

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

In the Matter of)
) GN Docket No. 09-51
A National Broadband Plan for Our Future)
)

**INITIAL COMMENTS OF THE
NATIONAL ASSOCIATION OF STATE UTILITY CONSUMER ADVOCATES
IN RESPONSE TO THE NOTICE OF INQUIRY**

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I. INTRODUCTION AND BACKGROUND.

At the outset, the FCC engages in some self-criticism in the NOI regarding the current state of broadband in the United States, noting that “there is much work to be done” and that “we have not yet met the challenge of bringing broadband to everyone . . . [n]or have we managed to keep up with the growing demand for faster and more reliable connections for those who have only basic access now.”³ While NASUCA recognizes, and appreciates, the statements, dissents and criticisms by Acting Chairman Copps and Commissioner Adelstein of the FCC’s past broadband-related decisions, the brief self-criticism contained in the NOI is far too mild and ignores the fact that America’s broadband deficiencies are very much self-inflicted. In charting a new path forward on broadband policy, the FCC must recognize that these broadband deficiencies are primarily the result of its past, fundamentally flawed deregulatory approach toward telecommunications policy generally, and broadband in particular.

Perhaps the first change wrought by the election of President Obama has been the opportunity the new Administration has given parties, like NASUCA, to offer frank and unsparing criticism of the damage caused by eight years of deregulatory policies by the Bush-era FCC. In a March 18, 2009 letter to the National Telecommunications Infrastructure Administration and Rural Utilities Service (“NTIA/RUS”) regarding broadband policy, NASUCA largely endorsed and echoed the criticisms of FCC decision-making set forth in John Windhausen’s 2009 report for the Century Foundation.⁴ As NASUCA noted:

³ *Id.* at ¶¶3-4.

⁴ See John Windhausen, “Building A Stronger America: A Plan to Extend Super-Fast Broadband Connections to All Americans,” A Century Foundation Report (Jan. 27, 2009) (“*Windhausen Report*”), available at <http://www.tcf.org/Publications/mediapolitics/windhausen.pdf>.

NASUCA’s letter to the NTIA/RUS is available at <http://www.nasuca.org/ARRA%20letter%203-18-2009.pdf>.

The FCC has, for several years, been unwilling to objectively review broadband deployment in America in light of the agency's regulatory policy decisions and to take action to address the glaring gap between the promise of broadband deployment by the private sector, and the reality of actual deployment and take rates in the deregulated, secretive, duopoly market the FCC's decisions have created.⁵

Broadly speaking, the *Windhausen Report* got it right on the fundamental flaw underlying so many of the FCC's decisions, namely the fact that:

Congress passed the [1996 amendments to the Communications Act of 1934 (the "FCA" or "Act")] on the theory that competition would both promote network investment and safeguard the interests of consumers, and thereafter allow the government to take a less regulatory approach. . . . *Unfortunately, the deregulatory caboose jumped ahead of the competition engine. The critical sequence enacted in the 1996 [amendments to the] Act – first ensure competition, then deregulate – was abandoned in the first half of this decade in favor of an overly simplistic deregulation-first philosophy.* The [FCC] was reluctant to apply the full panoply of either telephone or cable television regulations to these new broadband services. The FCC believed that new and existing providers would invest more if they were unencumbered by government bureaucracy. As a result, the U.S. government abandoned the effort to promote competition, and turned a blind eye to the provisions of the 1996 Act that directed it to promote broadband investment.⁶

NASUCA also agrees with the *Windhausen Report's* summary of some of the critical actions by the FCC that led to broadband stagnation and decline in the United States over the past eight years, namely:

- Deciding, in 2002, to treat broadband Internet service provided by cable companies as a deregulated "information service," not a regulated "telecommunications service"⁷ – a decision upheld by the Supreme Court in deferring to the FCC's interpretation under *Chevron*.⁸

⁵ NASUCA Letter to the NTIA/RUS, p. 13 (March 18, 2009) ("*NASUCA NTIA Letter*"), available at <http://www.nasuca.org/>.

⁶ *Windhausen Report*, at 4 (emphasis added).

⁷ See *Inquiry Concerning High-Speed Access to the Internet over Cable and Other Facilities*, Declaratory Ruling and Notice of Proposed Rulemaking, 17 F.C.C.R. 4798, 4802 (March 15, 2002) ("*Cable Modem Order*").

⁸ See *Nat'l Cable & Telecomms. Ass'n v. Brand X Internet Servs.*, 545 U.S. 967 (2005), applying *Chevron U.S.A. Inc. v. Natural Resources Defense Council*, 467 U.S. 837 (1984).

