.

“offer,”¹⁶² and not on the technological platform. Accordingly, no reason exists to distinguish wireless from wireline broadband access.

- A. The Commission has the ability to identify and classify a distinct broadband internet access service.

The Commission has a legal responsibility to reexamine a service as it evolves, and regulatory classification must reflect changes in the service.¹⁶³ In particular, when analyzing whether a provider offers a service as a “telecommunications service” under Title II, the Commission looks to the actual conduct of the provider rather than how the provider chooses to characterize itself.¹⁶⁴ Looking to the current marketplace of 2014, and giving due deference to the signals from Congress, the Commission can and should identify a distinct “broadband Internet access service,” as the Commission proposed in 2010: “any communication service by wire or radio that provides broadband Internet access directly to the public, or to such classes of users as to be effectively available directly to the public” that provides “Internet Protocol data transmission between an end user and the Internet,” where the internet is defined as “the system of interconnected networks that use the Internet Protocol for communication with resources or endpoints reachable, directly or through a proxy, via a globally unique Internet address assigned by the Internet Assigned Numbers Authority.”¹⁶⁵

Put more simply, broadband access providers offer to transmit data of the end user’s choosing from the end user’s device to another device also connected to the internet. An analysis of today’s market shows that providers offer broadband access service “indifferently,” *i.e.*, without making “individualized

¹⁶² *Brand X*, 545 U.S. at 967; *Cable Modem Ruling*, *supra* note 156, at 4822, ¶ 38.

¹⁶³ *Quincy Cable TV, Inc. v. FCC*, 768 F. 2d 1434, 1442, 1457-58, 1463 (D.C. Cir. 1985); *NARUC*, 525 F.2d 630, 644.

¹⁶⁴ *See, e.g.*, *Cable Modem Ruling*, *supra*, note 156, at 4820-22, ¶ 34-38 (“[W]e examine below the functions that cable modem service makes available to its end users”).

¹⁶⁵ *Open Internet Order*, *supra* note 2.

decisions . . . whether and on what terms to deal,”¹⁶⁶ and to such classes of the general public as they can offer. Accordingly, the Commission should treat this offering as a telecommunications service under Title II.

1. The market has identified a distinct broadband access offering.

Broadband access providers clearly provide “broadband access” as a component in the bundle of services they offer to consumers. A sample of the advertising materials from the websites of leading broadband providers¹⁶⁷ shows that they plainly and distinctly offer to provide the service described above.¹⁶⁸ Verizon’s FiOS, for example, advertises its FiOS service as “enabling Internet speeds up to 500/100 Mbps,” while also listing additional services like “485+ TV channels with mobile capabilities” and “Digital phone quality with 99.9% network reliability.”¹⁶⁹ Comcast offers “download speeds up to 150 Mbps.”¹⁷⁰ Other access providers similarly display their upload and download capacity prominently, with text assuring potential customers that their internet access service is “Fast, Reliable and Connected.”¹⁷¹

¹⁶⁶ *NARUC*, 525 F.2d at 641.

¹⁶⁷ See App. A for a representative overview.

¹⁶⁸ Section V.C, *infra*, Commenters analyze this offer under the *Cable Modem Ruling* framework to determine whether the telecommunications components and the information service components are “integrated” or not. As a preliminary first step, however, Commenters establish that there exists a distinct telecommunications component identifiable as “broadband access service.”

¹⁶⁹ *Verizon FiOS*, Verizon, <http://www.verizon.com/home/fios/> (last visited July 7, 2014).

¹⁷⁰ Comcast Xfinity, <http://www.comcast.com/internet-service.html> (last visited July 7, 2014).

¹⁷¹ See, e.g., AT&T U-Verse, <http://www.attoffer.com/internet> (last visited July 7, 2014).

2. Congress has recognized broadband as a distinct, definable service offering.

The passage of the Broadband Data Improvement Act of 2008 (“BDIA”),¹⁷² in which Congress instructs the FCC to make national and international comparisons with regard to the availability of “broadband” through diverse technologies, further reinforces the conclusion that there exists a distinct, definable service offering called “broadband.” Although the BDIA does not define broadband, the statute directs the FCC to compare the “actual data transmission speeds” and “the types of applications and services consumers most frequently use in conjunction with such capability.”¹⁷³ In 2009, as part of the American Recovery and Reinvestment Act (“ARRA”), Congress acted to affirm the existence of an identifiable “broadband” service, underscore its critical importance to the economy, and express its preference that providers offer this service under conditions of non-discrimination and interconnection.¹⁷⁴

- B. The Commission has found that the definition of “telecommunications service” employs the traditional *NARUC* test.

Accepting the existence of the broadband access component in the service offered by broadband providers, Commenters next demonstrate that this component meets the definition of a “telecommunications service” as set forth in the statute.¹⁷⁵ Because the Commission has not always spoken with clarity with regard to services offered using the TCP/IP protocol suite, the Commission should take this opportunity to emphasize that there is no generalized “IP exception” to the Commission’s definitional rules. To the contrary, Section 3(46) emphasizes that the determination of a telecommunications service does not turn

¹⁷² See Pub L. No. 110-385, 122 Stat. 4096 (codified at 47 U.S.C. §§ 1301, 1303).

¹⁷³ See 47 U.S.C. §1303(c).

¹⁷⁴ See Pub. L. No. 111-5, 123 Stat. 115 § 6001 (codified at 47 U.S.C. § 1305).

¹⁷⁵ 47 U.S.C. § 153(46) (2014).

on the nature of the technology used.¹⁷⁶ Particularly in light of previous Commission acceptance of tariffs for IP-based services, the Commission should forcefully reject the idea advanced by some that the inclusion of IP, like some magic pixie dust, transforms a telecommunications service into an information service.

Indeed, allowing the use or non-use of IP to be the determinative factor in classification creates difficult consequences as providers increasingly provide or wish to provide voice service over IP networks, rather than over traditional switched networks. As carriers seek to replace traditional TDM-based networks with IP-based services, automatic exemptions for IP-based services would threaten the Commission's ability to ensure the phone network continues to serve the enduring values that have made it a success.¹⁷⁷

Following passage of the 1996 Telecommunications Act, the Commission determined that Congress intended the definition of "telecommunications service" to follow the analysis set forth in *NARUC*.¹⁷⁸ Under this inquiry, the Commission looks to whether the provider offers "telecommunications" in an indifferent manner to the general public. No one can dispute that broadband access providers hold themselves out as serving the public in an indifferent manner.¹⁷⁹ They advertise generally available prices and do not "make individualized decisions, in particular cases, whether and on what terms to deal."¹⁸⁰

¹⁷⁶ *Id.*

¹⁷⁷ See Jodie Griffin & Harold Feld, *Five Fundamentals for the Phone Network Transition*, PKThinks (July 2013), <http://www.publicknowledge.org/files/PKThinks5Fundamentals.pdf>.

¹⁷⁸ *Virgin Islands Tel. Corp v. FCC*, 198 F.3d 921, 927 (D.C. Cir. 1999) (affirming Commission interpretation that proper analysis for definition of "telecommunications service" in 47 U.S.C. §153(46) applies *NARUC* analysis).

¹⁷⁹ See *infra* App. A.

¹⁸⁰ *NARUC*, 525 F.2d at 641. The fact that broadband providers routinely authorize their sales staff to offer special rates in some individualized cases to attract or retain customers does not transform a telecommunications service provider into a private carrier. See *Orloff v. FCC*, 352 F.3d 415 (D.C. Cir. 2003).

It is clear, therefore, that broadband access providers satisfy the primary elements of the *NARUC* test with regard to serving the public indifferently. If broadband access service meets the definition of “telecommunications,” *i.e.*, “the transmission, between or among points specified by the user, of information of the user’s choosing, without change in the form or content of the information as sent and received,”¹⁸¹ then the offer to provide broadband access service in this fashion constitutes a “telecommunications service.”

Relying on both the traditional *NARUC* factors as well as its “end-to-end” analysis, the Commission has in other cases determined that the provision of an IP-based service that offers to take data generated by a user, using customer-premises equipment, to “the internet” constitutes a telecommunications service. In the *GTE DSL Tariff*,¹⁸² the Commission found that GTE’s ADSL service, which it offered both to ISPs and to end users, constituted an “interstate telecommunication service” properly tariffed at the federal level. After analyzing the nature of the communication, the Commission found that the DSL service constituted a “continuous transmission” from the customer to the destination website via the ISP of the customer’s choosing.¹⁸³

The Commission explicitly rejected the argument that finding the direct transmission of data from a subscriber to an out-of-state or international website was incompatible with its earlier conclusion in the *Stevens Report* that ISPs provided information services.¹⁸⁴ Nor, as some have suggested, did the

Nor does the fact that providers reserve the right to make individualized decisions matter where this is not, in fact, their general practice. *NARUC*, 525 F.3d at 641 (“It is not necessary that a carrier be required to serve all indiscriminately; it is enough that its practice is, in fact, to do so.”).

¹⁸¹ 47 U.S.C. § 153(43) (2014).

¹⁸² *GTE Telephone Operating Cos., Memorandum Opinion and Order*, 13 FCC Rcd. 22,466 (1998) [hereinafter *GTE DSL Tariff*].

¹⁸³ *See id.* at 22,476.

¹⁸⁴ *Federal-State Joint Board on Universal Service, Report to Congress*, 13 FCC Rcd. 11,501 (1998) [hereinafter *Stevens Report*].

Commission's decision turn on the fact that GTE and those tariffing similar services offered those services to ISPs. Rather, the Commission recognized that GTE was providing what we would now recognize as "broadband access service" – a service analogous to special access service or point-to-point private line service connecting high volume end-user customers to interexchange carriers, all of which constitute telecommunications services. The Commission also found that ISPs remained information service providers because they primarily offered other functions – such as email – that involved storage and retrieval.¹⁸⁵

The description of the DSL service that was accepted and tariffed in the *GTE DSL Tariff* and subsequent *Bell Atlantic DSL Tariff*¹⁸⁶ matches the type of services offered by broadband access providers. For example, Bell Atlantic described its Infospeed DSL Service as transporting "an end user's data from the network interface device (NID) to an Asynchronous Transfer Mode (ATM) port . . . the low frequency band is used for voice communications, while the high frequency band is used for data traffic, *which is sent and received via a modem supplied by the end user.*"¹⁸⁷

To conclude the first stage of the analysis, broadband access providers of all technologies offer to provide the identical service to that accepted for tariff as a telecommunications service in the *GTE DSL Tariff* as the "telecommunications component" in their "offering."¹⁸⁸ They offer to serve the public in an indifferent manner. In the next stage in the analysis, Commenters will demonstrate that broadband access providers offer this "telecommunications component" as their

¹⁸⁵ *GTE DSL Tariff*, *supra* note 182, at 22,480 ("we disagree with ALTS's suggestion that the 'telecommunications' service ends where the 'information service' begins").

¹⁸⁶ *Bell Atlantic Telephone Cos., Memorandum Opinion & Order*, 13 FCC Rcd. 23667 (1998).

¹⁸⁷ *Id.* at 23670-71.

¹⁸⁸ *See* Stevens Report, *supra* note 184, at 11,530 n.60, for a discussion of the distinction between an offer of a single service with distinct components, and an offer of a several distinct services.

primary offering, with information services components provided as additional features, and that the combined telecommunications and information services components are not so “functionally integrated”¹⁸⁹ as to constitute a single information service.

- C. Applying both *NARUC* and the analysis of the *Cable Modem Ruling* shows that broadband internet access is a telecommunications service.

The *NPRM* provides the occasion for the Commission to revisit its 2002 *Cable Modem Ruling*. In doing so, the Commission should not merely update its factual record with regard to the nature of the “offer” made by broadband providers. It must also address a fundamental flaw in its reasoning with regard to which information services constitute a part of the “offer” to consumers and which information processing services are in fact part of the basic telecommunications service as a function of Section 3(20).¹⁹⁰

In 2002, the Commission sought to answer a different question than it faces in the current proceeding. In the *Cable Modem Ruling*, the Commission considered the following question: When a provider offers its customers a bundle of services (“cable modem service”), including telecommunications components and information service components, how should it be classified? In the *Cable Modem Ruling*, the Commission offered a framework – blessed by the Supreme Court as a permissible statutory construction in *Brand X* – that held that when an information service component is functionally integrated with the telecommunications component of a combined offering, the information services components outweigh the telecommunications components and the offering as a whole becomes an information service.

The Commission applied this framework and found that cable modem service was an information service. But in doing so, the Commission made a fundamental error. DNS service – the service that the Commission and the

¹⁸⁹ *Brand X*, 545 U.S. at 991.

¹⁹⁰ See 47 U.S.C. §153(20) (2014).

Supreme Court both identified as being an inextricable component of internet access – is not an information service. 47 U.S.C. § 153(20) says this expressly, codifying years of Commission precedent that found that services necessary to route, manage, or otherwise use telecommunications services are themselves regulated as telecommunications services.¹⁹¹ While broadband providers may sell various information services to their customers, those services are not part of the offer of broadband internet access service, because there is no functional integration between the broadband access and the information services.¹⁹² Because DNS is excluded from the definition of “information service” by the plain language of the statute, the *Cable Modem Ruling’s* conclusion that DNS is “functionally integrated” with broadband access – thus converting broadband access from a telecommunication service to an information service – cannot hold. The Commission must therefore determine, based on the provider’s advertising and other evidence of how it “holds itself out to the public,” whether services such as “e-mail, newsgroups, and maintenance of the user’s World Wide Web presence” are still “functionally integrated” with the offer of broadband access service or whether the offer of broadband access service has now emerged as a discrete offering similar to the offering of voice service with complimentary voice mail.

