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Written Statement of

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Studies**

Before the

New York City Council

Committee on Technology in Government

Hearing on

“Establishing Strong Network Neutrality Principles in Order to

Protect the Internet”

November 20, 2009

Testimony of Lawrence J. Spiwak

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I. Introduction

Madam Chair and Council Members, good morning and thank you for inviting me to testify today.

My name is Lawrence J. Spiwak, and I am the President of the Phoenix Center for Advanced Legal and Economic Public Policy Studies, a non-profit 501(c)(3) organization that focuses on publishing academic-quality research on the law and economics of telecommunications and high-tech industries. Our research agenda is consistently targeted at providing policymakers information about the important role that pro-entry policies must play in the communications industry. In the last decade, we have written over seventy papers on telecommunications policy, many of which have been published in leading academic journals. Moreover, we make all of our research—as well as rebuttals by those who do not agree with us—available free at our website, www.phoenix-center.org. To this end, I am listed in the top two percent of scholars downloaded on the Social Science Research Network, and my academic work has been

cited by, among others, United States Federal Communications Commission, the United States Securities and Exchange Commission, the United States Federal Trade Commission, the United States Department of State, the United States Department of Commerce, United States Code Annotated, the United States Congressional Research Service, American Jurisprudence (2d), the International Telecommunication Union (ITU), and the Organisation for Economic Co-Operation and Development (OECD).

Given our reputation for both analytical honesty and rigor (coupled with the fact that we do not lobby or act as parties to any regulatory proceeding), not only are Phoenix Center members often called upon by various governments to testify to present our research, but to serve in some capacity. For example, the Phoenix Center has served for the last three years (including acting as Chairman) on the North American Numbering Council (the Federal Advisory Board charged with advising the Federal Communications Commission on telephone numbering issues) (<http://www.fcc.gov/wcb/cpd/Nanc/nancback.html>); we have conducted a study for the United States Department of Commerce on the “Valley of Death” for basic research (which is soon to be republished in an academic journal); I was selected to participate in a United States Department of State trip to Manila and Hanoi as part of President Bush’s “Digital Freedom Initiative” to talk about Universal Service and broadband deployment, as well as to participate last summer in a United States Department of State conference

¹ G.S. Ford, T.M. Koutsky, L.S. Spiwak, *A Valley of Death in the Innovation Sequence: An Economic Investigation* (2007)(available at: http://www.phoenix-center.org/Valley_of_Death_Final.pdf), and forthcoming in AMERICAN JOURNAL OF EVALUATION (Winter 2009).

in Ghana on the benefits of broadband deployment in the developing world; our Chief Economist currently serves on the Board of ConnectAlabama by direct appointment of the Governor; and, most recently, we just completed a project sponsored by the Governments of Portugal and Brasil to develop a new “Broadband Adoption Index”² (which is also scheduled to be republished shortly in an academic journal).

By way of my personal background, I received my undergraduate degree from George Washington University, and I received my law degree from Benjamin N. Cardozo School of Law. I am also a member of good standing in the Bars of New York, Massachusetts and the District of Columbia. Before founding the Phoenix Center, I was a senior attorney in the Office of General Counsel at the Federal Communications Commission and, before that, the Federal Energy Regulatory Commission. I would also like to add that while in law school, I was a member of the Mayor Koch’s Summer Graduate School Honors Program, where I helped coordinate New York City’s first effort at developing an alternative fuel program for the City’s public transportation system.

II. Defining the Issue

So what exactly is “net neutrality”? Honestly, I don’t know. If you ask three people, you are bound to get five answers. And that is precisely the problem.

² T.R. Beard, G.S. Ford and L.J. Spiwak, *The Broadband Adoption Index: Improving Measurements and Comparisons of Broadband Deployment and Adoption*, PHOENIX CENTER POLICY PAPER NO. 36 (July 2009)(available at: <http://www.phoenix-center.org/pcpp/PCPP36Final.pdf>), and forthcoming in FEDERAL COMMUNICATIONS LAW JOURNAL (Spring 2010).

Net neutrality is an *idea*; it is *not* a policy. Policies differ from ideas in that a policy is an idea put into practice. Policies are made by people, and people are imperfect. Ideas become policy in political and often adversarial environments. It is subject to interpretation by regulatory agencies and courts, both of which may be influenced by personal or political ideologies. It is subject to modification, reversal, and remand over time. Compliance must be enforced, and the enforcement mechanism may render impotent even the best of intentions.