- Making similar findings thereafter for digital subscriber line (“DSL”) services, broadband over power lines, and wireless broadband.⁹
- Deciding, in decisions issued in 2003 through 2005, to eliminate many “unbundling” provisions that previously required local telephone companies to make network facilities used to provision broadband services, particularly fiber optic facilities, available to nascent competitors who typically lack the financial resources or the access to the rights-of-way to deploy their own fiber.¹⁰

The results of such FCC decisions were predictable – and indeed, NASUCA predicted many of these results in comments it or its members filed with the Commission in the proceedings cited above (and others). As the *Windhausen Report* put it:

While the 1996 amendments to the Federal Communications Act (“Act”) authorized competitors to lease the facilities of the telephone companies at cost-based rates, *the FCC’s rulings made most – if not all – of the interconnection, open access and network sharing requirements of the Act inapplicable to broadband service. Although the FCC asserted that its decisions were intended to “spur additional fiber investment by the telephone companies,” the agency’s action effectively precluded competitors from providing service to many homes and businesses across the country because they do not have the resources to build out entirely redundant broadband-capable networks.* Since cable, telephone, and wireless companies do not have to make their broadband networks services open to and accessible by independent Internet service providers (“ISPs”), such as AOL and Earthlink. While the country once had hundreds of independent ISPs, cable and telephone giants now dominate the provision of Internet access service nationwide.¹¹

⁹ See *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, 20 F.C.C.R. 14853 (Sept. 23, 2005) (“*DSL Order*”) (determining DSL is an information service); *United Power Line Council’s Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service*, Memorandum Opinion and Order, 21 F.C.C.R. 13281 (Nov. 7, 2006) (determining broadband over power line service to be information service); *Wireless Broadband Internet Access Services Order*, Declaratory Ruling, 22 F.C.C.R. 5901 (March 23, 2007) (determining broadband over wireless to be information service).

¹⁰ See *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 F.C.C.R. 2533 (Feb. 4, 2005); *Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Order on Reconsideration*, 19 F.C.C.R.20293 (Oct. 18, 2004) (eliminating unbundling obligations for fiber-to-the-curb (“FTTC”)); *Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Report and Order and Order on Remand and Further Notice of Proposed Rulemaking, 18 F.C.C.R. 16978, 17145 ¶278 (Aug. 21, 2003) (eliminating unbundling obligations for fiber-to-the-home (“FTTH”)).

¹¹ *Windhausen Report*, at 5-6; (emphasis added); see also *id.*, Figure 1.

The FCC’s “advanced services” reports to Congress compounded the consequences of bad policy-making and bad decisions by glossing over the adverse consequences of those policies and decisions and assuring Congress – and Americans – that “all was well,” based on glaringly flawed assumptions and logic such as:

- Until very recently, defining “advanced services” (*i.e.*, broadband) as services “with an upstream (customer-to-provider) and downstream (provider-to-customer) transmission speed of more than 200 kbps” and “high-speed” broadband as any service with transmission speeds in excess of 200 kbps.¹² With such a jarringly low standard, it is hardly surprising that year after year the FCC has concluded that Americans have reasonable access to advanced service in its reports.
- Assuming that a single subscriber to high-speed services in a zip code means such service is available to anyone located in that zip code.¹³
- Largely ignoring America’s fifteenth-place ranking in broadband subscription in its most recent report by suggesting this ranking was of no concern.¹⁴

Another criticism raised by NASUCA in its letter to the NTIA and RUS is the FCC’s past unwillingness to acknowledge or act on input from its own broadband advisory committee. As NASUCA noted, although the FCC established a “Federal-State Joint Conference on Advanced Services” (“Joint Conference”) in 1999, the conference’s last report was submitted to the FCC in November 2002 – nearly seven years ago. Even then, the Joint Conference was sounding the alarm regarding trends in broadband deployment and subscription that were contrary to the FCC’s rosy pronouncements, warning that:

¹² *Compare Inquiry Concerning the Deployment of Advanced Telecommunications Capability Pursuant to Section 706 of the Telecommunications Act of 1996*, GN Docket No. 07-45, Fifth Report (June 12, 2008), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-88A1.pdf, with *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans*, Report and Order and Further Notice of Proposed Rulemaking, 23 F.C.C.R. 9691, 9700-01, ¶20 & n. 66 (June 12, 2008).

¹³ The FCC now collects data on a census tract level, but the basic criticisms of its reporting remain valid.

¹⁴ *Windhausen Report*, at pp. 17-18.

[M]any rural areas remain without broadband service and broadband providers have slowed the pace of deployment. Subscriber growth has declined relative to the growth rates of earlier years. Current monthly pricing for broadband, in connection with a lack of compelling applications and other factors have resulted in disappointing take rate levels.

It seems a new phase of the broadband market has taken over from the initial euphoric, perhaps undisciplined expansion. Recent bankruptcies in the telecommunications sector and the decreasing size of capital spending budgets are forcing much stricter business models for broadband deployment. *In many cases, expansion is only funded by returns on existing customer bases, rather than venture capital or other external sources. The search for profitable business models has replaced the chase for market share. . . .*

While over 13 million American households currently justify the benefits of broadband service, *a large percentage of consumers will only be persuaded with higher personal utility gains from broadband service or with lower prices.*¹⁵

In other words, the Joint Conference saw signs the broadband market was “going south” nearly seven years ago, yet to NASUCA’s knowledge, the FCC never acted upon the concerns noted in the Joint Conference’s 2002 report. Worse yet, the FCC’s website indicates that no meetings of the Joint Conference were convened by the Commission after 2002.

Significantly, in the brief time since NASUCA submitted its letters to the NTIA and the RUS, Free Press has released a 123-page report that provides, in even greater detail and depth than the *Windhausen Report*, a scathing analysis of the FCC’s flawed decision-making over the past eight years and the disastrous consequences the Commission’s misplaced faith in deregulation has had on broadband deployment and subscription in the United States.¹⁶ NASUCA concurs with, and joins in, virtually all of the criticisms leveled in *Digital Deregulation* since they mirror those cited by NASUCA in its letters to the NTIA and the RUS,

¹⁵ “Broadband Service in the United States: An Analysis of Availability and Demand,” Report of the Federal-State Joint Conference on Advanced Services, p. 58 (Oct. 2002), available at http://www.fcc.gov/jointconference/services_study-oct2002.pdf.