Under the traditional *NARUC* analysis, it is clear that broadband providers are common carriers. Today, it is clear in a way that it was not in 2002 that the general public primarily uses internet access service as a conduit for third-party content – to interact with information services such as email and social networking, to shop online, to watch movies and listen to music, to access reference materials, and so forth. People buy broadband internet access service

¹⁹¹ 47 U.S.C. § 153(20) (2014) (“any ... capability for the management, control, or operation of a telecommunications system or the management of a telecommunications service” is not an information service).

¹⁹² Thus, when a broadband provider lists along with its telecommunications service an information service, the information service is not part of the telecommunications offer because they are not functionally integrated.

because it allows consumers to access “the information of [their] choosing.”¹⁹³ The *NARUC* analysis supports a classification of broadband internet access service as a telecommunications service because that analysis hinges on what a carrier does, and ISPs do, in fact, hold themselves out as providing telecommunications services to their customers.

1. The Cable Modem Declaratory Ruling is consistent with *NARUC*, and supports a classification of broadband internet access as a telecommunications service.

In the *Cable Modem Ruling*, the Commission found that the classification of cable broadband service depends on the “nature of the functions that the end user is offered.”¹⁹⁴ It further found that, “[a]s *currently provisioned* cable modem service supports such functions as e-mail, newsgroups, maintenance of the user’s World Wide Web presence, and the DNS.”¹⁹⁵ Nothing in this analysis suggests that the Commission intended to depart from the *NARUC* test, discussed *supra* note 158, which holds that an entity is a common carrier because of what it does, not because of how it describes itself, or how a regulatory body has categorized it. Nor does the analysis in the *Cable Modem Ruling* allow an entity to evade common carrier status by merely billing for information services as part of a bundle with telecommunications services.¹⁹⁶ Rather, the *Cable Modem Ruling* explains that a bundle of telecommunications services and information services becomes, in its entirety, an information service when the transmission of data is only a minor part of the overall offering, used only in conjunction with an information service also offered and maintained by the provider. When the different services are functionally integrated in this way, they become part of a

¹⁹³ 47 U.S.C. § 153(43) (2014).

¹⁹⁴ *Cable Modem Ruling*, *supra* note 156, at ¶ 38.

¹⁹⁵ *Id.* (emphasis added).

¹⁹⁶ As the Stevens Report put it, “[i]t is plain ... that an incumbent local exchange carrier cannot escape Title II regulation of its residential local exchange service simply by packaging that service with voice mail.” Stevens Report, *supra* note 184, at 11,530 n.60.

single “offer,” and it is this offer that determines the regulatory classification of the service.¹⁹⁷ Applying this analysis, the Commission found that the information service components of the offer of broadband internet services were predominant, and that therefore the entire offer was for information services.

But this application fails today. First, because of 47 U.S.C. § 153(20), the Commission’s prior determination that DNS (or similar routing and support functions) is an information service is incorrect. Thus, an offer of “broadband Internet access” does not contain any information services components. Second, it is clear that broadband providers today predominantly offer telecommunications – broadband internet access – and not any information services that may be used along with internet access service. It is clear from the marketing materials of broadband providers themselves that they are primarily offering internet access, and not incidental information services they may also provide.

¹⁹⁷ This is the most reasonable interpretation of the *Cable Modem Ruling* “functional integration” test. The language of the *Ruling* is far from clear, and the erroneous characterization of users “accessing the DNS” to use the transmission functions further confuses matters. As discussed below, the *Cable Modem Ruling* and subsequent description of it by the *Brand X* majority could also be read to say that because it is necessary to use information processing for routing telecommunication transmission, this “functional integration” transforms the telecommunications service into an information service. Such a reading, however, would not only depart without notice from Commission precedent, it would be directly contrary to the plain language of Section 3(20), which makes information processing necessary for routing telecommunications a telecommunications service. *Accord* Bright House Networks, LLC v. Verizon California, *Memorandum Opinion & Order*, 23 FCC Rcd. 10,704 (2008). Further, such a reading would have significant negative policy consequences. Every time a telecommunication carrier replaced a physical switch with a “soft switch” that used “information processing” to route calls, it would convert that segment of the PSTN into an “information service.”

- a. The Cable Modem Ruling used the words “support” and “offer” in specific ways.

To understand how the *Cable Modem Ruling* operates, it is necessary to unpack some of its terminology, because it uses two everyday words – “support” and “offer” – very precisely.

By “support,” the *Cable Modem Ruling* meant “provide as part of a bundle.” Thus, when the *Cable Modem Ruling* writes that broadband internet access “supports” various information processing functions,¹⁹⁸ it did not mean that a broadband provider “supports” an independent information service like Amazon.com just because it provides a service that allows its consumers to communicate with Amazon.com. It clarified that it was referring to services that are provided to users that are “included in their cable modem service.”¹⁹⁹ A broadband service “supports” those information services that are bundled with internet access, such as email or web hosting. But a broadband service does not “support” the kinds of information services that most broadband consumers use – email from independent, third-party providers (such as Gmail and Hotmail), web hosting from companies like Bluehost, and “web presences” from companies like Facebook and Twitter. Thus, when an ISP provides DNS lookup or caching to its customers when they are accessing a third-party web page, the ISP “supports” DNS lookup and caching but not the website itself.²⁰⁰

¹⁹⁸ Cable Modem Ruling, *supra* note 156, at ¶ 38.

¹⁹⁹ *Id.* at ¶ 38 n.153.

²⁰⁰ The Supreme Court also found that when a customer uses his broadband connection to access a third party information service (i.e., a web page), he is only using an information service provided (or offered) by the ISP to the extent he is using the ISP’s DNS and caching. *Brand X*, 545 U.S. at 998-1000. Since neither DNS nor caching are information services when offered in conjunction with transmission (the implications of 47 U.S.C. § 153(20) were not squarely before the Court), it follows that a user who accessed a third-party web page over his broadband connection is not using any information services offered or provided by the ISP.

The services that a broadband provider “supports” are “offered” to customers as part of internet access only when they are an essential part of using the internet. Only when a service is so linked to internet access that it is impossible to use the internet without it does it become part of the same “offer” as internet access. As the Supreme Court explained, “[t]he entire question is whether the products here are functionally integrated (like the components of a car) or functionally separate (like pets and leashes).”²⁰¹ It is the level of integration between the different services that determines whether they are part of a single “offer.” The Commission had found that DNS was an information service, and that it was a necessary component of internet access. Deferring to the agency’s expertise, the Supreme Court described the FCC’s reasoning thus: “the consumer uses the high-speed wire *always* in connection with the information-processing capabilities provided by Internet access” (emphasis added).²⁰²

Even in 2002, the Commission recognized that many customers would not use the email and other services offered by their broadband providers with their connections. However, it found that, even if that is the case, “[n]early every cable modem subscriber ... accesses the DNS that is provided as part of the service.”²⁰³ Given this analysis, it is clear that the Commission meant that a broadband provider “offered” an information service as part of internet access only to the extent that consumers “accepted” the offer by actually making use of it. Because the Commission categorized DNS as an information service, it found that internet access was always a combination of telecommunications and information processing services, and therefore was, as a whole, an information service.

²⁰¹ *Brand X*, 545 U.S. at 991.

²⁰² *Id.* at 988.

²⁰³ Cable Modem Ruling, *supra* note 156, at ¶ 38 n.153. While email and other services may be part of the same “offer” in the common use of the term, they are not part of the *offer of internet access* given the language of the Cable Modem Ruling and the Supreme Court’s analysis. Only services that are functionally integrated with internet access are part of the offer of internet access.

However, as discussed more thoroughly below, the Commission’s analysis of DNS was incorrect. Because most people access the internet in order to access independent, third-party services and make little to no use of the information services that ISPs may happen to offer when doing so, and because DNS is not an information service, most broadband consumers, when accessing the internet, are only using the telecommunications services offered by ISPs. Even consumers who do make heavy use of ISP-provided email or other ISP-provided information services will, when accessing third-party content on the internet, do so without making use of any of an ISP’s information services. To access Facebook, for example, a consumer might make use of a number of internet connectivity services a carrier provides, including

a physical connection between the cable system and the Internet by operating or interconnecting with Internet backbone facilities[,] protocol conversion, IP address number assignment, domain name resolution through a domain name system ... protocol conversion, IP address number assignment, domain name resolution through a domain name system (DNS), network security[,] caching[,] [n]etwork monitoring, capacity engineering and management, fault management, and troubleshooting²⁰⁴

Just like DNS, none of these are information services. Therefore, while a telecommunications provider may also be in the information services business, those services remain distinct and, from the perspective of the telecommunications service, superfluous. ISPs may “offer” services to their consumers other than telecommunications services, but these are not “offers” under the analysis of the *Cable Modem Ruling* because they are not functionally integrated with it. The telecommunications services are entirely separate from, or incidental to, such information services.

²⁰⁴ *Id.* ¶ 17 (footnotes omitted).

- b. The Commission should resolve an internal contradiction in its precedent by clarifying that DNS is an essential component of internet connectivity.

Because so much hinges on the characterization of DNS, this section will explore in more depth why DNS, when offered along with a telecommunications service, is itself a telecommunications service and not an information service.

In 2002, the Commission mischaracterized DNS as being an internet application similar to web hosting or email,²⁰⁵ rather than a necessary component of internet access.²⁰⁶ In 2002, the Commission got DNS exactly right when it categorized it as part of a basic “Internet connectivity” service (along with “protocol conversion, IP address number assignment . . . network security, and caching”²⁰⁷). The Commission should act now to resolve this contradiction in its precedent.

DNS is a service that translates easy-to-remember domain names (*e.g.* amazon.com) into the IP addresses that are necessary to route internet traffic (*e.g.* 72.21.207.65). The Commission’s determination that this basic functionality constitutes an “application” and an information service was wrong for several

²⁰⁵ *Id.* at ¶¶ 37-38. The *Brand X* court found this characterization “at least reasonable,” *Brand X*, 545 U.S. at 999. Justice Scalia’s dissent noted that the Court bypassed the argument that “routing information” like DNS is expressly excluded from the definition of an information service in 47 U.S.C. § 153(20). *Brand X*, 545 U.S. at 1012-13 (Scalia, J., dissenting). It would certainly be “at least reasonable” for the Commission to revisit its understanding of DNS in light of a key statutory provision the Cable Modem Ruling scarcely discussed. *See* Cable Modem Ruling, *supra* note 156 at ¶ 38 fn.150.

²⁰⁶ DNS does reside in the applications layer under the Open Systems Interconnection (OSI) model of communications systems, but just as “[t]he Fourteenth Amendment does not enact Mr. Herbert Spencer’s Social Statics,” *Lochner v. New York*, 198 U.S. 45, 75 (1905) (Holmes, J., dissenting), the Communications Act does not enact the Open Systems Interconnection model. From a telecommunications law perspective, what matters is the service being offered to the customer, and whether a particular component is part of that service or something extra. The offered “service” may be cross-cutting and involve components from any layer in that conceptual schema.

²⁰⁷ Cable Modem Ruling, *supra* note 156, at ¶ 17 (footnotes omitted).

reasons. The first reason is legal and definitional. DNS is an essential part of the “the management, control, or operation of a telecommunications system or the management of a telecommunications service,”²⁰⁸ and therefore cannot be an “information service” under the law. Services that are an essential part of the operation or use of a telecommunications service are part of the telecommunications service. They are inseparable from the “offering of telecommunications for a fee directly to the public.”²⁰⁹ The second reason relates to an ordinary user’s perspective. From this perspective, DNS is part of plain vanilla, no-frills “Internet connectivity.” Domain names are the phone numbers of the internet – most of the time, IP addresses are just implementation details. Thus, internet access without DNS is like telephone service without telephone numbers. The Supreme Court was therefore right when it found that “DNS is essential to providing Internet access.”²¹⁰ DNS lookup is as essential to ordinary internet use as the physical connection to the house, because internet access without DNS is of little value to an ordinary internet user: URLs would not work, email could not be sent, and links would be broken. From the user’s perspective, DNS is no different than any other behind-the-scenes switching service, and it should be treated as such.

Another reason the Commission’s 2002 determination that DNS constitutes an information service is wrong again involves a comparison to telephone numbers – in this case, toll-free numbers, which “overlay” the plain North American Numbering Plan numbers similar to the way the domain name system overlays IP addresses. Just as the Commission used its Title II authority to promulgate rules about toll-free numbers,²¹¹ it can use its Title II authority to regulate a service that includes DNS (which is itself, through ENUM,²¹²

²⁰⁸ 47 U.S.C. § 153(20) (2014).

²⁰⁹ *See id.* § 153(46).

²¹⁰ *Brand X*, 545 U.S. at 990.

²¹¹ Toll Free Service Access Codes, 62 Fed. Reg. 20,126, ¶ 2 (Apr. 25, 1997).

²¹² *See* Int’l Telecommunication Union, *ENUM: What is ENUM?*, <http://www.itu.int/osg/spu/enum> (last visited July 14, 2014).

increasingly as much a telephone routing technology as a domain name lookup table).