But there is more: A policy is not a single rule; it is a portmanteau of rules, regulations, and enforcement. It is the sum of the incentives created by the actual practice of intervention in all its parts that renders the outcomes. Those familiar with communications policy realize that the practice of regulation is imperfect. No intervention is exempt from the ugliness, no matter who is in charge. There is neither person nor computer smart enough to properly address all the relevant margins to an intervention, and the final set of rules and regulations are certain to be smothered in political ideology. This truth cannot be ignored; markets may occasionally fail, but regulation is always defective. As such, the headroom in the cost-benefit calculation must be very high for regulation to have much hope of success.³

³ See C. Sunstein, *THE COST-BENEFIT STATE: THE FUTURE OF REGULATORY PROTECTION* (2002) at 9 (“the strongest argument for cost-benefit balancing are based not only on neoclassical economics, but also on an understanding of human cognition, on democratic considerations, and on an assessment of the real-world record of such balancing,” noting that cost-benefit analysis “can protect democratic processes” from interest groups that are “pressing for regulation when the argument on its behalf is fragile.”).

As for net neutrality, many argue that intervention is needed, but finding the idea of net neutrality put to paper is difficult. There are a few potential exceptions, though even these they lack the details necessary to predict all the consequences. Representatives Markey and Eshoo have proposed legislation which, by necessity, has particular language in it. But, even here, the FCC and subsequently the courts would have to interpret and implement its particulars. As the parameters of the “reasonable network management” qualifier becomes more established, the effect of the statement on behavior will become more apparent. For now, however, there are sharks lurking below.

For this reason, while we at the Phoenix Center have been avid (and indeed very public) supporters of the current *post hoc* adjudicative process at the Federal Communications Commission to enforce the FCC’s Internet Policy Statement, we have expressed severe reservations about the imposition of a “bright line” *ex ante* non-discrimination rule. We do so not because we dogmatically think the market is “hyper-competitive” and there are a “thousand broadband flowers blooming”,⁴ but because both theory, empirics, and our professional experience in the industry inexorably lead us

⁴ If anything, we have been quite clear that given the huge fixed and sunk costs required for entry, the size of the market and the general intensity of price competition, the number of network providers will necessarily be few. G.S. Ford, T.M. Koutsky, L.S. Spiwak, *Competition After Unbundling: Entry, Industry Structure and Convergence*, 59 FEDERAL COMMUNICATIONS LAW JOURNAL 331 (2007). However, economic literature, antitrust and FCC precedent all indicate that high concentration under such conditions is not per se evidence of poor market performance. *Id.* Such conditions were recently acknowledged by the FCC’s Omnibus Broadband Initiative team, who recognized that competitive intensity will depend on different end-user broadband demand scenarios, particularly because the incremental cost to universal availability varies significantly depending on speeds required. OBI September 29, 2009 Slide Presentation at 39, 45 and n. 1) (available at: http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-293742A1.pdf).

to the conclusion that such a bright line rule will likely result in higher prices, increased transaction costs, less deployment and increased industry consolidation.⁵ In other words, the costs of a “bright line” non-discrimination rule simply don’t outweigh the benefits and, therefore, it is better to work to improve the existing adjudicative process.

Because my time is limited, let me give two examples.

First, let’s hearken back to the 2008 auction of the 700 MHz DTV spectrum. There, we had a concrete example of how firms react to “open network” requirements. Spectrum encumbered by “open access” requirements sold at a 40% discount relative to unencumbered spectrum in the same auction. Why is that? Because the results show that the bidders accounted for a 32% reduction in profitability because of the “open network” conditions in their bids, and that is fine. But the real policy question is not how much the U.S. taxpayers lost in missed auction revenue by this “open network” experiment, but what happens if you apply “bright line” rules that reduce profitability