¹⁶ S. Derek Turner, “Dismantling Digital Deregulation: Toward A National Broadband Strategy,” FreePress (May 11, 2009) (“*Digital Deregulation*”); available at http://www.freepress.net/files/Dismantling_Digital_Deregulation.pdf.

as well as those cited in the *Windhausen Report*. Some of the particularly salient points in *Digital Deregulation* that warrant particular attention by the FCC as it works to develop a National Broadband Plan consistent with Congress' intent include:

- In 2000, the United States ranked fifth internationally in broadband penetration (expressed as broadband lines per 100 inhabitants); by 2007, years of FCC deregulation without regard to competitive conditions had dropped America to 22nd internationally – just ahead of the Faroe Islands.¹⁷
- During this time, countries that had virtually no broadband deployment in 2000, such as the United Kingdom, Denmark, Finland and The Netherlands, saw their broadband growth explode while the United States lagged further and further behind.¹⁸ While America increased its broadband subscription ratio by a factor of 18.95, this rate of growth was low compared to the broadband growth rates of the rest of the OECD countries. In fact, only Canada and Italy experienced lower growth rates.
- Broadband in America, where it is available, is slower and more expensive than in most of the developed world. Thus:
 - America ranks 14th in average advertised download speed, at 8.9 Mbps – 10 times slower than the international leader, Japan.
 - The U.S. ranks 22nd out of 30 OECD nations in terms of average monthly advertised broadband price (\$53.06) (ahead of Norway, Poland, Hungary, Iceland, Mexico, the Slovak Republic, and the Czech Republic).¹⁹
 - When price *and* speed are considered together, the United States ranks 11th (at \$12.60/mo./Mbps) – which looks good until the value of broadband in the nations ahead of the U.S. is considered. Except for Portugal, which ranks just ahead of the U.S. in this metric, the broadband “value” in all the other OECD countries ahead of the U.S. is under \$10, and for the top five OECD countries is less than \$6/mo./Mbps. Thus, the value of a U.S. broadband connection is four times less than that of a connection in France, and only slightly better than the value of a broadband connection in Finland.

¹⁷ *Digital Deregulation*, p. 15 & Figure 1 (citing data compiled by the International Telecommunications Union or “ITU”). As Mr. Turner notes in *Digital Deregulation*, there are some differences in the rankings and data provided by the OECD, on the one hand, and the ITU, on the other. *Id.* at 15-16 n.28. According to the ITU’s data, the U.S. ranks behind Bermuda, Hong Kong, Macao and Israel (non-OECD nations); likewise, the ITU has the U.S. behind Australia, New Zealand and Japan (OECD nations) while the OECD shows these three countries slightly behind the U.S. *Id.*

¹⁸ *Id.* at 16-17 & Figure 2 (citing ITU data).

¹⁹ *Digital Deregulation*, p. 18 & Figure 3.

- During the span of time from 2000 to 2007, the “digital divide” (or rather “divides”) between rich and poor, minority and white, and rural and urban household, has grown larger. For example:
 - In 2001, only 28% of homes with annual household incomes below \$35,000 were connected to the Internet (usually via dial-up at that time); in 2007, just 29% of homes with annual incomes below \$35,000 were connected to the Internet via broadband.²⁰
 - In 2001, 37% of racial and ethnic minorities were connected to the Internet – compared to 55% of non-Hispanic white Americans; by 2007, only 40% of minority households had broadband connections while 55% of non-Hispanic white Americans had broadband.²¹
 - In 2001, 11% of urban households had broadband connections, compared to 6% of rural homes; by 2007, this 5% difference had tripled to 15% (54% urban versus only 39% rural).²²
 - Income or poverty, rather than geography, appear to be the strongest factors in explaining lagging broadband subscription; those states that have low income/high poverty levels and are also largely rural (e.g., West Virginia, Mississippi, Arkansas, Alabama) consistently fare the worst in virtually every broadband category.²³
- Throughout this period,²⁴ the FCC eliminated virtually all of the access sharing and unbundling obligations imposed on incumbent local exchange carriers (“ILECs”) by the 1996 amendments to the FCA, which if applied to broadband services would have required them to comply with the pro-competition provisions of the 1996 amendments, as initially suggested in the Commission’s 1998 *Advanced Services Order* and its

²⁰ *Id.* at 23-24 & Figure 9.

²¹ *Id.* at 24 & Figure 10.

²² *Id.* at 24-25 & Figure 11.

²³ *Id.* at 26-27 & Figure 15.