Over the course of the forty years the Commission has followed the evolution of telecommunications and information processing, it has repeatedly considered and rejected the argument that adding computers, or a new kind of software, or a new kind of back-end network architecture to a telecommunications service makes it no longer subject to regulation. The Commission rejected this argument in *Computer III*, writing that “[d]ata processing, computer memory or storage, and switching techniques can be components of a basic service if they are used solely to facilitate the movement of information.”²¹³ The Commission has also rejected this argument in the *Frame Relay Order*²¹⁴ and in the *IP-in-the-Middle Order*,²¹⁵ reasoning that adding IP networking and data processing technology to a telecommunications service does not transform it into an unregulated service. For years, and for sound policy reasons, the Commission has held that “adjunct to basic”²¹⁶ services like DNS, which “are used solely to facilitate the movement of information”²¹⁷ are not information services.²¹⁸ The 1996 Telecommunications Act codified this

²¹³ Amendment of Section 64.702 of the Commission’s Rules and Regulations (Third Computer Inquiry), *Report & Order*, 104 F.C.C.2d 958, ¶ 10 (1986) [hereinafter *Computer III*].

²¹⁴ Independent Data Communications Manufacturers Association, Inc., Petition for Declaratory Ruling that AT&T’s InterSpan Frame Relay Service Is a Basic Service, *Memorandum Opinion & Order*, 10 FCC Rcd. 13,717 (1995).

²¹⁵ Petition for Declaratory Ruling that AT&T’s Phone-to-Phone IP Telephony Services are Exempt from Access Charges, *Order*, 19 FCC Rcd. 7457 (2004).

²¹⁶ For a discussion of basic and adjunct to basic services, see North American Telecomm. Assoc. Petition for Declaratory Ruling Under Section 64.702, *Memorandum Opinion & Order*, 101 F.C.C.2d 349, ¶¶ 22-28 (1985).

²¹⁷ *Computer III*, *supra* note 213, at ¶ 10.

²¹⁸ In fact, the Commission has repeatedly found that services necessary for the provision of transmission services should themselves be regulated as telecommunications services, whether those services are technological in character or not. See *Bright House Networks, LLC, v. Verizon California, Inc.*, *Memorandum Opinion & Order*, 23 FCC Rcd. 10,704, 10,715, ¶ 31 (2008).

analysis.²¹⁹ To the extent that the *Cable Modem Ruling* and subsequent decisions based on the *Cable Modem Ruling* hold to the contrary, the Commission should overrule them as inconsistent with the plain language of the Act and Commission precedent.

It is true, as Public Knowledge has observed in the past,²²⁰ that it is possible for a user to use an alternative DNS provider, rather than the DNS service that is part of the internet connectivity purchased from the user's ISP. This fact is emblematic of the many changes that have come to the broadband market since 2002, that together merit reconsideration of the initial classification order. Despite the availability of alternative DNS providers, however, DNS is an essential part of internet connectivity. Using competitive DNS (such as OpenDNS or Google DNS) to translate domain names into IP addresses is akin to using a dial-around service (*e.g.* 10-10-321) to call a long distance number on the PSTN: doing this does not change the telecommunications character of the customer's primary long-distance carrier.²²¹

For these reasons, when offered as part of broadband internet access, DNS is an essential part of a telecommunications service, not an additional service and not an application that merely uses telecommunications service as an input.

²¹⁹ See Telecommunications Act of 1996 § 3(a)(2)(20), 47 U.S.C. § 153(20).

²²⁰ Reply Comments of Public Knowledge in A National Broadband Plan for Our Future—NBP Public Notice #30, GN Docket Nos. 09-47, 09-51, 09-137, at 9 (filed Jan. 26, 2010).

²²¹ When some kinds of “adjunct to basic” services like DNS are offered on a standalone basis, unaccompanied by a traditional telecommunications service, then the “offer” is for an information service, and not for a telecommunications service. A data processing service may be an information service on its own, but regulated under Title II when functionally integrated with a telecommunications service and offered with one.

2. Broadband access is a telecommunications service under the NARUC analysis.

The first prong of the *NARUC* analysis²²² is met for broadband providers because they hold themselves out indifferently to the public. Appendix A contains screenshots and captures of the service offerings of several large broadband providers as they appeared in July 2014. While many of the broadband providers require that a user provide them with a residential address in order to view their offerings, they offer uniform prices and service to anyone who is located in their service areas. While the exact details of what services are offered might change within a provider's service area, none of the providers individually negotiate with customers to determine specific rates and service offerings. Rather, they serve the public indifferently with service levels and at standard rates.

The second prong of the *NARUC* analysis is met for broadband providers because they allow users to “transmit intelligence of their own design and choosing,”²²³ that is, to communicate. The fact that the primary purpose of broadband service is to allow users to communicate with third parties can be shown most clearly in the way broadband providers hold themselves out to the public. Most ISPs recognize that they are interchangeable providers of a commodity service and market their products accordingly. Appendix A clearly shows that the largest broadband providers hold themselves out as providing basic communications services: They distinguish their offerings from each other, and from those of their competitors, primarily on the basis of speed (bandwidth) and price.

Communications services that are held out to the public indifferently are among the services that are “affected with a public interest”²²⁴ that are traditionally regulated under a common carrier framework. Because the *NARUC*

²²² *NARUC*, 525 F.2d at 641.

²²³ *Id.* at 609.

²²⁴ *Munn v. Illinois*, 94 U.S. 113, 126 (1876).

factors are met with respect to broadband internet service providers, they should be regulated as telecommunications providers.

VI. The Commission Should Not Adopt a Presumption of Forbearance

The Commission seeks comment on whether and how to forbear from specific provisions that would flow from classifying broadband internet access as a telecommunications service.²²⁵ Forbearance is a tool that gives the Commission flexibility to respond to a dynamic marketplace. It is a powerful tool, to be used with precision and care, because it overrides the initial judgment of Congress that a particular statute protects the public interest. The Commission must use this power in a deliberate, thoughtful manner and must always proceed with caution when considering forbearance. In particular, Commenters recommend specific statutes on interconnection, information disclosure, and consumer protection from which the Commission should refrain from initially forbearing. It would be tragic if the Commission invested time and effort in properly reclassifying broadband to ensure an appropriate framework to protect the public only to find, when a crisis arose, that the Commission had eliminated its authority through an imprudent forbearance.

- A. The Commission has clear authority to forbear when appropriate, but should exercise that authority judiciously.

The Commission's authority to forbear under Section 10 is broad and should be exercised carefully. Both the text of the statute and the relevant jurisprudence make clear that the Commission has extensive forbearance authority, and its forbearance decisions have previously been reviewed deferentially under the "arbitrary and capricious" standard.²²⁶ Thus, because the Commission's forbearance authority is so broad, it falls upon the Commission to

²²⁵ NPRM, *supra* note 60, at ¶ 148.

²²⁶ *Ad Hoc Telecomm. Users Comm. v. FCC*, 572 F.3d 903, 908 (D.C. Cir. 2009).

ensure it only exercises that authority when doing so would actually serve the public interest.

Any concerns that the Commission should not reclassify because it might be too difficult to forbear when necessary are unwarranted. While the Commission does need to evaluate forbearance requests according to the test set forth in Section 10, a review of the relevant case law reveals that the Commission's forbearance decisions have received great deference in the courts. For example, the D.C. Circuit rejected a challenge to the Commission's forbearance from dominant-carrier rules as applied to special access lines, even though the Commission had forbore based on the nationwide broadband market instead of special access lines in identified local markets.²²⁷ In that decision, the court emphasized: "The general and generous phrasing of § 706 means that the FCC possesses significant albeit not unfettered, authority and discretion to settle on the best regulatory or deregulatory approach to broadband—a statutory reality that assumes great importance when parties implore courts to overrule FCC decisions on this topic."²²⁸

The legislative history of Section 10 indicates that discretion to forbear should be exercised judiciously. In 1994, the Supreme Court held that the FCC exceeded its statutory authority to "modify" the rate-filing requirements of Section 203 of the Telecommunications Act when it declared that common carriers without market power had no obligation to file their rates with the Commission.²²⁹ The Court stated that the Commission's decision to change the statute "from a scheme of rate regulation in long-distance common-carrier communications to a scheme of rate regulation only where effective competition

²²⁷ *Id.* at 908; *see also* *EarthLink, Inc. v. FCC*, 462 F.3d 1, 8 (D.C. Cir. 2006).

²²⁸ *Ad Hoc Telecomm. Users Comm.*, 572 F.3d at 906-7.

²²⁹ *MCI Telecomms. Corp. v. AT&T*, 512 U.S. 218 (1994), *superseded by statute*, *Telecomm. Act of 1996*, Pub. L. No. 104-104, 110 Stat. 56.

does not exist . . . may [have been] a good idea, but it was not the idea Congress enacted into law in 1934.”²³⁰

Congress, which was already at work on telecommunications reform,²³¹ and indeed was already considering legislation granting the FCC explicit forbearance authority,²³² took note of the Supreme Court’s ruling and sought to give the Commission the authority it had lacked.²³³ Although Congress was unable to pass a telecommunications bill that year, it kept in mind the goal of dealing with the Supreme Court’s ruling and granting the Commission the explicit power to forbear.²³⁴

Both of the competing House and Senate bills that led up to the eventual passage of the 1996 Act placed limits on forbearance. The House bill explicitly exempted Sections 201, 202, and 208, among others, from forbearance,²³⁵ while the Senate bill limited forbearance from certain interLATA²³⁶ and interconnection²³⁷ provisions until such time as the Commission deemed they had been fully implemented.²³⁸

²³⁰ *Id.* at 231–32.

²³¹ *See, e.g.*, Commc’ns Act of 1994, § 1822, 103d Cong. (1994).

²³² *Id.* at § 302. Congress had long been aware of the potential legal problems created by the Commission waiving some Title II requirements. As early as 1982, Congressman Wirth noted “the need for regulatory reform giving the FCC the ability to forbear from regulating in certain areas.” *Proposed Antitrust Settlement of United States v. AT&T, Hearing Before the Subcomm. on Telecomms., Consumer Prot., and Finance of the H. Comm. on Energy & Commerce, and the Subcomm. on Monopolies and Commercial Law of the H. Comm. on the Judiciary, 97th Cong. (January 26 1982), available at A&P Telecom Hearings (35), at *70 (Westlaw).*

²³³ *See, e.g.*, S. Rep. No. 103-367, at 117 (1994) (minority views of Sens. Packwood and McCain) (stating that “[p]rovisions of S. 1822 seek directly to reverse” *MCI*, 512 U.S. 218).

²³⁴ *See, e.g.*, 141 Cong. Rec. S7881-02, 7888 (1995) (statement of Sen. Pressler) (“The Federal courts have ruled that the FCC cannot deregulate. This bill [S. 652] solves that problem and makes deregulation legal and desirable.”).

²³⁵ H.R. 1555, 104th Cong. §§101, 243.

²³⁶ S. 652, 104th Cong. §§ 221, 255(b)(2).

²³⁷ *Id.* sec. 101, § 251(b).

²³⁸ *Id.* sec. 303, § 260(d).

The clear purpose of providing the Commission with forbearance powers, then, is to grant it the ability to make certain provisions discretionary. This should not be taken, however, as *carte blanche* for the Commission to legislate on its own behalf, disregarding at will the intent of Congress in passing particular sections of the Act.²³⁹ Section 10 operates within the confines of the Act, and it only reaches so far as it is necessary for the Commission to be able to remove mandatory regulations from carriers when doing so serves the public interest. Forbearance can only apply to those provisions where Congress has placed a duty upon a carrier, and not the Commission or another party – since Section 10 only allows the Commission to refrain from applying regulations “to a telecommunications carrier.” The Commission therefore cannot (as is logical) exempt itself from its congressionally mandated duties by claiming forbearance. Nor does it make much sense for the Commission to forbear from provisions that are already discretionary – if the purpose of forbearance is to provide the Commission with the flexibility to deregulate when regulation is uncalled for, it is pointless for Section 10 to grant discretion (and provide a separate system of procedure for that grant) when it is already present.

Moreover, the Commission should understand its Section 10 abilities as a means to carefully exercise its discretion to ensure that the ultimate goals of the Communications Act – in ensuring the public interest, convenience, and necessity – are met. Those goals are also generally reflected in the provisions of Title II, and Congress has shown through those provisions its preferred means to those ends. The Commission should therefore presume, absent strong evidence to the contrary, that Congress deemed its statutes necessary, and should not forbear from them cavalierly.

²³⁹ Such a broad interpretation would raise the question of whether Congress could delegate such authority to the Commission. It is one thing to allow an agency to convert a mandatory statute into a discretionary one given appropriate guiding principles. It is another thing to say that Congress delegated authority to permanently repeal a statute.

- B. In making forbearance determinations, the Commission must account for consumer protection, competition, and the public interest.

As the Commission engages in its analysis of which provisions it may forbear from, it must take into account several factors. Foremost among them are the factors required by statute in Section 10(a) and elaborated upon in Section 10(b).²⁴⁰ Since the Commission is not contemplating forbearance from Sections 201 and 202,²⁴¹ the primary statutory factors it must consider in forbearance determinations for other Title II provisions are consumer protection and the public interest, including the public interest in competition amongst telecommunications providers. Also informing any decision to forebear should be the consideration that the Commission should retain authority necessary to promote the public interest and protect the network in the event of unforeseen violations, malfunctions, or other crises.

1. Consumer Protection

Section 10 only allows the Commission to forbear from a regulation or a provision of the Act if it finds the provision is not necessary for the protection of consumers. A number of provisions within Title II provide necessary protections for consumers apart from the six sections identified by the Commission.

²⁴⁰ Section 10(a) states that the Commission shall forbear from applying a provision or regulation “if the Commission determines that--(1) enforcement of such regulation or provision is not necessary to ensure that the charges, practices, classifications, or regulations by, for, or in connection with that telecommunications carrier or telecommunications service are just and reasonable and are not unjustly or unreasonably discriminatory; (2) enforcement of such regulation or provision is not necessary for the protection of consumers; and (3) forbearance from applying such provision or regulation is consistent with the public interest.” 47 U.S.C. § 160(a). Section 10(b) elaborates upon 10(a)(3) by noting that the Commission should consider whether forbearance would promote competitive market conditions as part of its public interest analysis. 47 U.S.C. § 160(b).