⁵ See, e.g., T.R. Beard, G.S. Ford, T.M. Koutsky, L.J. Spiwak, *Network Neutrality and Industry Structure*, 29 HASTINGS COMMUNICATIONS AND ENTERTAINMENT LAW JOURNAL 149 (2007); T.R. Beard, G.S. Ford, T.M. Koutsky, L.J. Spiwak *Network Neutrality and Foreclosing Market Exchange*, 1 INT. J. MANAGEMENT AND NETWORK ECONOMICS 160 (2009); G.S. Ford, T.M. Koutsky, L.J. Spiwak, *The Efficiency Risk of Network Neutrality Rules*, PHOENIX CENTER POLICY BULLETIN NO. 16 (May 2006)(available at: <http://www.phoenix-center.org/PolicyBulletin/PCPB16Final.pdf>); George S. Ford, Thomas M. Koutsky and Lawrence J. Spiwak, *Consumers and Wireless Carterfone: An Economic Perspective*, PHOENIX CENTER POLICY BULLETIN NO. 21 (September 2008) (available at: <http://www.phoenix-center.org/PolicyBulletin/PCPB21Final.pdf>); see also G. Ford, PHOENIX CENTER PERSPECTIVES NO. 09-04: *Finding the Bottom: A Review of Free Press’s Analysis of Network Neutrality and Investment* (October 29, 2009)(available at: <http://www.phoenix-center.org/perspectives/Perspective09-04Final.pdf>).

by 32% across the entire mobile industry? The simple answer is that somebody is going to go bust, thus leading to increased industry concentration (and likely higher prices).⁶

Second, a key goal of the American Recovery and Reinvestment Act of 2009 (“ARRA”) is to provide all Americans with access to affordable broadband services, particularly to those Americans living in rural markets where demand and cost conditions do not favor network deployment.⁷ While this is certainly a worthy social goal, it will be impossible—absent a massive subsidy—for us to achieve this objective if we impose a bright line non-discrimination rule which, by definition, will raise entry costs and reduce firms’ profits.⁸ And guess who will bear the brunt to pay for this of this subsidy? Your constituents—*i.e.*, people who live in your urban districts.⁹

⁶ G.S. Ford, T.M. Koutsky and L.J. Spiwak, *Using Auction Results to Forecast the Impact of Wireless Carterfone Regulation on Wireless Networks*, PHOENIX CENTER POLICY BULLETIN NO. 20 (Second Edition) (May 2008)(available at: <http://www.phoenix-center.org/PolicyBulletin/PCPB20Final2ndEdition.pdf>); see also George S. Ford, PHOENIX CENTER PERSPECTIVES NO. 08-01: *Calculating the Value of Unencumbered AWS-III Spectrum* (June 25, 2008)(available at: <http://www.phoenix-center.org/perspectives/Perspective08-01Final.pdf>); G.S. Ford, T.M. Koutsky, & L.J. Spiwak, *A Policy And Economic Exploration of Wireless Carterfone Regulation*, 25 SANTA CLARA COMPUTER & HIGH TECH. L.J. 647 (2009).

⁷ Indeed, according to the FCC’s own calculations, the incremental cost to build just one 100+ Mbps network to 111-116 households is approximately \$350 billion. OBI September 29, 2009 Slide Presentation, *supra* n. 4, at 45.

⁸ G.S. Ford, L.J. Spiwak and M.L. Stern, *Expanding the Digital Divide: Network Management Regulations and the Size of Providers*, PHOENIX CENTER POLICY BULLETIN NO. 23 (October 2009)(available at: <http://www.phoenix-center.org/PolicyBulletin/PCPB23Final.pdf>) see also G.S. Ford, T.M. Koutsky and L.J. Spiwak, *The Burden of Network Neutrality Mandates on Rural Broadband Deployment*, PHOENIX CENTER POLICY PAPER NO. 25 (July 2006)(available at: <http://www.phoenix-center.org/pcpp/PCPP25Final.pdf>).

⁹ See, e.g., Amy Schatz, *Feds Mull Rules, Fees to Spur Net Access*, WALL STREET JOURNAL (November 18, 2009)(“Federal regulators are considering whether the government should take greater control of the Internet and ask consumers to pay higher phone charges in order to provide all Americans with cheaper access to broadband Internet service.”)