²⁴ *See id.* at 39-60.

progeny.²⁵ The results of the FCC's retreat from the 1996 amendments' pro-competition framework were predictable, including:

- The demise of the wholesale ISP business following the Commission's *Triennial Review* and *Wireline Broadband* orders, reflected by the steep declines in broadband customers served by Earthlink and Covad between 2006 and 2007, and by the vast number of competitive ISPs that simply went out of business after 2003.²⁶
- The disappearance of the two largest, nationally-based CLECs (AT&T and MCI) through their acquisitions by SBC and Verizon, respectively, and the growing concentration of wireline and wireless services (both telecommunications and broadband) in the hands of the two largest incumbents (post-SBC merger AT&T and Verizon), coupled with the growth to market dominance of Comcast and Time Warner in providing the only significant broadband alternative (*i.e.*, cable modem service).²⁷
- The lack of development of any alternative broadband platform to challenge the telecommunications or cable giants.²⁸
- The virtual monopoly of Verizon and AT&T over the data transport market – the so-called “middle mile” networks and “special access lines” that are needed to provision “last mile” broadband connections to users – and the excessive rates of return that telecommunications carriers have been able to extract through their control of these largely deregulated facilities.²⁹

²⁵ See *Deployment of Wireline Services Offering Advanced Telecommunications Capability*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 13 F.C.C.R. 24012 (Aug. 7, 1998) (“*Advanced Services Order*”); see also *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, Third Report and Order and Fourth Further Notice of Proposed Rulemaking, 15 F.C.C.R. 3696, 3772-73 ¶¶165-67 (Nov. 5, 1999) (“*UNE Remand Order*”) (stating that elements such as high-capacity loops, including DSL and dark fiber, and packet-switching, were subject to unbundling and resale, at least where the ILEC had placed digital loop carrier systems in feeder plant or had placed DSL Access Multiplexers in remote terminals).

²⁶ *Digital Deregulation*, pp. 48.

²⁷ *Id.* at 47-48 & Figure 21. Of course, smaller facilities-based CLECs and CLECs serving the mass market have also virtually disappeared from the national landscape.

²⁸ *Id.* at 47-52.

²⁹ See *Digital Deregulation*, pp. 55-59; see also, generally, Peter Bluhm and Dr. Robert Loube, “Competitive Issues in Special Access Markets: Revised Edition,” NRRI Report 09-02 (Jan. 2009), available at http://nrri2.org/index.php?option=com_content&task=view&id=46&Itemid=61; Government Accountability Office, “FCC Needs to Improve Its Ability to Monitor and Determine the Extent of Competition in Dedicated Access Services,” GAO Report 07-80 (Nov. 2006), available at http://gao.gov/docsearch/locate?searched=1&o=0&order_by=rel&search_type=publications&keyword=07-80.

- In contrast, other countries that have required the sort of open-access, line-sharing requirements eschewed by the FCC saw their broadband penetration levels rise, broadband transmission speeds increase, and broadband prices drop – while those that, like the U.S., pursued less proactive, competition-forcing policies saw much less impressive gains in these regards.³⁰

II. COMMENTS.

A. APPROACH TO DEVELOPING THE NATIONAL BROADBAND PLAN.

While this portion of the NOI simply previews the broad issues covered in the notice rather than inviting comment *per se*, in its approach and response to parties' comments the FCC must be ever-mindful of the consequences its past decisions and policies have had on broadband deployment as explained in detail in the materials discussed above. The FCC has proven far too willing to accept telecommunications and cable giants' representations and promises regarding investment and open access on faith, even when their promises have proven hollow and their description of market conditions have been demonstrably false or exaggerated. The Commission has been too reluctant to either take a hard look at whether purported market conditions reflect reality or to adopt long-term, enforceable conditions instead of vague promises. And the has been far too willing to discount or ignore the warnings and predictions of state consumer advocates and industry watchdogs, even when those warnings and predictions have proven all too often to have been accurate.

To mix a few metaphors, repeating these criticisms is not “beating a dead horse,” just as the FCC’s past mistakes are not “water under the bridge.” The FCC’s prior mistakes and policy errors, left unaddressed, will inevitably act as the “dead hand on the tiller” that steers the Commission once more onto the shoals as it tries to formulate a National Broadband Plan. The bottom line to NASUCA’s message is that the FCC’s previous broadband policy has been a failure. President Obama, Congress and most ordinary Americans – in other words everyone but

³⁰ See *Digital Deregulation*, pp. 37-39 & Figures 16-18.

the communications industry giants – recognize that the FCC’s broadband policies have been a failure. The FCC needs to retrace its steps in order to realistically move forward on broadband deployment.

If the FCC is to develop a sound, National Broadband Plan – in accordance with Congress’ directives and Americans’ broadband needs, then it must commit itself to an objective, and fundamental, reassessment of basic policy and regulatory decisions made by the agency over the past decade that have been at cross-purposes to expanding broadband deployment and subscription in the United States. Specifically, NASUCA recommends that the FCC take the following actions in conjunction with, or as part of, development and adoption of a National Broadband Plan:

- Revisit the FCC’s prior determinations that concluded that cable modem, DSL, wireless broadband and broadband over power line services are entirely “information services,” and are not subject to the joint federal-state regulatory model applicable to telecommunications services under Title II of the Federal Communications Act of 1934, as amended.
- Revisit the factual bases and policy assumptions underlying the FCC’s decisions to eliminate unbundling obligations relative to fiber optic facilities, line splitting and line sharing in its 2005 *TRRO* decision³¹ in order to promote greater access to facilities used to provide broadband service and thereby to promote competition among providers of such services, and should reassess the cost-basis upon which such facilities are unbundled and made available to competitors.
- Revisit the FCC’s decision not to implement, at least for the time being, the Federal-State Joint Board on Universal Service’s 2007 recommended decision that the federal high-cost universal service fund established pursuant to 47 U.S.C. § 254 should be reformed into three funds, one of which would be tasked primarily with facilitating construction of facilities for new broadband services to unserved areas.³²

³¹ *Unbundled Access to Network Elements; Review of the Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers*, Order on Remand, 20 F.C.C.R. 2533 (Feb. 4, 2005) (“*Triennial Review Remand Order*” or “*TRRO*”).