²⁴¹ 47 U.S.C. §§ 201, 202 (2014).

Consumer protection is not limited to the protection of the privacy of CPNI,²⁴² nor to freedom from unjust and unreasonable discrimination.²⁴³ Many other Title II provisions, including the Section 203 requirements of carriers to report rates,²⁴⁴ provide consumers with the transparency necessary to protect their interests, whether through legal action or their exercise of buying power. Even in the presence of a competitive market, this transparency is necessary for consumers to take advantage of that competitive market. Without the necessary information to distinguish between providers, consumers are no better off with several providers to choose from. Nor should the mere presence of competitors permit carriers to execute changes in subscriber selections of providers contrary to Section 258,²⁴⁵ for example.

2. Competition

Section 10(b) emphasizes the importance of promoting competition in the public interest, indicating that a provision should not be forborne if it is necessary to promote competition. A wide variety of provisions that the Commission proposes to forbear from enforcing are essential to promoting competition beyond the protections provided by Sections 201 and 202, and forbearance from them is unwarranted.

Underlying the need for preserving these provisions is the fact that the current markets in broadband internet connectivity services are far from competitive. In its filing in the National Broadband Plan docket, the Department of Justice noted that the number of suppliers would be limited, with high barriers to entry for wireline providers and great uncertainty as to whether wireless providers could act as a significant competitive restraint on wireline broadband

²⁴² *See id.* § 222.

²⁴³ *See id.* §§ 201, 202.

²⁴⁴ *See id.* § 203.

²⁴⁵ *See id.* § 258.

providers.²⁴⁶ The National Association of Telecommunications Officers and Advisors has likewise found “consolidated market power for the existing cable and telecom duopoly” and intermodal competition “an illusory promise.”²⁴⁷

The Commission cannot abdicate its responsibilities under the various pro-competitive sections of Title II unless it first finds that competition can be promoted without the authority granted by those provisions. A bare finding that a particular geographic region lacks a dominant carrier, for instance, would not suffice to allow the Commission to forbear from Section 251(a). As an initial matter, the lack of a single dominant carrier does not translate into a competitive market—the presence of a near-duopoly or oligopoly can prevent any one carrier from being dominant while failing to provide consumers with a competitive market.²⁴⁸

3. Other Public Interest Factors

However, competition is not the sole consideration of the public interest. Several other provisions of Title II were enacted by Congress out of specific concern for interests and values separate from competitive and market concerns. Just as the Commission needs to secure its authority to protect the public interest in customer privacy and disability access, the Commission’s charge to promote other aspects of the public interest, such as media diversity, robust competition, and technological innovation, should not be quarantined within the realm of telephony. Nor is the public interest limited to the specific goals anticipated and explicated in the provisions of Title II. The Commission’s public interest duty extends to ensuring that the network remains open and operable. The

²⁴⁶ *Ex Parte* Submission of the United States Department of Justice, in A National Broadband Plan for Our Future, GN Docket No. 09-51, at 7-8 (filed Jan. 4, 2010).

²⁴⁷ Comments of the National Association of Telecommunications Officers and Advisors, et al., in A National Broadband Plan for Our Future, GN Docket No. 09-51, at 17-18 (filed June 8, 2009).

²⁴⁸ Petition of Qwest Corp. for Forbearance Pursuant to 47 U.S.C. § 160(c) in the Phoenix, Arizona Metropolitan Statistical Area, *Memorandum Opinion & Order*, 25 F.C.C.R. 8622 (2010).

Commission's concerns therefore do not extend solely to potential violations of regulations by carriers, but to more fundamental potential failures as well.

For example, in 2001, the California-based ISP Northpoint declared bankruptcy and, unable to raise funds, shut down its network, leaving 100,000 subscribers without broadband access.²⁴⁹ While a service interruption of that nature was massively inconvenient in 2001, its effects would be devastating today, given increased consumer and small business reliance upon broadband internet services to engage in commercial and civic life. Instances of peering disputes also abound, in each case causing significant disruption of internet traffic.²⁵⁰ While these cases have, happily, not created major disruptions of

²⁴⁹ *Northpoint Shuts Down DSL Network*, InformationWeek (Mar. 29, 2001, 2:17 PM), <http://www.informationweek.com/northpoint-shuts-down-dsl-network/d/d-id/1010266?>

²⁵⁰ See, e.g., Patricia Fusco, *PSINet, Exodus Terminate Peering Agreement*, Internet News (Apr. 5, 2000), http://www.internetnews.com/xSP/article.php/8_334471 (peering dispute between PSINet and Exodus threatening access to "25 to 30 percent of the content on the Internet"); James Evans, *PSINet, C&W Spat Causes Net Disconnect*, IDG News Service (June 7, 2001), http://www.computerworld.com/s/article/61180/PSINet_C_W_spat_causes_Net_disconnect_ (2001 peering dispute between PSI Net and C&W resulting in a four-day disruption in customers' service); *France Telecom Severs All Network Links to Competitor Cogent*, Heise Online (Apr. 21, 2005), <http://morse.colorado.edu/~epperson/courses/routing-protocols/handouts/cogent-ft.html> (France Telecom severing connections to Cogent, which allegedly "blackholed" all France Telecom IP address in retaliation); Yuki Noguchi, *'Peering' Dispute with AOL Slows Cogent Customer Access*, Wash. Post (Dec. 28, 2002), available at <http://legalminds.lp.findlaw.com/list/cyberia-l/msg42080.html> (dispute between Cogent and AOL leads to AOL disconnecting from Cogent, affecting many customers including DC-area students); Stacy Cowley, *ISP Spat Blacks Out Net Connections*, InfoWorld, Oct. 6, 2005, <http://www.infoworld.com/t/networking/isp-spat-blacks-out-net-connections-492> (dispute between Level 3 and Cogent preventing customers from accessing the internet); Mikael Ricknäs, *Sprint-Cogent Dispute Puts Small Rip in Fabric of Internet*, IDG News Service, Oct. 31, 2008, http://www.pcworld.com/businesscenter/article/153123/sprintcogent_dispute_puts_small_rip_in_fabric_of_internet.html (dispute leading Sprint to disconnect from Cogent).

service, they provide warning to the prudent that – despite the incentives of network carriers to reach agreement and to remain solvent – consumers, businesses, and others dependent on internet connectivity may suffer as a consequence of market failure.

Such disruptions can occur even without a market failure. At present, carriers are engaged in migration from IPv4 to IPv6.²⁵¹ It may be that the private sector will successfully carry out this migration. It may also be that some event, or series of events, creates significant problems that will require immediate action to prevent significant fragmentation of the internet. The Commission should ensure that it retains adequate authority to intervene where necessary to protect public safety and avoid catastrophic financial loss. As the recent tragic events in the Gulf show, some problems are simply not addressable with *ad hoc* remedies.

- C. In making forbearance determinations, the Commission must account for specific statutory provisions.

Given the forbearance framework and public interest concerns discussed above, and mindful that the existing broadband market is neither as nascent nor as competitive as the wireless market was in 1994, when the Commission engaged in blanket forbearance, Commenters provide this list of specific statutes the Commission should not simply forbear from on the assumption that doing so meets the statutory criteria. As a general matter, these involve Commission authority over interconnection and shut down of service (Sections 251(a), 256, and portions of 214(c)),²⁵² discretionary authority to compel production of information (Sections 211, 213, 215, and 218-20),²⁵³ provisions which provide explicit power for the Commission to hold parties accountable and prescribe

²⁵¹ Mikael Ricknäs, *It's Time to Get Moving on IPv6 Rollout*, ComputerWorld (June 26, 2014), http://www.computerworld.com/s/article/9249396/It_s_time_to_get_moving_on_IPv6_rollout.

²⁵² 47 U.S.C. §§ 214(c), 251(a), 256 (2014).

²⁵³ *See id.* §§ 211, 213, 215, 218-20.

adequate remedies (Sections 205-07, 209, 212, and 216),²⁵⁴ provisions designed to protect consumers (Sections 203 and 222),²⁵⁵ or provisions designed to ensure affordable deployment and the benefits of broadband access to all Americans (Sections 214(e), 225, 254, 255, and 257).²⁵⁶ These statutes are in addition to the bare minimum recognized in Section 332(c)²⁵⁷ as the minimum needed to protect consumers—Sections 201, 202, and 208.

On the other hand, it would appear that forbearance from some provisions would serve the public interest, either because they create barriers to deployment and improvement of capacity, or because it is unclear what these provisions would mean in the context of broadband access service—assuming they applied at all (such as Sections 223, 226, 228, and 260).²⁵⁸ Commenters express no opinion on statutes not specifically addressed, beyond urging the Commission to apply the general framework discussed above.

1. Interconnection and Termination of Operation

The Commission should not forbear from requiring interconnection as a duty on all broadband providers, and therefore should not forbear from Section 251(a) (general duty of telecommunications carriers).²⁵⁹ Similarly, the Commission must retain the authority provided in Section 256 (coordination for interconnectivity),²⁶⁰ particularly the ability to promote “nondiscriminatory accessibility by the broadest number of users and vendors of communications

²⁵⁴ See *id.* §§ 205-07, 209, 212, 216.

²⁵⁵ See *id.* §§ 203, 222.

²⁵⁶ See *id.* §§ 214(e), 225, 254, 255, 257.

²⁵⁷ See *id.* § 332(c)(1)(A).

²⁵⁸ See *id.* §§ 223, 226, 228, 260.

²⁵⁹ See *id.* § 251(a). In addition, the Commission must make clear that any general forbearance in this proceeding does not impact incumbent local exchange carriers’ (ILECs) interconnection requirements pursuant to the rest of Section 251. Such an unintended consequence would significantly undermine the ability of competing providers to access network elements that remain necessary for competition.

²⁶⁰ See *id.* § 256 (interconnectivity coordination).

products and services,”²⁶¹ and ensure the “ability of users and information providers to seamlessly and transparently transmit and receive information.”²⁶²

As the Commission²⁶³ and Congress²⁶⁴ have long recognized, on communications networks generally, and the internet in particular, interconnection is the *sine qua non* of maintaining competition between network providers and ensuring that users retain access to the entire internet. As discussed above, problems with interconnection can occur as a consequence of a failure of business negotiation, of a deliberate business strategy, or even of unforeseen circumstances. The Commission should not assume that a failure of interconnection or a refusal by a provider to participate in the Commission’s interconnection coordination would be adequately addressed under Sections 201 and 202. Because a failure of interconnection can cause a failure of service impairing critical public safety communications and creating serious economic hardship, the Commission must ensure that it has clear authority to address such a situation swiftly.

Additionally, the Commission should carefully consider whether complete forbearance from Section 214 would serve the public interest.²⁶⁵ The Commission should not eliminate its jurisdiction over termination of operations in markets where a single provider may be the only point of access to the internet. As recognized by Congress, the Commission’s oversight here is necessary to protect consumers from service interruption and termination. Consumers, businesses, public safety entities and government agencies rely on

²⁶¹ *See id.* § 256 (a)(1).

²⁶² *See id.* § 256 (a)(2).

²⁶³ Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, *Policy Statement*, 20 FCC Rcd. 14,986, 14,986-88, ¶¶ 1-4 (2005).

²⁶⁴ H.R. Rep. No. 104-204, at 71 (1995) (noting that interconnection “is a cornerstone principle of common carriage”); 142 Cong. Rec. S708 (1996) (statement of Sen. Snowe) (calling for “a mechanism . . . to ensure that all Americans can continue to be interconnected” over computer networks).

²⁶⁵ 47 U.S.C. § 214 (2014).

telecommunications services for an ever-increasing number of critical functions. Therefore, there are strong reasons not to forbear from this provision.

2. Discretionary Authority to Compel Production of Information

Congress recognized that for the Commission to exercise proper oversight of those providing critical infrastructure such as telecommunications, the Commission would need broad authority to compel production of information relevant not merely to a specific service, but also to the broader economic context in which these carriers operate. Congress therefore gave the FCC broad discretionary powers to compel production of useful information or the filing of regular reports on matters ranging from filing of contracts (Section 211), carrier property valuation (Section 213), service and equipment transactions (Section 215), financial information (Section 220), general management practices (Section 218), and any other information of interest to the Commission (Section 219).²⁶⁶

Forbearance from these statutes, to the extent forbearance from an exercise of an already discretionary statute has meaning, would not serve the public interest. As this Commission in particular has emphasized, the ability to make informed policy choices that promote the Congressional goals of ubiquitous, affordable deployment depends on access to accurate data in a timely manner. The reports or other information the Commission may require providers to produce, and subsequent description and analysis of this information by the Commission, serve to inform other stakeholders and enhance the overall consideration of broadband policy issues. As an economic matter, the functioning of efficient markets depends on ensuring sufficient information with indicia of reliability, something that may only be possible when the government acts as a neutral party to compel production of information from all market

²⁶⁶ See *id.* §§ 211, 213, 215, 218-220.

participants.²⁶⁷ Finally, as the Commission recognized in its *Truth In Billing Inquiry*²⁶⁸ and subsequent public notices, the ability to compel production of truthful information provides a potent mechanism for consumer protection.