While many agree today that traffic control is an essential component of network management and typically a source of consumer benefit by reducing congestion and prioritizing latency sensitive traffic, there are those who continue to advocate for regulatory constraints on the ability of network operators to manage freely Internet traffic to attenuate congestion. Some proposals call for application neutrality, where ISPs are prohibited from targeting particular applications for congestion control.¹⁰ The more quixotic arguments call for a regulatory or legislative mandate requiring the neutral treatment of all Internet traffic (in addition to other regulations of ISP behavior).¹¹ In either world, the risk is that solutions to network congestion will be (largely) limited to capacity expansion, and many proponents of Internet regulation view this as a desirable outcome.¹²

The FCC made it quite clear in its 2005 Broadband Policy Statement that firms should be allowed to engage in some sort of “reasonable network management”¹³ and, for the most part, even advocates of network neutrality rules generally state that they

¹⁰ L. Lessig and R. McChesney. *No Tolls on The Internet*, WASHINGTON POST (June 8, 2006) (available at: <http://www.washingtonpost.com/wp-dyn/content/article/2006/06/07/AR2006060702108.html>). (“Net neutrality means simply that all like Internet content must be treated alike and move at the same speed over the network. The owners of the Internet's wires cannot discriminate.”). Yet, if an application is solely responsible for congestion, then it seems sensible for an ISP to “throttle” such use, even if in a targeted manner. Expanding congestion control to applications and users not causing congestion is plainly inefficient.

¹¹ See, e.g., S. Meinrath and V. Pickard, *The New Network Neutrality: Criteria for Economic Freedom*, 12 INTERNATIONAL JOURNAL OF COMMUNICATIONS LAW & POLICY 225-243 (2008).

¹² *Id.*

¹³ *FCC Broadband Policy Statement*, 20 FCC Rcd 14986, FCC 05-151(August 5, 2005)(“The principles we adopt are subject to reasonable network management.”)

agree.¹⁴ While many view this as a consensus, the definition of “reasonable network management” is unfortunately subjective and, therefore, the debate over how to define the term rages on. A significant group argues that this term should be defined very narrowly. More specifically, recent policy initiatives seem to indicate a distaste for granular network management and instead a preference that operators should be strongly encouraged (if not simply forced) to “invest their way out” of congestion problems by expanding capacity.¹⁵ Even if not explicit, the effect of certain rules may render traffic shaping or pricing options too costly for carriers to implement, leaving capacity expansion as the only feasible option.

For example, in last summer’s hotly contested dispute over whether Comcast improperly blocked BitTorrent, a peer-to-peer (“P2P”) application, the FCC held that a network provider could not discriminate against a particular application or protocol, even if that protocol causes significant congestion on the network.¹⁶ Instead, the FCC

¹⁴ See, e.g., Vint Cerf, Chief Internet Evangelist, *What’s a Reasonable Approach for Managing Broadband Networks?* Google Public Policy Blog (August 4, 2008)(available at: <http://googlepublicpolicy.blogspot.com/2008/08/whats-reasonable-approach-for-managing.html>); Rick Whitt, Google Washington Telecom and Media Counsel, *Net Neutrality, Con’t (Part 2): Type-Based Differentiation*, Google Public Policy Blog (June 27, 2007)(“[W]e do not dispute that broadband providers should have the ability to manage their networks, as well as engage in a broad array of business practices.”)(available at: <http://googlepublicpolicy.blogspot.com/2007/06/net-neutrality-cont-part-2-type-based.html>); Harold Feld, *The FCC Releases the Comcast Complaint Order Part I – Why This Is A Huge Win*, Wetmachine (August 20, 2008)(available at: <http://www.wetmachine.com/totsf/item/1283>).

¹⁵ Congestion is but one factor requiring network management to maintain quality. Network quality also includes performance characteristics related to jitter, packet loss, and latency. Capacity expansion may do little or nothing to change these dimensions of quality.

¹⁶ *But c.f., MGM v. Grokster*, 545 U.S. 913, 920 n. 1 (2005):

Peer-to-peer networks have disadvantages as well. Searches on peer-to-peer networks may not reach and uncover all available files because search requests may not be transmitted to every computer on the network. There may be redundant copies of popular

concluded that carriers must treat *all* applications and protocols “equally.”¹⁷ Although the Commission stated that Comcast could have imposed a cap on average users’ capacity and then charged the most aggressive users overage fees or throttled back the usage of *all* high capacity users (rather than just those who were using the congestion causing application),¹⁸ the Commission reiterated that the alternative of “feasible facility improvements” remained very much on the table.¹⁹ Today, there is significant resistance to cap- or price-based solutions to congestion management²⁰ and, with all due respect, your proposed resolution opposes pricing solutions as well.²¹

files. The creator of the software has no incentive to minimize storage or bandwidth consumption, the costs of which are borne by every user of the network. Most relevant here, it is more difficult to control the content of files available for retrieval and the behavior of users.