³² See *Federal-State Joint Board on Universal Service*, Order on Remand and Report and Order and Further Notice of Proposed Rulemaking, 2008 FCC LEXIS 7792 (Nov. 5, 2008); see also *id.*, Recommended Decision, 22 F.C.C.R. 20477 (Nov. 27, 2007).

- Conclude the long-standing IP-Enabled Services proceeding by logically concluding that such services include “telecommunications” in addition to any “information” services components and therefore are subject to federal-state regulation.
- Review the current membership and activities of the Federal-State Joint Conference on Advanced Telecommunications Services, and consider whether to scrap the body in favor of an advisory committee of state regulators, consumer advocates and public interest groups focused on broadband deployment and capabilities.
- Defer further deregulatory initiatives pending a full, comprehensive review of past FCC decisions’ impact on competition, generally, focusing on telecommunications and broadband services in particular.

B. ESTABLISHING GOALS AND BENCHMARKS.

1. Defining Broadband Capability.

Noting that “[b]roadband can be defined in myriad ways,” the Commission seeks comment on a wide range of issues related to defining “broadband capability,” including whether to unify its current definitions of “‘advanced telecommunications capability,’ ‘broadband,’ and ‘high-speed Internet’” or retain “separate meanings for different purposes,” whether to define broadband by speed, whether to distinguish between different broadband technologies, and whether there are specific actions it can take to encourage more rapid broadband adoption.³³

a. Separate versus unified definitions.

The Commission should look to the relevant statutes in defining “broadband capability” for purposes of implementing Congress’ directive that the FCC develop a nationwide broadband plan.³⁴ A review of these statutes indicates that “broadband” and “advanced telecommunications” are synonymous terms, often used interchangeably.

³³ NOI, ¶¶15-16.

³⁴ Those statutes include: the 1996 amendments to the Communications Act of 1934 (“FCA”), Pub. L. No. 104-104 (specifically section 706 of the amendments); the 2008 Farm Bill, Pub. L. No. 110-246; the Broadband Data Improvement Act of 2008, Pub. L. No. 110-385 (“BDIA”); and finally the American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5 (“Recovery Act or ARRA”).

For example, Congress defined “[a]dvanced telecommunications capability . . . without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications using any technology” in Section 706 of the 1996 amendments to the FCA.³⁵ In the 2008 BDIA, Congress referred to both “advanced telecommunications capability” (as referenced in Section 706 of the 1996 amendments) and “broadband service capability” synonymously.³⁶ In the 2008 Farm Bill, Congress used the term “broadband service” exclusively throughout; however, the definition of “broadband service” in the 2008 Farm Bill is virtually identical to the definition of “advanced telecommunications capability” in Section 706 of the 1996 amendments.³⁷ The 2009 Recovery Act likewise dispenses with references to “advanced telecommunications capability” and instead refers variously to “broadband capability,” “broadband access,” “broadband infrastructure and service” and “broadband service capability.”³⁸

Based on the foregoing, it is clear that both Congress and the FCC – not to mention industry and other state and federal regulators – understand that “advanced telecommunications” and “broadband” are one and the same. Accordingly, NASUCA recommends that the Commission adopt one unified definition for the two terms. NASUCA suggests that the Commission adopt the following definition:

³⁵ Pub. L. No. 104-104 § 706(d), *codified at* 47 U.S.C. § 157 note .

³⁶ *See* Pub. L. No. 110-385, §§ 103(a) – (c). Congress also referred more broadly to broadband “service” or “offerings” in the BDIA, without defining either term. *See id.*, §§ 104 & 106.

³⁷ The 2008 Farm Bill defined “broadband service” to mean “any technology identified by the Secretary [of Agriculture] as having the capacity to transmit data to enable a subscriber to the service to originate and receive high-quality voice, data, graphics, and video. *See* Pub. L. No. 110-246, § 601(b)(1).

³⁸ Pub. L. No. 111-5, § 6001(k) – (l).

“Advanced telecommunications” or “broadband” services are defined, without regard to any transmission media or technology, as services having the capacity to enable users of the service to originate and receive high-quality voice, data, graphics, and video, including any network facilities, infrastructure or elements that may be utilized to provide such services.

In contrast, “high-speed Internet” is an entirely different concept that is typically not utilized in any of the aforementioned statutes, and is generally understood to have a much more limited meaning than either “advanced telecommunications” or “broadband.” While the FCC has not defined “high-speed Internet” in any of its advanced services or related orders, Congress has provided clear guidance on the issue. In the Internet Tax Freedom Act of 1998, Congress defined the following terms:

(C) “Internet.” The term ‘Internet’ means collectively the myriad of computer and telecommunications facilities, including equipment and operating software, which comprise the interconnected world-wide network of networks that employ the Transmission Control Protocol/Internet Protocol, or any predecessor or successor protocols to such protocol, to communicate information of all kinds by wire or radio.

(D) “Internet access service.” The term ‘Internet access service’ means a service that enables users to access content, information, electronic mail, or other services offered over the Internet and may also include access to proprietary content, information, and other services as part of a package of services offered to consumers. The term ‘Internet access service’ does not include telecommunications services, except to the extent such services are purchased, used, or sold by a provider of Internet access to provide Internet access.