While the Commission might be able to compel production of information under other statutes, there is no offsetting advantage to forbearance that would warrant creating needless confusion or curtailing the ability of the Commission to demand prompt production of information in the absence of an “unforbearance” proceeding. Application of these statutes is already discretionary. To the extent carriers fear that any specific production requirement would impose unnecessary costs or might needlessly expose proprietary information, the Commission can consider such arguments in the context of any specific production request or rule and weigh the competing benefits and costs accordingly.

In short, the ability to compel truthful information is “necessary for the protection of consumers” and potentially enhances competition – the Commission cannot find that Sections 211, 213, 215, and 218-20 are “not necessary for the protection of consumers” or that forbearance would “promote competitive market conditions.” The Commission therefore must not forbear from these statutes.

3. Power to Provide Adequate Remedies and Accountability

For similar reasons, the Commission should not forbear from express delegations of authority by Congress to hold carriers accountable and prescribe sufficient remedies to make injured parties whole and promote the public interest – even where the Commission might arguably have similar authority under the broad grant of Sections 201 and 202 and its general authority under

²⁶⁷ See generally George Akerlof, *The Market for “Lemons”: Quality Uncertainty & the Market Mechanism*, 84 Q.J. Econ. 488 (1970).

²⁶⁸ *Consumer Info. & Disclosure, Notice of Inquiry*, 24 FCC Rcd. 11,380, 11,381-83, ¶¶ 1-7 (2009).

Section 4(i).²⁶⁹ There appears to be no *a priori* reason to assume that the Commission can adequately protect consumers by disclaiming its authority to suspend unjust rates and practices (Section 204),²⁷⁰ prescribe specific just and reasonable rates and charges (Section 205)²⁷¹ or order payments of money (Section 209)²⁷² where justified and the public interest so demands. Nor does it protect consumers to relieve carriers of liability for damages (Section 206)²⁷³ or from responsibility for the acts or omissions of their agents or to relieve receivers and trustees of their obligations (Sections 216-17).²⁷⁴ Nor does it foster competition to automatically allow interlocking directorates (Section 212).²⁷⁵

In particular, Commenters question whether the Commission even has the authority to forbear from application of Section 207, which permits consumers to seek redress in a federal court. As discussed above, Congress intended forbearance to give the Commission flexibility to relieve carriers of mandatory obligations rendered obsolete by changes in the competitive landscape. Congress did not intend to allow the Commission to insulate carriers from accountability, or confer on the Commission the power to eliminate Congress' decision to provide consumers with an alternate forum for redress of grievances. Even assuming such authority, however, nothing in the record would justify forbearance from Section 207.

Again, Commenters stress that the current broadband market is substantially different from the market faced by CMRS providers in 1994, and the willingness of Commission to forbear from certain of these statutes in that instance²⁷⁶ is not relevant here. In 1994, CMRS was a nascent service with

²⁶⁹ 47 U.S.C. §§ 4(i), 201, 202. (2014).

²⁷⁰ *See id.* § 204.

²⁷¹ *See id.* § 205.

²⁷² *See id.* § 209.

²⁷³ *See id.* § 206.

²⁷⁴ *See id.* § 216-17.

²⁷⁵ *See id.* § 212.

²⁷⁶ Implementation of Sections 3(n) & 332 of the Commc'ns Act, *Second Report & Order*, 9 FCC Rcd. 1411, 1467-68, ¶ 138 (1994).

numerous potential new entrants and generally regarded as a luxury. In 2010, broadband access is a well-established service widely acknowledged as critical infrastructure for economic activity, civic engagement, education, and public safety. New entrants do not face a wide open field of potential new customers as CMRS entrants did in 1994. Rather, a handful of mammoth vertically integrated providers control the vast majority of residential subscribers, and numerous geographic locations have a choice of two or fewer providers. Accordingly, even though the FCC found it would serve the public interest to forbear from Sections 204-05, 211 and 212 in 1994,²⁷⁷ it should not assume that forbearance would serve the public interest here.

4. Power to Protect Consumers

It would clearly not serve the public interest to forbear from the privacy protections of Section 222. In addition, Commenters urge the Commission to refrain from immediately forbearing from the requirement to publish rates under Section 203. The requirement to publish rates and charges can provide valuable protection both to consumers and to competitors. Instead of full forbearance, the Commission should consider whether to permit carriers to meet this obligation by advertising rates (and permitting flexibility to offer individualized discounts and incentives).²⁷⁸

5. Authority to Ensure Meaningful Access for All Americans

In commanding the Commission to create the National Broadband Plan, Congress ordered the Commission to develop a plan that would provide “the most effective and efficient mechanisms for ensuring broadband access by all people of the United States” and include “a detailed strategy for achieving

²⁷⁷ *Id.* at 1411, 1478-80, 1485, ¶¶ 175-81, 196-97.

²⁷⁸ If the Commission does so, it should clarify that rates established by advertising are not “filed” with the Commission and therefore not subject to the presumption of lawfulness under the “filed rate doctrine.”

affordability of such service and maximum utilization of broadband infrastructure and service by the public.”²⁷⁹ Congress has delegated to the Commission specific powers and responsibilities to ensure meaningful access by those with physical disabilities (Sections 225 and 255);²⁸⁰ to provide for deployment and affordability in high-cost areas, for community anchor institutions, and for those who could not otherwise afford the service (Sections 214(e) and 254);²⁸¹ and to regularly report on potential barriers to entry by minority-owned businesses and small businesses and to act to remove these barriers (Section 257).²⁸²

Commenters strongly believe that the Commission cannot relieve itself of its obligation to report on what barriers prevent minority communities or small businesses from enjoying any and all economic and social benefits from access to broadband, or from taking action to remove these barriers. Furthermore, the Commission should understand the directive of Congress to provide affordable broadband access to “*all* people of the United States”²⁸³ in a manner that encourages “maximum utilization”²⁸⁴ as requiring the Commission to use all its available authority to ensure that those with physical disabilities, individuals with low incomes, and residents of high-cost areas have meaningful access to broadband service. The Commission should therefore refrain from forbearing from these statutes.

- D. The Commission can institute interim provisions to maintain stability before making forbearance decisions.

Commenters, while acknowledging that the Commission needs to engage in further rulemaking before proceeding with forbearance, do not think that this additional rulemaking represents much of a barrier to this process or forbearance

²⁷⁹ 47 U.S.C. § 1305(k)(2)(A)-(B) (2014).

²⁸⁰ *See id.* § 225, 255.

²⁸¹ *See id.* §§ 214(e), 254.

²⁸² *See id.* § 257.

²⁸³ 47 U.S.C. § 1305(k)(2)(A) (2014) (emphasis added).

²⁸⁴ *See id.* § 1305(k)(2)(B).

in particular – indeed, it does not represent much more than what the Commission would face in any scenario.

For example, the Commission is more than capable of implementing interim rules under Title II that would retain current rates on pole attachments. The Commission need not choose between the purported horrors of either immediate application or immediate forbearance of every provision of Title II. Instead, interim rules can maintain current rates until a proceeding allows the necessary changes to be made. Nor would such an interim matter need to be couched in terms of the Commission’s forbearance power. For example, in the Commission’s Wireline Framework Order, the consequences of classifying facilities-based wireline internet access services as information services were phased in over the course of a one-year transition period, allowing time for providers to adapt their businesses to prevent disruption of service.²⁸⁵ Similarly, in reviewing the Commission’s interim measures and final bill-and-keep framework, the 10th Circuit Court of Appeals emphasized that “Our review under the arbitrary and capricious standard is particularly deferential in matters implicating predictive judgments and interim regulations.”²⁸⁶

In any area of Title II where a sudden change in classification could create significant effects on consumers, providers, or other interests, the Commission can introduce a transitional period, maintaining the status quo until deliberations can be made. This prevents the need to either make an immediate forbearance decision or immediately institute drastic change.

Applying Title II to broadband internet access services does not have to result in the onrushing parade of horrors foretold by opponents of reclassification, nor is the Commission’s only alternative to apply forbearance

²⁸⁵ Appropriate Framework for Broadband Access to the Internet Over Wireline Facilities, *Report and Order*, 20 FCC Rcd. 14853 at ¶ 98 (2005).

²⁸⁶ *In re: FCC 11-161*, 2014 WL 2142106 at *97 (10th Cir. May 23, 2014) (citing *Rural Cellular Ass’n v. FCC*, 588 F.3d 1095, 1105 (D.C. Cir. 2009); *Sorenson Commc’ns, Inc.*, 659 F.3d 1035, 1046 (10th Cir. 2011); *Alenco Commc’n, Inc. v. FCC*, 201 F.3d 608, 616 (5th Cir. 2000)).

indiscriminately. The Commission has sufficient flexible power to ease any transition into the Title II classification with no more complication or drama than would be present were it to proceed apace with any other regulatory framework.

VII. The FCC Has Authority to Classify Broadband Access Service Under Title II

Especially after refreshing the record in the instant proceeding, the Commission has ample authority to reclassify broadband internet access service as a telecommunications service. The Commission's authority in this area has only been reinforced by recent jurisprudence.

- A. In reclassifying broadband, the FCC would be entitled to *Chevron* deference because the relevant statutory terms are ambiguous and it would be acting within its delegated authority to resolve them.

It should be beyond contention at this point that Congress has delegated the necessary authority to the Commission to classify broadband access service as a telecommunications service. In the *Brand X* case, the Supreme Court expressly found the definitional statutes at issue ambiguous.²⁸⁷ Indeed, as explained by the majority opinion, it is precisely *because* Congress delegated power to the FCC to make a determination on classification that the FCC could overrule the Ninth Circuit's previous determination that cable modem service constituted a "telecommunications service."

More recent jurisprudence only gives more certainty to this conclusion. In *Arlington v. FCC*, the Supreme Court confirmed that a court must defer under *Chevron* to an agency's interpretation of a statutory ambiguity that speaks to the agency's own jurisdiction.²⁸⁸ The Court (using the example of an agency classifying ISPs as common carriers) explained that examining the scope of an agency's authority is the same as examining an agency's application of authority

²⁸⁷ *Brand X*, 545 U.S. 967 (2005).

²⁸⁸ *Arlington*, 133 S.Ct. 1863 (2013).

that it unquestionably has. An agency's interpretation of an ambiguity can therefore receive deference regardless of whether that ambiguity goes to the scope of the agency's jurisdiction.

It is also worth noting that the Court of Appeals for the D.C. Circuit's recent decision in *Verizon v. FCC* in no way constrained the Commission's ability to reclassify internet access service as a telecommunications service. Indeed, it was precisely *because* the Commission attempted to apply no-blocking and nondiscrimination rules without classifying the services at issue under Title II that the court overturned parts of the Commission's net neutrality rules.²⁸⁹ The court even found the Commission's decision that "preserve and facilitate the 'virtuous circle' of innovation that has driven the explosive growth of the Internet" was "reasonable and supported by substantial evidence."²⁹⁰ Especially under the D.C. Circuit's decision, the Commission can and must reclassify under Title II to enact meaningful net neutrality rules.

Reclassification would not involve the kind of statutory interpretation present in *FDA v. Brown & Williamson Tobacco Corp.*²⁹¹ That case stands for a simple point: that *Chevron* deference only applies to ambiguous statutes, where Congressional intent is not clear. In *Brown & Williamson*, the FDA had determined that tobacco was a "drug" subject to FDA regulation. In isolation, this may have been a "reasonable" interpretation. But the Court found that if tobacco were a "drug," the FDA would be compelled to ban it; and that this result would be incompatible with a Congressional policy of regulating and taxing tobacco but not banning it.²⁹² Because the overall statutory scheme showed that Congress had "directly spoken to the issue,"²⁹³ there was no ambiguity and *Chevron* did not apply. *Brown & Williamson* is not central to the reclassification debate because the Supreme Court has already definitively held

²⁸⁹ *Verizon v. FCC*, 740 F.3d at 623.

²⁹⁰ *Id.* at 628.

²⁹¹ *Brown & Williamson*, 529 U.S. 120 (2000).

²⁹² *Id.* at 137.

²⁹³ *Id.* at 133.

that the relevant statutory language is ambiguous,²⁹⁴ but even applying its analysis shows that Congress intended to delegate to the FCC the authority to make regulatory classifications of communications services.

In *Brown & Williamson*, the Court looked outside of the text of the statute to determine Congressional intent. Applying the same method to reclassification shows that Congress has decided that basic, common carriage communications services should be available to the public. To further that policy it delegated to the FCC (and its predecessor agencies) the authority to enact regulations and make expert judgments,²⁹⁵ like those it made in the *Computer Inquiries*,²⁹⁶ as to which services should be considered Title II telecommunications services and which should not. By using broad terms like “telecommunications services,” Congress delegated to the FCC to determine *how* (not whether) to best ensure access to Title II services, and how to define and delineate those services on a technical level. Congress did not intend for the FCC to write off large portions of the Communications Act as no longer relevant, and it did not intend for a bedrock principle of communications law to sunset. Historically, the FCC has made a distinction between “basic” and “enhanced” services. Congress adopted this distinction in the 1996 Telecommunications Act (with the terms telecommunications and information services),²⁹⁷ and it accepted the 1998 *Stevens Report*,²⁹⁸ which assumed that access to information services would take place over a common carriage telecommunications link. When the FCC abandoned this

²⁹⁴ *Brand X*, 545 U.S. at 989.

²⁹⁵ Congress expressed its intent in the Mann-Elkins Act of 1910, 36 Stat. 539; the Communications Act of 1934, 48 Stat. 1064; and the Telecommunications Act of 1996, Pub. L. 104-104, 110 Stat. 56.