Emphasis supplied.

¹⁷ *In re Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications, Memorandum and Order*, FCC 08-183, 23 FCC Rcd 13,028 (rel. Aug. 20, 2008) at ¶ 41; but c.f. G.S. Ford, T.M. Koutsky and L.J. Spiwak, *The Welfare Impacts of Broadband Network Management: Can Broadband Service Providers be Trusted?* PHOENIX CENTER POLICY PAPER NO. 32 (March 2008)(available at: <http://www.phoenix-center.org/pcpp/PCPP32Final.pdf>)(providing an economic model which demonstrates that if it is shown that a congestion externality is present and that a traffic management tool directly remedies that externality, it is appropriate to presume that this type of traffic management by a private firm is legitimate and welfare enhancing).

¹⁸ *Id.* at ¶ 49.

¹⁹ *Id.* at ¶ 49, n. 227, citing *Service Rules for the 698–746, 747–762, and 777–792 MHz Bands; Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems; Section 68.4(a) of the Commission’s Rules Governing Hearing Aid-Compatible Telephones; Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services; Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission’s Rules; Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band; Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010; Declaratory Ruling on Reporting Requirement under Commission’s Part 1 Anti-Collusion Rule*, WT Docket Nos. 07-166, 06-169, 06-150, 01-309, 03-264, 96-86, CC Docket No. 94-102, PS Docket No. 06-229, *Second Report and Order*, 22 FCC Rcd 15289, 15371, ¶ 222 (2007) (700 MHz Second Report and Order).

²⁰ *See, e.g.*, April 16th 2009 Press Release of Senator Charles Schumer (“In the face of enormous community opposition and at [Senator] Schumer’s urging, [Time Warner Cable] will shelve [their tiered pricing] plan for all of their test markets.”)(available at:

Footnote Continued...

A more recent example comes in the form of the Notice of Funds Availability (“NOFA”) recently issued by Rural Utilities Service (RUS)/National Telecommunications and Information Agency (NTIA) to allocate ARRA broadband stimulus funds.²² There, the NTIA and RUS went beyond the FCC’s “Four Principles” embodied in the Commission’s 2005 Broadband Policy Statement²³ by imposing a “fifth” *ex ante* non-discrimination requirement to “ensure neutral traffic routing” and to prevent grant awardees from “favor[ing] any lawful Internet applications or content over others.”²⁴ Although the NOFA would permit awardees to engage in “generally accepted technical measures” to facilitate reasonable traffic management “such as caching and application-neutral bandwidth allocation, as well as measures to address spam, denial of service attacks, illegal content, and other harmful activities”, awardees are nonetheless

http://schumer.senate.gov/new_website/record.cfm?id=311573); *but c.f.* L. Spiwak, *Is YOUR Broadband Access About to Go Bye Bye?* FOX FORUM (June 2, 2009) (available at: <http://www.foxnews.com/opinion/2009/06/02/broadband-access-bye-bye>).

²¹ See, e.g., Resolution No. 712:

Whereas, In the past, network providers have delivered data over the Internet on a “best efforts” basis, without creating different levels of quality of service based upon amounts paid by content providers; and

Whereas, With growth of the Internet and the increased demand for more broadband video, data, and telephone service, infrastructure network executives have indicated the likelihood that content providers will be charged more for faster data/content delivery, in part, to offset the cost of new high-speed lines; and

Whereas, Many are concerned that charging for services will lead to a type of Internet “toll road” where an individual’s access to locations on the Internet will be faster to the websites of those content providers who pay a higher price to the network owner; and

Whereas, Without network neutrality, smaller companies and individuals will be unable to afford premium network access which will thus, hurt competition and the innovation that has been the hallmark of the Internet to date....

²² Department of Agriculture (RUS) and Department of Commerce (NTIA), Notice of Funds Availability, 74 Fed. Reg. 33104 (June 9, 2009)(hereinafter “NOFA”).

²³ FCC Broadband Policy Statement, *supra* n. 13.