(E) Internet information location tool. The term ‘Internet information location tool’ means a service that refers or links users to an online location on the World Wide Web. Such term includes directories, indices, references, pointers, and hypertext links.³⁹

The foregoing makes it clear that “high-speed Internet” simply is Internet service that is accessed via advanced telecommunications or broadband services. To the extent Congress has charged the FCC to develop a National Broadband Plan to study and stimulate broadband deployment in

³⁹ Pub. L. No. 105-277, § 1101(d)(3)(C)-(E).

the United States, NASUCA believes that the term “high-speed Internet” serves no useful purpose and could cause confusion over the goals and objectives of the plan. Accordingly, if the FCC is inclined to retain the term “high-speed Internet,” that term should be defined distinctly from “advanced telecommunications” and “broadband,” and consistently with the Internet Tax Freedom Act

b. Relevance of “speed” in defining broadband and related issues.

The Commission seeks comments on a number of issues relating to the relevance of broadband “speed” (*i.e.*, the transfer rate – in bits, bytes or characters per second – between devices).⁴⁰ For example, the FCC asks whether – to the extent broadband is defined by speed: it should consider raising the speeds that define broadband;⁴¹ whether a definition of broadband should be static or dynamic, with speed tiers that adjust with changes in technology;⁴² how should actual speed delivered to consumers be determined;⁴³ and whether wireless broadband speeds should be determined at the edge of the service contour.⁴⁴

(i) Speeds defining broadband.

Obviously “speed” is relevant – if not critically important – in defining broadband and for consideration in a myriad of related issues, many of which NASUCA has previously addressed in its comments in response to the NTIA/RUS Joint Notice of Inquiry. “Broadband” or “advanced telecommunications” service should be defined, at least initially, as any service with

⁴⁰ See *Newton’s Telecom Dictionary*, p. 944 (24th Ed. 2008); see also *id.* at 177 (defining “broadband” as, essentially, anything “faster” than dial-up).

⁴¹ NOI, ¶16.

⁴² *Id.*, ¶18.

⁴³ *Id.*, ¶20.

⁴⁴ *Id.*

symmetrical information transfer rates equal to or greater than 768 kbps, corresponding to the lower limit of “basic broadband tier 1 service” defined by the FCC.⁴⁵ NASUCA’s proposed definition establishes the absolute minimum service that can reasonably, at this point in time, be considered “broadband,” consistent with both Congress’ legislation, as well as the Commission’s prior rulings or statements on the subject. Utilizing this definition of “broadband” is warranted for several reasons.

First, recognizing the merit of longstanding criticism of the notion that services offering transmission speeds of 200-768 Kbps should be considered “broadband,”⁴⁶ the FCC has finally abandoned that notion altogether.⁴⁷ In its June 2008 order, the FCC redefined “advanced services” into two categories: first generation data service (the old “broadband” standard of 200 – 768 Kbps); and tiers 1 through 7 broadband service, the lowest category of which consists of services offering transmission speeds of 768 Kbps to 1.5 Mbps in the faster direction. The minimum service considered “broadband” by the FCC (*i.e.*, tier 1 broadband) provides a useful benchmark that can serve as the basis for defining areas that are “unserved” or “underserved” by broadband.

Second, consistent with Congress’ intent, as discussed below in more detail, NASUCA’s proposed standard is technology neutral. Granted, the proposed definition of “broadband” will leave some service offerings, particularly those offered by satellite service providers, out of consideration in any broadband plan and may make them ineligible for financial support under the broadband stimulus and related programs. However, this is the inevitable result of

⁴⁵ See *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans*, Report and Order and Further Notice of Proposed Rulemaking, 23 F.C.C.R. 9691, 9700-01, ¶20 & n. 66 (June 12, 2008).

⁴⁶ *Id.* at 9764 (separate statement of Commissioner Michael J. Copps); *id.* at 9767 (comments of Commissioner Jonathan S. Adelstein).

⁴⁷ *Id.*

recognizing that, in order to properly be considered “broadband” service, a service must realistically offer content and capabilities consistent with Congress’ – and consumers’ – expectations of what services, content and capabilities “broadband” should be able to provide.

Third, establishing a minimum level of service that can be properly considered “broadband” does not prevent the Commission (or Congress or States) from ramping up broadband services and capabilities in the future. NASUCA recognizes that tying the definition of “broadband” to the FCC’s lowest tier of broadband service means that many forms of broadband or advanced telecommunications service currently provided will not be adequate to provide the full panoply of service offerings contemplated by Congress when it defined advanced telecommunications capability as enabling “users to originate and receive high-quality voice, data, graphics, *and video*.”⁴⁸ As noted in the Free Press Report, Congress’ “standard requires at a minimum constant upload speeds on the order of at least 4 [megabytes per second] Mbps”⁴⁹ and very few broadband providers in the United States are actually providing service with such speeds at the present time.⁵⁰ However, NASUCA views the FCC’s National Broadband Plan as merely the first step in a long-term process to stimulate and encourage ever

⁴⁸ See, e.g., Pub. L. No. 104-104 § 706(c)(1), *codified at* 47 U.S.C. § 157 note (emphasis added); see also Pub. L. No. 110-246 § 6110, *codified at* 7 U.S.C. § 601(b)(1).