²⁹⁶ Reg. and Policy Problems Presented by the Interdependence of Computer and Communications Services, Final Decision, 28 FCC 2d 267 (1971); Second Computer Inquiry, Final Decision, 77 FCC 2d 384 (1980); Amendment of Sections 64.702 of the Comm’n’s Rules and Regs., Report & Order, 104 FCC 2d 958 (1986).

²⁹⁷ 47 U.S.C. § 153 (2014).

²⁹⁸ *Federal State Joint Board on Universal Service*, Report to Congress, 13 FCC Rcd. 11,501 (1998).

policy, it assumed (along with the Supreme Court²⁹⁹) that it could still preserve the nondiscriminatory nature of broadband services even without formally categorizing them as common carriage telecommunications services – in essence, it decided it could carry out congressional policy without using the tools Congress gave it. The FCC turned out to be wrong, and should therefore reclassify broadband as a Title II service. Unlike the situation in *Brown & Williamson*, reclassification would be an example of an agency acting to further, not thwart, congressional intent.

A *Brown & Williamson*-type analysis of the broader legal context is largely superfluous, however, because the Supreme Court has already decided that the relevant statutory terms are ambiguous and that the FCC is entitled to *Chevron* deference in interpreting them. As the Court discussed at length, the term “offer” (among others) in the Communications Act is ambiguous.³⁰⁰ In *Brand X*, the FCC had determined that cable modem service comprises telecommunications service and information service components, but that the telecommunications service was not “offered” to consumers.³⁰¹ Justice Scalia disagreed and argued that this specialized meaning of the word “offer” was unreasonable.³⁰² In this proceeding, the FCC need do nothing more than adopt Justice Scalia’s reasonable reading of the word “offer” and find that “Internet connectivity service” is “offered” to the public as part of “broadband Internet service” (along with such non-telecommunications services as email). It will then have a sufficient legal basis to classify internet connectivity service under Title II.

Reclassification would not present an issue like that in *American Library Ass’n v. FCC*.³⁰³ There, the FCC attempted to regulate something outside its subject matter jurisdiction of “communication by wire or radio,” and thereby exceeded its delegated authority. The D.C. Circuit overturned the FCC, holding

²⁹⁹ *Brand X*, 545 U.S. at 976.

³⁰⁰ *Id.* at 986-997.

³⁰¹ *Id.* at 989.

³⁰² *Id.* at 1007 (Scalia, J., dissenting).

³⁰³ *American Library Assoc. v. FCC*, 406 F. 3d 689 (D.C. Cir. 2005).

that an agency must be acting within its delegated authority for *Chevron* to apply. But the Supreme Court has already held that Congress has delegated authority to the FCC to classify broadband access as an information service or as a telecommunications service,³⁰⁴ and so those cases are inapposite.

For the above reasons, the relevant statutory language is ambiguous, and Congress has delegated to the FCC the authority to adopt the interpretation that best furthers the policy of the Communications Act to ensure that the public has access to telecommunications free of unreasonable discrimination.

- B. The FCC must account for all the facts in reaching a classification decision, but it faces no additional legal burden when changing course.

It is now a settled part of administrative law that an agency does not need to provide a more detailed explanation when it changes course than when it grapples with an issue *de novo*.³⁰⁵ An agency can change its mind for no other reason than it thinks its new approach is better than the old one. It is true that, in changing its mind, the Commission must account for all facts. However, this is true for all agency decisions, whether they involve a change of course or not. Accounting for all the facts (including reliance interests) is a prerequisite of

³⁰⁴ *Brand X*, 545 U.S. at 980-82 (finding that because the FCC is regulating a service within its jurisdiction, it is acting within its delegated authority, and *Chevron* deference applies).

³⁰⁵ As the Supreme Court recently explained, “We find no basis in the Administrative Procedure Act or in our opinions for a requirement that all agency change be subjected to more searching review. The Act mentions no such heightened standard. And our opinion in *State Farm* neither held nor implied that every agency action representing a policy change must be justified by reasons more substantial than those required to adopt a policy in the first instance. . . . [O]f course the agency must show that there are good reasons for the new policy. But it need not demonstrate to a court’s satisfaction that the reasons for the new policy are better than the reasons for the old one; it suffices that the new policy is permissible under the statute, that there are good reasons for it, and that the agency *believes* it to be better, which the conscious change of course adequately indicates.”

FCC v. Fox Television Stations, Inc., 556 U.S. 502, 514-516 (2009) (expressly overruling contrary DC Circuit opinion) (emphasis in original, citations omitted).

engaging in reasoned decision-making and is necessary to comply with the Administrative Procedures Act.³⁰⁶ But the FCC faces no additional legal burden when it changes its mind.

Thus, there do not *need* to be any “new facts” for the FCC to change its mind as to the classification of broadband. There do not need to be any substantial changes to the market structure, the technology, or consumer expectations. The FCC would meet its burden of reasoned decision-making in reclassification if, after accounting for the unchanged facts, it finds a new interpretation of the same facts more persuasive than it did before, or if it announced that it finds that the new classification would better give it the tools it needs to carry out its policy objectives.

C. Title II allows for rules prohibiting discrimination.

Section 201 of the Communications Act requires “[a]ll charges, practices, classifications, and regulations” in the provision of communication service to be “just and reasonable,” and prohibits any charges, practices, classifications, and regulations that are “unjust or unreasonable.”³⁰⁷ Section 202 further prohibits “any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services.”³⁰⁸

It would be an error, however, to say that, because the Commission *must prohibit* unjust and unreasonable discrimination, it *must permit* “commercially reasonable discrimination.” While Title II allows rules that *permit* discrimination so long as it is both reasonable and just, it does not *require* discrimination of any sort, even where a proponent can show that the discrimination is reasonable and not unjust.

To say otherwise would be contrary not only to logic, but to an established history of instances where the Commission has prohibited conduct it found

³⁰⁶ 5 U.S.C. § 706 (2014).

³⁰⁷ 47 U.S.C. § 201(b) (2014).

³⁰⁸ *See id.* § 202(a) (2014).

inherently unjust, unreasonable, or subject to abuse, even if subcategories of that conduct might plausibly claim to buck the general trend.

For example, in *Carterfone*, the FCC found that it was inherently unjust and unreasonable to permit a carrier to interfere with the ability of a subscriber to attach a device to a network.³⁰⁹ Because it determined that it was impossible to adequately police discriminatory conduct by the network operator, the FCC established Part 68 and affirmatively prohibited common carriers offering residential telephone service from *ever* discriminating under *any circumstance between devices or ever varying from the Part 68 standard because discriminating between devices would never be ‘just and reasonable.’*

Furthermore, in the *Computer I* proceeding, the Commission initially permitted common carriers to offer “hybrid services” under a set of safeguards designed to protect against anti-competitive conduct.³¹⁰ Only a few years later, the Commission concluded in the *Computer II* proceeding that it was inherently impossible to permit common carriers to offer “enhanced services” except through complete structural separation.³¹¹ Judge Green, in applying the antitrust laws, reached a similar conclusion with regard to the provision of long distance services by local networks.³¹² Only complete structural separation and a complete prohibition on the practice could prevent anticompetitive and anti-consumer conduct.

Similarly, discrimination in the form of paid prioritization can easily be classified as inherently unjust and unreasonable. The Commission has demonstrated a continuing concern that paid prioritization would frustrate the

³⁰⁹ See Use of the Carterfone Device in Message Toll Service, *Decision*, 13 FCC 2d 420 (1968).

³¹⁰ See Regulatory and Policy Problems Presented by the Interdependence of Computer and Communication Services and Facilities, *Final Decision and Order*, 28 FCC 2d 267 (1971) [hereinafter *Computer I Final Decision*].

³¹¹ See Amendment of Section 64.702 of the Commission’s Rules and Regulations (Second Computer Inquiry), 77 FCC 2d 384 (1980) (*Computer II Final Decision*) ¶¶. 2.

³¹² See *AT&T v. AT&T*, 552 F.Supp. 131 (D.DC 1982).

“virtuous cycle” that has, until now, forced providers to invest in enhanced capacity as a means of generating revenue. That concern has been found both reasonable and supported by the evidence in the record by the D.C. Circuit in *Verizon*. Even if particular forms of discrimination could be excused as being reasonable, such exceptions could easily swallow the rule, as the methods and implementations of discriminatory practices can obscure the differences between reasonable and unreasonable prioritization, masking anticompetitive or anti-consumer behavior by carriers.

Nothing stands in the way of the Commission using its Title II powers to institute rules of general applicability, and nothing in Title II requires the Commission to permit activities that merely *may, in some instances*, be reasonable and just.

VIII. The Mozilla Petition Is Not A Substitute For Reclassification, But Must Be Granted If The FCC Continues Title I Classification Of Residential Broadband Service

The *FNPRM* solicits comment on the Petition by Mozilla to recognize that a pure transmission service “enabling of communication within a last-mile terminating access network between a remote endpoint and the local subscribers of an Internet access service” constitutes a Title II telecommunication service.³¹³ The *Mozilla Petition* flows directly from the Court’s opinion in *Verizon v. FCC* adopting Verizon’s description of broadband as constituting not one unified service sold to a residential subscriber, but two distinct services: a service sold to a subscriber and potentially a separate service of the type described in the *Mozilla Petition* sold to edge providers wishing to prioritize delivery of their content.³¹⁴

³¹³ See Petition to Recognize Remote Delivery Services in Terminating Access Networks and Classify Such As Telecommunications Service Under Title II of the Communications Act, Docket No. 14-28 (filed May 5, 2014) [hereinafter *Mozilla Petition*].

³¹⁴ *Verizon*, 740 F.3d at 652-55.

Mozilla is correct that until Verizon argued – and the D.C. Circuit found as a matter of law – that what looks for all the world like a unified service is really *two* services, the question of how to correctly classify this new “prioritization” service never arose. Nor can the Commission simply apply its previous determination that the “base service” offered to subscribers is an information service to this new service that Verizon described and the D.C. Circuit blessed. To the contrary, the entire basis for vacating the previous non-discrimination rule rests on the conclusion that (a) edge providers are potential “customers” of Verizon and other broadband access providers, and (b) that the Commission’s actions prevented Verizon from offering this heretofore unknown service, thus “regulating Verizon as a common carrier” in violation of the “common carrier prohibition.” The Court expressly rejected the Commission’s argument that edge providers (“remote end points” in the *Mozilla Petition*) are not “customers” because the “basic” broadband service sold to residential subscribers includes the return path from the edge provider and constitutes a single service.³¹⁵

Accordingly, two things logically flow from Verizon’s description of how the internet works. In light of the D.C. Circuit’s decision, the Commission must now treat Verizon’s description as having the force of law. First, that if the Commission does not regulate residential broadband as a Title II telecommunications service because the “offer” to the residential subscriber includes both a telecommunications transmission element and information services bundled together, it cannot prevent Verizon or any other ISP from unbundling the transmission element and offering it up as a separate service. In that event, as Mozilla rightly observes, the Commission must classify this newly-identified and unbundled service that the broadband access provider wishes to “offer.”

³¹⁵ *Id.* at 655 (describing the FCC’s analysis as “flawed”).

Second, the Commission can avoid this the unbundling process entirely by reclassifying residential broadband access service as a Title II service. At that point, the distinction between the service “offered” to the end user subscriber and that potentially offered to a “remote end point” meld into a single, unitary service with a traditional start point, end point, and return path.³¹⁶

Alternatively, if the Commission reads the *Verizon* Court as creating a permanent division of services as a matter of law, the Commission can compel the broadband access provider and the remote end point exchanging traffic³¹⁷ to do so under bill-and-keep, requiring the last mile terminating network to recover any additional expenses from its customers.^{318 319}

In short, not only is reclassification of Title II better policy, it drastically simplifies things by allowing the Commission to make whole that which Verizon and the D.C. Circuit have split asunder.

³¹⁶ See *GTE Telephone Operating Cos*, 13 FCC Rcd. 22,466, 22,470-72 (1998) [hereinafter *GTE DSL Tariff*] (finding that DSL capacity tariff covered transmission from end user, through local point of presence to distant servers and back and rejecting efforts to break up transmission into component pieces).

³¹⁷ Technically, in many cases, it will not be the remote end point exchanging traffic with Verizon or other terminating network but a transit provider or CDN exchanging the traffic at an interconnection point. Intervenors (including Public Knowledge) labored mightily, in their briefs and at oral argument, to make this distinction clear to the D.C. Circuit. [CITE] Verizon, however, argued successfully that use of a transit provider or CDN provider did not break the “customer” relationship with the remote endpoint/edge provider. Verizon (nor any other broadband access provider) cannot now argue that this technical reality matters with regard to the treatment of its proposed “prioritization service.”

³¹⁸ See *Direct Communications Cedar Valley, LLC v. FCC*, Dock. No. 11-9900 Slip Op (10th Cir. released May 23, 2014) (affirming mandating bill-and-keep for exchange of traffic and requiring cost recovery exclusively from end user customers as appropriate exercise of Title II authority).

³¹⁹ In addition, as explained below, Verizon or any other carrier would need to file a request under Section 214(a) prior to offering the service.

- A. If the Commission does not reclassify, it should classify any offer to prioritize traffic as Title II.