²⁴ NOFA at 33132-33.

prohibited from “charg[ing] some application and content providers for ‘fast lanes’ that would put others at a competitive disadvantage.”²⁵ While perhaps carefully worded, the requirements have effectively discouraged any of the larger broadband providers, which presumably are some of the lowest cost providers in the country, from applying for such funds.²⁶

Finally, and perhaps most extreme, is the recently introduced H.R. 3458, the “Internet Freedom Preservation Act” co-sponsored by Representatives Edward Markey and Anna Eshoo.²⁷ Under the plain terms of this bill, not only would an Internet access service provider be prohibited from “impos[ing] a charge on any Internet content, service, or application provider ... beyond the end user charges associated with providing the service to such provider,” but the service provider may “not provide or sell ... any offering that prioritizes traffic over that of other such providers on an Internet access service” and may “not install or utilize network features, functions, or capabilities that impede or hinder compliance with this section.”²⁸ Moreover, the concept of “reasonable network management” would be defined exclusively by FCC regulation (as opposed to the current and more flexible *ex post* adjudicative approach),²⁹

²⁵ *Id.* Notably, applications are not neutral with respect to their demands on the network, so treating all applications the same is, in fact, favoring certain applications over others.

²⁶ *See, e.g.,* Cecilia Kang, *Major Carriers Shun Broadband Stimulus: Funds Would Come With Tighter Rules*, WASHINGTON POST (August 14, 2009)(available at: <http://www.washingtonpost.com/wp-dyn/content/article/2009/08/13/AR2009081302433.html>).

²⁷ <http://thomas.loc.gov/cgi-bin/query/z?c111:H.R.3458>.

²⁸ HR 3458 at §§ 12(b)(1)-(6).

²⁹ *Id.* at § 12(k)(4).

and congestion reducing activities would be considered “reasonable” only “if it furthers a critically important interest, is narrowly tailored to further that interest, and is the means of furthering that interest that is the least restrictive, least discriminatory, and least constricting of consumer choice available.”³⁰ Efficient solutions play no role in the proposed legislation, so the result will no doubt be higher costs and, in turn, higher prices for consumers. Last, and perhaps most germane here, the Federal Communications Commission would be charged with promulgating rules to force network operators “to the extent feasible, make available sufficient network capacity to users to enable the provision, availability, and use of an Internet access service to support lawful content, applications, and services that require high bandwidth communications to and from an end user.”³¹

So what’s the problem? Our research demonstrates that such rules are likely to affect disproportionately networks located in rural areas or smaller networks in urban markets given the cost disadvantages faced by such firms. Since these markets are a central target of both the ARRA’s stimulus funding and required National Broadband Plan, the imposition of strong “network management” provisions that require you to “invest your way out of congestion” are likely to result in lower quality service and less availability in rural areas and potentially reduce competition in urban areas, as well as to reduce the effectiveness of stimulus grants and other subsidies. Further, our research

³⁰ *Id.* at § 12(d).

³¹ *Id.* at § 12(c)(3).

indicates an elastic response of subsidy levels to increases in costs resulting from such regulations; specifically, a 1% increase in deployment costs arising from regulation increases the subsidy required for ubiquitous coverage by nearly 2%. And, as pointed out earlier, the big payers of this subsidy will likely be your urban constituents in the form of higher prices. Communications policy has a long history of taxing urban consumers to subsidize rural consumers and there is no proposal today to alter that reality.³²

III. Conclusion

In the end, this debate is not about desire, but about process. Everyone I know is in favor of an open Internet. The first question to answer is what is the genuine threat to openness? On this question, judgments are hindered by the existing hysteria and hyperbole. The really difficult policy question is how best do we accomplish “openness” that has a sound legal foundation, respects engineering realities and does not violate the basic rules of economics? Do we improve on the current *post hoc* adjudicative process, or do we impose a blunt “bright line” *ex ante* rule that may end up making things worse for consumers? Accordingly, I respectfully submit that this Council let the talented folks at the FCC do their job and parse through this very complex and difficult issue without adding any more unnecessary politicization to the

³² See *supra* n. 9.

process. No decision by the FCC has ever been made better by the increase of political pressure.

Madam Chair, thank you again for the invitation to testify today. I would welcome any questions the Committee might have.