⁴⁹ In a footnote to its report, Free Press observed:

Using the MPEG-2 video compression standard (that used by cable TV providers), a user would need approximately 2 to 4 Mbps of upload speed to originate a standard-definition quality television video signal, and 30-40 Mbps of upload speed to originate a professional high-definition quality television video signal. The MPEG-4 codec, version h.264 (used notably by IP video service provider Apple) transmits HD video with an approximate average bit rate of 4.5 Mbps. The term “high-quality” is inherently subjective, but pegging the Section 706 standard to that used by commercial providers to originate high-definition video is consistent with the objectives of the 1996 Act. Slingbox, a company that manufactures a consumer device that can be used to redirect a customer’s home HD television signal over the Internet, recommends that users have “sustained upload speeds” of at least 2 Mbps “for a good streaming experience.”

Digital Deregulation, p. 22 n.48.

⁵⁰ *Id.*, n.49.

greater broadband capability and availability in the United States. Moreover, the minimal standard proposed by NASUCA is absolutely vital to the Commission’s fulfillment of Congress’ charge to accurately measure the Nation’s performance in meeting Congress’ broadband goals.

What will be critical in finally reaching Congress’ goals will be the extent to which the National Broadband Plan developed by the FCC, and indeed broadband programs being implemented by other federal agencies and States, will encourage deployment of easily scalable advanced telecommunications services that can be “ramped up” over time, both in response to increased demand and government prodding. In this respect, any definition of “advanced services” adopted by the FCC should – indeed must – be dynamic rather than static. Broadband providers’ investment and innovation on the one hand, and broadband consumers’ demand on the other, should result in ever greater broadband speeds and capabilities being offered and subscribed to. Scalability, moreover, should be framed in terms of not only broadband speeds but also populations and/or areas served.

(ii) *Determining actual broadband speed.*

As the FCC has already recognized in the NOI, what is important in realistically assessing broadband deployment and availability in the United States is not the speed “advertised” by providers but rather the actual speeds consumers can reasonably expect under ordinary operating conditions.⁵¹ There is often a considerable gap between broadband speeds providers advertise and speeds actually delivered to consumers. This gap is especially relevant to broadband services provided over a shared and possibly oversubscribed infrastructure, experienced particularly with cable broadband services but also often a concern with wireless broadband offerings.

⁵¹ NOI, ¶ 20.

Free Press offered what NASUCA believes is a reasonable approach to determining actual speed over such shared systems. Free Press suggested measuring last-mile contention ratios (from the first point of aggregation to the end user) for use in weighing broadband grant applications. Under the Free Press example, a network offering 16 Mbps service to 125 users over a single 38.8 Mbps DOCSIS channel would have a contention ratio of 51.5:1 (16 Mbps x 125 users = 2000 Mbps/38.8 Mbps = 51.5:1) and, for purposes of weighing competing applications for broadband grants, would be ranked lower than a network offering 50 Mbps service to 32 homes over a 2.5 Gbps GPON fiber network (which would have a far lower contention ratio); the lower the ratio the better from the consumer's standpoint.⁵²

As for wireless broadband services, and here NASUCA is speaking of fixed wireless broadband service, the Commission should determine wireless broadband speeds at the edge of the service contour. By edge of service contour, NASUCA means the area within which wireless signal strength is sufficient to provide voice-grade service based on signal propagation maps or similar data.

c. Distinguishing among various broadband technologies.

The Commission should not distinguish among various broadband technologies in formulating a national broadband plan – at least so far as such distinctions could favor one broadband technology over another. Such distinctions, and preferences, would be inconsistent

⁵² “Suggested Scoring Criteria for BTOP Broadband Infrastructure Deployment Grants,” Free Press (March 24, 2009), available at <http://www.freepress.net/node/49132>. The contention ratio is the ratio of the potential maximum demand to the actual bandwidth. The higher the contention ratio, the greater the number of users that may be trying to use the actual bandwidth at any one time and, therefore, the lower the effective bandwidth offered, especially at peak times. See Wikipedia, “Contention ratio” (accessed June 1, 2009); available at http://en.wikipedia.org/wiki/Contention_ratio.

According to Ofcom, “a 50 to 1 contention ration means the bandwidth may be shared with up to 50 other subscribers, whereas a 20 to 1 contention ration means the bandwidth may be shared with no more than 20 other subscribers.” Cotares Ltd., *et al.*, *Annex to A Study on the Efficient Dimensioning of Broadband Wireless Access Networks*, Ofcom Ref. AY4463, p. 24 (2004).

with Congress' clear intent and directives. For example, the 2008 Farm Bill expressly provided that "[f]or purposes of determining whether to make a loan or loan guarantee for a project under this section, the Secretary shall use criteria that are technologically neutral."⁵³ Likewise, Congress made it clear that, in determining whether private entities should be funded through the broadband technology opportunity program administered by the Department of Commerce, the Secretary of Commerce's public interest determination "shall to the extent practicable promote the purposes of [the program] in a technologically neutral manner."⁵⁴ Similarly, the criteria for awarding grants under the Commerce Department's grant program are all phrased in terms of broadband performance, without regard to the technology used to provide service.⁵⁵ Congress' preference for technology-neutral decisions in the short-term stimulus plan should also be incorporated in a long-term national plan.