Assuming, however, the Commission does not reclassify residential broadband, the Commission must then face the question presented to it by the *Mozilla Petition*. When a broadband access provider offers a prioritized service to an edge provider or other “endpoint,” what service does that carrier offer? Absent any other information, such an offer of a pure transmission facility looks almost identical to IP transport services previously tariffed by the Commission as an “Access Service” under Rule 69.2

As an initial matter, the offer by Verizon or another ISP to provide the service it proposed before the D.C. Circuit, *i.e.*, to an end point/edge provider “customer” clearly differs from the offer to Verizon’s residential subscriber. Verizon’s counsel was, understandably, somewhat vague at oral argument as to the details of the service that “but for” the Commission’s rule against paid prioritization Verizon would now be exploring with potential customers.³²⁰ However, based on Verizon’s representations in its brief that the “no paid prioritization rule” prevented Verizon from even considering such offers, an assertion reaffirmed by Verizon’s Counsel at oral argument, we must assume that the offer consists primarily of some sort of paid prioritization rather than, say, email or webhosting or other information service usually offered to residential subscribers. Because Verizon cannot prioritize traffic until it is actually on its network, we must presume that the offered service does not include DNS lookup or other information services, except as incidental to routing the prioritized traffic to and from the end user.³²¹

³²⁰ See Michael Weinberg, *But For These Rules . . .*, Public Knowledge (Sep. 10, 2013) <https://www.publicknowledge.org/news-blog/blogs/these-rules>.

³²¹ It is not even clear that Verizon would provide DNS service as part of its offer to an edge provider customer to reach the subscriber customer. Verizon has not indicated that it would “offer” transit service. All routing would take place within the Verizon network (or terminating network of another broadband access provider). Such internal routing information is not an “information

By all appearances, the proposed “prioritization service” appears similar to Verizon’s previous DSL Access Tariff.³²² There, Bell Atlantic, Verizon’s predecessor company, offered transmission capacity between a DSL subscriber CPE (a “home computer” or “desktop” provided by the customer) and a distant end point (“server point-of-presence”) with traffic handed off at a designated interconnection point (a “DSLAM” in the “central office”). As the Commission found, this pure transit from an interconnection point to the end user subscriber so that the end user subscriber can send and receive information from the end point/edge provider is an access service under Rule 69.2 and properly classed and tariffed as an interstate telecommunications service.³²³

Critically, the Commission’s 2005 Order deregulating DSL did not alter this analysis.³²⁴ Rather, following the logic of the *Cable Modem Declaratory Order*

service,” see 47 U.S.C. 153(24) (explicitly excluding routing information associated with telecommunications transmission). Even if Verizon offers transit, however, it does not require DNS routing. Certainly it does not require DNS translation of a domain name into an IP address, the only function performed by DNS that could conceivably transform it from routing information to an “information service,” nor would provision of such routing incidental to the prioritized service change the classification. See *AT&T Corp. Petition for Declaratory Ruling Regarding Enhanced Prepaid Calling Card Servs.*, 20 F.C.C.R. 4826, 4830 (2005) (mere use of IP link, or IP-based enhancements, does not change classification) *affirmed sub nom. AT&T v. FCC*, 454 F.3d 329 (D.C. Cir. 2006).

³²² Bell Atlantic Telephone Cos., *Opinion and Order*, 13 FCC Rcd. 23,667 (1998) (hereinafter *Bell Atlantic DSL Tariff*).

³²³ *Id.* at ¶ 14. See also *AT&T Title II and Computer Inquiry Forbearance*, 22 F.C.C.R. 18,705 (2007) *AT&T Order*; *Embarq and Frontier Title II and Computer Inquiry Forbearance*, 22 F.C.C.R. 19,478 (2007) [hereinafter *Embarq/Frontier Order* (Generally recounting history of tariffs for transport of packet-switched traffic and granting forbearance relief).

³²⁴ *Appropriate Framework for Broadband Access To the Internet, Order*, 20 FCC Rcd. 14853 at 14860-61(2005) (distinguishing residential last mile service from “ATM service, Frame Relay, Special Access, gigabit Ethernet service, and other high-capacity special access services, that carriers and end users have traditionally used for basic transmission purposes.”).

and *Brand X*, the Commission eliminated the requirement first established in the *Computer Proceedings* that obligated ILECs to offer information services through a structurally separate affiliate and offer the pure telecom transmission capability on comparable terms to rivals.³²⁵ The Commission still permitted ILECs, on a voluntary basis, to continue to tariff pure transmission facilities for DSL and other lines such as T-1 lines.³²⁶ Similarly, the Commission continues to require ILECs to offer special access circuits for IP transport such as DS1 and DS3 circuits.³²⁷

In short, the service described by Verizon, and by its counsel at oral argument, appears to be simple transport of IP packets – a service the Commission has previously classified as a Title II access service as defined by Rule 69.2. Therefore, if the Commission does not simply reclassify residential broadband as a Title II service, it should classify any proposed prioritization service as a Title II service as requested by the *Mozilla Petition*.

1. The Commission should prohibit Verizon or any other broadband access provider from offering any prioritized service until Verizon (or other broadband access provider) files a request for authorization under section 214(a).

Section 214(a) clearly states that no one shall offer a new interstate telecommunications service without a certificate of public convenience and necessity issued by the Commission.³²⁸ Unlike existing broadband service, which because it is an existing service would require no Section 214(a) exemption to continue service,³²⁹ Verizon’s proposed new “Termination Network Prioritization Service” requires a filing of a 214(a) request for a certificate of

³²⁵ *Id.* at 14872-79.

³²⁶ *Id.* at 14900-903.

³²⁷ *See, e.g.,* Suspension and Investigation of AT&T Special Access Tariffs, *Public Notice*, 28 FCC Rcd. 16525 (2013).

³²⁸ 47 U.S.C. 214(a) (2014).

³²⁹ 214(a) on its face applies only to a “new” service, not a service already being offered.

public convenience and necessity. Given the paucity of detail that Verizon has provided to date of what services it is exploring now that the Commission's open internet rules no longer prohibit paid prioritization and are therefore no longer "shutting down" the market for such services,³³⁰ there is no way to determine whether the proposed paid prioritization service would serve the public convenience and necessity.

The Commission should therefore make clear that neither Verizon nor any other carrier may offer a paid prioritization service absent a filing of a Section 214(a) request, providing suitable detail so that the Commission – after appropriate public notice and comment³³¹ – can determine whether the proposed paid prioritization service would serve the public convenience and necessity. Given the Commission's previous findings in the *2010 Open Internet Report and Order*, the Commission should likewise make it clear that it has grave doubts that any such paid prioritization service would serve the public interest. The Commission should also make clear that, in the event a Section 214(a) is granted, it would require tariffing under Section 203.³³²

Requiring a Section 214(a) filing prior to any "exploration" of the "two sided market" will also allow the Commission to evaluate whether to require bill-and-keep or whether to permit Verizon or other broadband access provider

³³⁰ As Verizon's counsel stated at oral argument: "I am authorized by my client to state that but for these rules [prohibiting paid prioritization, blocking or discrimination] we would be exploring those commercial arrangements." Presumably, with the rules vacated and the common carrier prohibition Verizon sought in place, Verizon is off on its voyage of discovery. See Public Knowledge, *DC Circuit Open Internet Rule Oral Argument*, SoundCloud, <https://soundcloud.com/public-knowledge/dc-circuit-open-internet> (last visited July 14, 2014).

³³¹ Because of the novel questions raised, and because the Commission previously found in the first *Open Internet Report & Order* that paid prioritization and other forms of discrimination would have significant adverse consequences, the Commission should not use its "fast track" 214(a) approval process for Verizon's proposed new service to edge providers as it "explores" the possibilities of the two-sided market.

³³² 47 U.S.C. § 203 (2014).

to recover the costs of the new service from the edge provider rather than the subscriber customer. It will also allow the Commission to determine what other provisions beyond Sections 201 and 202 of the Act to apply to the specific service in question.³³³

2. To the extent Verizon or any other broadband access provider seeks to “explore” any two-sided market arrangement, it must be presumptively treated as Title II and require either a 214(a) request or request for declaratory ruling on classification.

As indicated by Verizon’s counsel at oral argument, Verizon’s search for a willing edge partner in a two-sided broadband market has only just begun. It is therefore entirely possible that Verizon or another broadband access ISP will seek to offer services that it will argue are sufficiently different from the general service described in the *Mozilla Petition* that the “new” service falls outside the request for Declaratory Ruling.

The Commission should therefore further find that any service offering that engages with a two-sided structure is presumptively a Title II service and requires a filing of Section 214(a) request before Verizon (or other broadband access provider) brings them to market. Given the significant potential harms identified by the Commission in the *2010 Open Internet Order*, such prophylactic protection seems necessary despite the consensual agreement between a willing edge provider and a willing broadband access provider.

³³³ Whereas reclassification of existing broadband service would require some immediate action to declare interim or transition rules, possibly including forbearance from specific statutory provisions (see discussion at Section VI), the Commission need not address the question of interim rules or forbearance by granting the *Mozilla Petition*. The *Mozilla Petition* simply clarifies that if/when Verizon or other broadband provider offers a prioritization service (or other two-sided market arrangement), that service is presumptively a Title II service and requires a request under Section 214(a) for a Certificate of Public Convenience and Necessity before the service can begin operation.

IX. Addressing Interconnection Is Essential to Protecting the Open Internet

The Commission has asked whether to maintain its approach “not [to] apply the no-blocking or unreasonable discrimination rules to the exchange of traffic between networks, whether peering, paid peering, content delivery network (CDN) connection, or any other form of inter-network transmission of data, as well as provider-owned facilities that are dedicated solely to such interconnection.”³³⁴ This includes the specific question of how to “ensure that a broadband provider would not be able to evade our open internet rules by engaging in traffic exchange practices that would be outside the scope of the rules as proposed.”³³⁵

It is clear that practices governing connections to ISP last-mile networks significantly influence user experiences and expectations. Recent high-profile peering agreements by Netflix with Comcast³³⁶ and Verizon,³³⁷ as well as public shaming practices by video streaming providers on ISP performance,³³⁸ highlight the importance of interconnection to residential customers and edge providers. Furthermore, these practices can raise the types of ISP gatekeeper concerns that have traditionally animated open internet concerns.

³³⁴ NPRM, *supra* note 60, at ¶ 59.

³³⁵ *Id.*

³³⁶ Edward Wyatt & Noam Cohen, *Comcast and Netflix Reach Deal on Service*, NY Times (Feb. 23, 2014), <http://www.nytimes.com/2014/02/24/business/media/comcast-and-netflix-reach-a-streaming-agreement.html>.

³³⁷ Brian Fung, *The Switchboard: Netflix and Verizon Reach a Peering Deal*, Washington Post (Apr. 29, 2014), <http://www.washingtonpost.com/blogs/the-switch/wp/2014/04/29/the-switchboard-netflix-and-verizon-reach-a-peering-deal/>.

³³⁸ See Jacob Kastrenakes, *Netflix tests warnings that blame internet providers for poor streaming quality*, The Verge (June 4, 2014), <http://www.theverge.com/2014/6/4/5778770/netflix-warning-members-when-service-providers-cause-bad-speeds>; Brad Reed, *YouTube starts shaming ISPs for delivering awful streaming*, BGR (July 7, 2014), <http://bgr.com/2014/07/07/why-is-youtube-streaming-slow/>.

Regardless of whether the Commission addresses peering and interconnection in this proceeding or another, ultimately both standard open internet rules and interconnection issues are relevant to the issue of open internet protections. Therefore, the Commission has an obligation to act strongly in this area if such action proves to be warranted. While gathering data is an important first step for action, the Commission must be prepared to take decisive action based on the information it gathers.

- A. Interconnection disputes can have the same harmful impacts as open internet violations.

ISPs can use their gatekeeping status to manipulate interconnection in ways that create harmful impacts similar or identical to blocking or paid prioritization. This is true even in the presence of otherwise strong open internet rules. For example, when ISPs prevent direct interconnection to their networks (either from an edge provider's private network or from one of its preferred transit providers), edge providers and consumers suffer reduced performance, just as if they were subject to paid prioritization or blocking. While the technical explanation for this reduced performance may vary, the user experience of slowed speeds for certain content is identical.

Similarly, ISPs can use their control over interconnection to the last-mile network to appropriate oligopoly rents from edge providers or advantage affiliated content. Large content providers often employ privately operated or third-party CDNs, as well as preferred transit partners, to send traffic to residential ISPs in order to minimize transmission distance and time. ISPs are able to charge significant tolls to edge providers to the extent that they are able to identify and preferentially target certain content providers. Such targeting is particularly viable for companies that serve large amounts of data with high quality requirements; Netflix, for instance, has seen substantial provider-specific

drops in service that may be the result of such practices.³³⁹ This ability allows ISPs to shift the costs of network investment to edge providers, who then shift those fees to consumers through higher subscription costs. Similarly, ISPs are able to favor affiliated services via interconnection, not just by placing content closer to the end user but also by ensuring that preferred partners or services face no interconnection fees or tolls.

- B. The Commission must push for further public transparency surrounding interconnection agreements.

Commenters support increased transparency and disclosure regarding interconnection agreements. The Commission's recent decision to investigate interconnection issues, in particular by obtaining and analyzing the content of recent paid peering agreements, is a promising first step.³⁴⁰ However, the Commission should be mindful that voluntary disclosure is not an ideal solution to addressing interconnection disputes, since companies can mislead the Commission and consumers by selectively releasing information. ISPs may also use language that deliberately obscures the ability of consumers to understand the nature of the agreements made and the implications for their service. Rather, the Commission should use its authority under Section 706 to ensure mandatory, transparent disclosure in terms understandable to an average ISP consumer so that consumers, companies, and interested parties can be more fully aware of the relevant market issues and dynamics.

³³⁹ See *USA ISP Speed Index Results Graph*, Netflix, <http://ispsspeedindex.netflix.com/results/usa/graph> (last visited July 14, 2014) (particularly the results for Comcast between October 2013 and November 2014).

³⁴⁰ Tom Wheeler, *Statement by FCC Chairman Tom Wheeler on Broadband Consumers and Internet Congestion*, FCC (June 13, 2014), http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db0613/DOC-327634A1.pdf.

X. Effective Disclosure Policies Are Critical to an Open Internet

Commenters agree with the Commission that effective disclosure policies must play a central role in open internet regulation.³⁴¹ Not only must open internet rules prevent the division of the internet into a fast lane and slow lane, but they must arm consumers and regulators with the information they need to know when the rules are violated. Effective disclosure policies should require different disclosures for different parties, disclosure of all types of information described in the 2010 Order, and disclosure of expected network performance. The Commission should also publish and maintain lists of broadband providers that block or otherwise limit certain types of traffic, as well as of any exemptions to those blocking and limiting policies.

To ensure that both the general public and other parties have access to the information they need, the Commission should require at least two different types of public disclosure: one plain language disclosure targeted at the average user, and a more technical detailed disclosure. Each disclosure should contain all of the types of information described in the 2010 Order,³⁴² with the plain language disclosure provided in an easily read format with less detail, and the more technical disclosure containing the detailed technical discussions that engineers would need to evaluate practices. The plain language disclosure should be displayed prominently both on the provider's website and at the point of sale, in bill inserts, and in the service contract. The technical disclosure should be displayed prominently, at a minimum, on the provider's website. Existing customers of a provider should be notified by email or by mail of any changes to network management practices.

To ensure that the public, providers, and the Commission have sufficient information to monitor open internet compliance, evaluate service, and understand the costs of participating in the market, the Commission should

³⁴¹ NPRM, *supra* note 60, at ¶ 66.

³⁴² Open Internet Order, *supra* note 2, at ¶ 56.

require each disclosure to include every type of information described in the 2010 Order.³⁴³

Network Practices

- Congestion Management
- Application-Specific Behavior
- Device Attachment Rules
- Security

Performance Characteristics

- Service Description
- Impact of Specialized Services

Commercial Terms

- Pricing
- Privacy Policies
- Redress Options

As Public Knowledge advocated in 2010, “[u]sers and the FCC should be provided with meaningful information about any and all actions conducted by ISPs that monitor, manage or interfere with a subscriber’s internet traffic.”³⁴⁴ Information types in the “network practices” category achieve this point, with instances of blocking, throttling, and pay-for-priority arrangements falling under “congestion management” and “application-specific behavior.” Information types in the “performance characteristics” and “commercial terms” categories help consumers compare providers against one another.

The Commission should also require a detailed description of expected network performance in every public disclosure. Expected network performance disclosure would assist the public and the Commission in identifying instances of throttling and blocking practices that could violate open internet regulations.

³⁴³ Id.

³⁴⁴ Comments of Public Interest Commenters, *Notice of Proposed Rulemaking*, GN Docket No. 09-191, WC Docket No. 07-52, (Jan. 14, 2010) at 63, available at <http://apps.fcc.gov/ecfs/document/view?id=7020378850>.

In addition, documenting network congestion would help create a more comprehensive record of when congestion is occurring, and why. This would inform future policymaking and could suggest which providers are under-investing in their networks. Over time, regular disclosure of this type of information would help regulators and consumers evaluate specific network problems. For example, a large body of information would make it easier to understand if a specific problem was due to characteristics of underlying network technologies or something more specific to a specific carrier's implementation.

Finally, the Commission should publish—and regularly update—lists both of providers that block or otherwise limit certain traffic, and of pay-for-priority arrangements.³⁴⁵ These lists would facilitate greater public scrutiny of practices that threaten to violate open internet regulations.

Conclusion

For the above stated reasons, the Commission should classify broadband internet access as a Title II telecommunications service and implement clear, universal rules that prevent ISPs from blocking and discriminating online.

Respectfully submitted,

By:

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/s/

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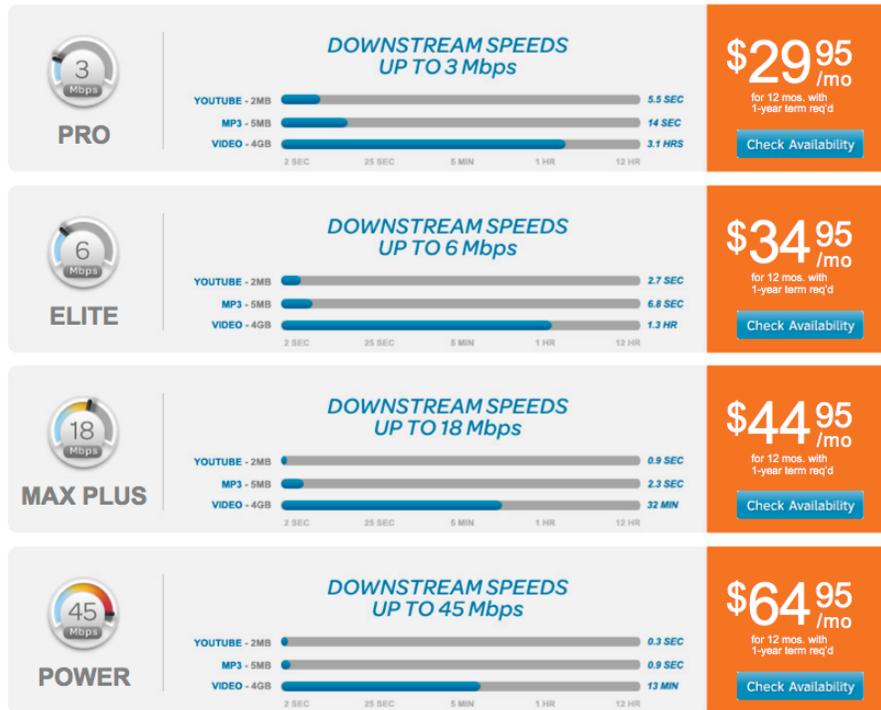
³⁴⁵ NPRM, *supra* note 60, at ¶ 88.

Appendix A

Selected examples of ISP advertisements in July of 2014. Note that ISPs advertise their services primarily in terms of the speed and reliability with which they can transmit data to and from third parties.

The Right Internet Package for You

AT&T U-verse High Speed Internet provides the speed, reliability, and connectivity you deserve.



(AT&T U-verse)

AT&T. The Nation's MOST RELIABLE 4G LTE Network.¹

What is 4G LTE?

It stands for Long Term Evolution, but what it really means is speeds up to 10x faster than 3G.²



What makes 4G LTE different?

It lets you stream clear, crisp video faster than ever before, download songs in a few beats, apps almost instantly, and so much more.



NETWORK EXPANSION

The AT&T 4G LTE network is already in hundreds of cities, and we're getting even bigger. See where we'll grow in 2014.

[View 2014 Map](#)

(AT&T Wireless)

Limited Time Offer - Get Double the Speed for the same price!
50 Mbps Internet

Perfect for:

- Families that download music, watch movies and videos on their PCs, play online games and telecommute, all at the same time
- Includes Docsis modem
- Highly secure and reliable connection

You get:

- Download speeds up to 50 Mbps / Upload speeds up to 10 Mbps

\$39.99/mo
 Price includes modem rental
 No contract required
 3-Year Price Assurance

[Order Online Now](#)

[What's my price in year-2 & 3?](#)

[Great Add-Ons](#) [What You Need](#) [Included Features](#) [Cable vs. DSL](#)

Limited Time Offer - Get 50 Mbps for the same price as 25 Mbps!
25 Mbps Internet

Perfect for:

- Individuals, families, and home offices
- Downloading music, files, and videos in seconds
- Telecommuting, serious gaming, and downloading multiple files concurrently

You get:

- Download speeds up to 25 Mbps / Upload speeds up to 4 Mbps

\$39.99/mo
 Price includes modem rental
 No contract required
 3-Year Price Assurance

[Order Online Now](#)

[What's my price in year-2 & 3?](#)

[Great Add-Ons](#) [What You Need](#) [Included Features](#) [Cable vs. DSL](#)

110 Mbps High-Speed Internet

Perfect for:

- Families with high-end users that want to upload and download in a flash. It's ideal for watching Netflix, streaming video, playing games and more -- without lags or breaks. It's the ultimate bandwidth for homes that have many devices. Connect all your electronics at once and enjoy a super smooth Internet experience.
- Includes Docsis modem
- Highly secure and voted most reliable!

You get:

- Download speeds up to 110Mbps / Upload speeds up to 15Mbps
- **NOTE: The 110 Mbps speed is only available to NEW residential customers satisfying applicable eligibility criteria.**

\$49.99/mo
 Price includes modem rental
 No contract required
 3-Year Price Assurance

[Order Online Now](#)

[What's my price in year-2 & 3?](#)

RCN INTRODUCES
 NETFLIX® ON
 YOUR TIVO® BOX

RCN
NETFLIX

Bundle and Save.

Digital TV
 and
 25 Mbps High-Speed Internet

\$49.99/mo.

[LEARN MORE >](#)

Winner of PCMag Readers' Choice Award

RCN
 WIRELESS INTERNET

(RCN)

Sprint Spark delivers a new era of innovation

Sprint Spark is a powerful, enhanced LTE network capability that incorporates three bands of LTE to create a revolutionary tri-band experience. For you, this means our fastest-ever data speeds and stronger in-building signal.

[Discover Sprint Spark-capable devices.](#)

Coverage

Capacity

Speed

Spectrum

Customer experience

▶ The super-high-speed capability offers up to 50-60 megabits per second peak speeds today compared with peak speeds of up to 25 Mbps on 4G LTE.



25 Mbps
4G LTE



50-60 Mbps
Sprint Spark

Sprint **Spark** 

(Sprint)

Concentrated where you need it most

You need fast, reliable data to live, play, and work to the fullest. That's why we designed our network differently—for data. Our cell sites are built closer together for a more densely packed network where more people need more data. The result? Success. T-Mobile's nationwide network has more capacity per customer than any major national carrier.

This is the data strong promise. The fastest 4G LTE network—getting faster all the time—delivers more consistent LTE speeds than any other major national carrier. Even during the busy times, you're more likely to get fast data when you need it the most. Download, surf, and stream to your heart's content with T-Mobile. We're dedicated to delivering the 4G LTE speeds you deserve.

Turbo	Up to 20Mbps TWC WiFi® Hotspots Upload up to 2Mbps	<ul style="list-style-type: none">ONLINE ONLY PRICE: Save \$5/Mo (Was \$49.99)	\$ 44⁹⁹ per month for 12 months Details ▾	Order >
Standard	Up to 15Mbps TWC WiFi® Hotspots Upload up to 1Mbps	<ul style="list-style-type: none">ONLINE ONLY PRICE: Save \$5/Mo (Was \$39.99)	\$ 34⁹⁹ per month for 12 months Details ▾	Order >
Basic	Up to 3Mbps Upload up to 1Mbps	Surf the web, connect with friends and family through Facebook, send email and download medium-sized files.	\$ 29⁹⁹ per month for 12 months Details ▾	Order >
Everyday Low Price	Up to 2Mbps Upload up to 1Mbps	Great for checking email and light web surfing - at a budget-friendly price.	\$ 14⁹⁹ per month Details ▾	Order >

(Time Warner Cable)

Concentrated where you need it most

You need fast, reliable data to live, play, and work to the fullest. That's why we designed our network differently—for data. Our cell sites are built closer together for a more densely packed network where more people need more data. The result? Success. T-Mobile's nationwide network has more capacity per customer than any major national carrier.

This is the data strong promise. The fastest 4G LTE network—getting faster all the time—delivers more consistent LTE speeds than any other major national carrier. Even during the busy times, you're more likely to get fast data when you need it the most. Download, surf, and stream to your heart's content with T-Mobile. We're dedicated to delivering the 4G LTE speeds you deserve.

Do You Have the Speed You Need?

Whatever your life demands, there's a Verizon FiOS plan with the perfect upload/download speed for you.



What Can 75/35 Mbps Do?

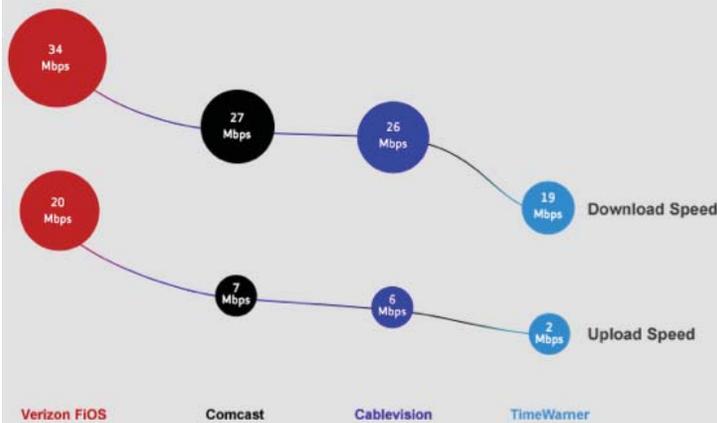
8.9 mins
to download an HD Movie (5 GB)



Constant Connection

Everyone in your household has a few devices—and a huge need for Internet connectivity. With FiOS Quantum Internet, you can all jump on and off the Web as you please and without interruption, 24/7.

75/35 Mbps is perfect for a home with multiple devices on the Internet—playing games, downloading music and streaming movies at the same time.



Is FiOS Faster than Cable? Hands Down Yes!

Through the 100% fiber-optic network that powers FiOS, you get a level of speed and capacity that cable can't always compete with—especially when it comes to upload speeds. See how we compare with cable competitors in your area.

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[Learn More about FiOS Internet](#)

(Verizon)