NASUCA's proposed definition of "broadband" is technology neutral and does not establish different transmission speed thresholds for wireline, wireless or other technologies.⁵⁶ Moreover, the transmission speeds covered by the definition are currently provided by the majority of wireline and wireless broadband service applications and may even be provided by some satellite broadband providers.⁵⁷

⁵³ Pub. L. No. 110-246 § 6110, *codified at* 7 U.S.C. § 601(f).

⁵⁴ Pub. L. No. 111-5 § 6001(e)(1)(C).

⁵⁵ *Id.*, § 6001(h).

⁵⁶ *See, e.g.*, XO/Nextlink Proposal to NTIA/RUS, p. 3 (proposing different standards for "Advanced Broadband Transmission Service" and "Current Generation Broadband Transmission Service" based on whether the technology is wireline/fixed wireless or mobile wireless).

⁵⁷ "Bringing Broadband to Rural America: Report on a Rural Broadband Strategy, Federal Communications Commission, 2009 FCC LEXIS 2637, p. 4 ¶10 n.15 (May 22, 2009) ("*Rural Broadband Report*").

2. Defining Access to Broadband.

a. “Access” to broadband must be universal.

NASUCA agrees that defining access is important.⁵⁸ Policy discussions about such a definition, however, run the risk of being rapidly overtaken by facts. Broadband access is proliferating in multiple forms (*e.g.*, wireline and fixed wireless, nomadic and mobile), particularly in denser metropolitan areas. But even where broadband service is available, it is not necessarily and realistically accessible to broad segments of the population.

As a threshold matter, access should mean universal access for all – not just some. Access to information in the digital age is a prerequisite for participation in the economic, social, cultural, and political life of the country. Because it is broadband transmission, perhaps more than any other factor, that is transforming ours into an information society, access to that service must be defined in terms of universality.

Discussions on broadband access then must be focused on *how* broadband access is available. A big part of *how* is price. Whether referring to fixed, nomadic, or mobile access,⁵⁹ the two most essential factors for universal access are first, that broadband service must be affordable,⁶⁰ and second, that broadband systems must be “open,” *i.e.*, not pitched toward certain demographic groups favored by a vertically integrated system operator.⁶¹

Whether fixed, nomadic, or mobile broadband access is contemplated, there are essential inputs commonly used by each of those services – backhaul lines⁶² and network interconnection

⁵⁸ See NOI, ¶¶23-28.

⁵⁹ *Id.*, ¶23.

⁶⁰ *Id.*, ¶27.

⁶¹ See discussion of open networks, pp. 54-63 below.

⁶² See NOI ¶¶45, 50.

facilities, for instance – that now appear to be mainly in the hands of a few of the largest ILECs. Any discussion about price or marketplace competition⁶³ must first consider whether and how there is or could be competition in these (often) bottleneck facilities.⁶⁴

b. Role of price and/or market competition.

The Commission seeks comment regarding the extent to which it should consider price or marketplace competition in determining whether consumers have access to broadband capability.⁶⁵ Competitive market forces, where they exist, provide consumers with the benefits of innovation and technological progress. Consumers have choices in competitive markets, and firms respond to consumer demand. Competitive forces drive innovation, leading to technological improvements and better products. Market forces, where competition exists, deliver state-of-the-art technologies. For example, a shopper would be shocked to walk into a “big box” electronics store and find that no flat-screen televisions were available. However, not all consumers who would like to purchase state-of-the-art broadband connections – whether fiber-optic cable, advanced DSL, or advanced cable-television broadband technologies – have the ability to purchase such connections, in part because the lack of competition limits access to advanced broadband technologies at any price. This is a clear sign of market failure. Competitive market forces, where they exist, are also famous for driving down prices. For example, the price of personal computers has dropped year over year, while providing more processing power and features. The consumer price index for personal computers has *fallen* a

⁶³ See *id.*, ¶25.

⁶⁴ *Id.*

⁶⁵ *Id.*

remarkable 18% per year on average between 1999 and 2008.⁶⁶

Unfortunately, there is little evidence that competitive forces are adequate in the market for broadband Internet access. Consumers typically have two choices for broadband for their home: DSL from their telephone company, or cable modem service from their cable television company. This duopolistic market structure does not provide consumers the benefits that would be expected from a more competitive broadband market. Consumer choice is highly limited in the market for broadband and the lack of competition fails to drive broadband innovation and adoption.

According to the most recent data available from the FCC, residential Internet access technology is associated with two major technologies: DSL and cable modem.⁶⁷ Figure 1 below summarizes the relative adoption of these technologies, based on FCC data from December 31, 2007 (the most recent data available).⁶⁸ Figure 1 shows that the majority of high-speed households now use cable modem connections; however, it is important to note that the number of dial-up users (which is not reflected in Figure 1) is still significant, with about 6 percent of households with Internet access continuing to use dial-up.⁶⁹

⁶⁶Data available at <http://www.bls.gov/data/home.htm>.

⁶⁷ The FCC does not count mobile wireless broadband service in this deployment metric.

⁶⁸ See “High-Speed Services for Internet Access: Status as of December 31, 2007,” FCC Industry Analysis and Technology Division, Wireline Competition Bureau (Jan. 2009), available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-287962A1.pdf. That the most recent data that the FCC has published regarding the status of broadband deployment is from December 2007 speaks volumes to the underlying problems facing this Commission. Without timely and reliable data, efforts to formulate a National Broadband Plan will be hamstrung.

⁶⁹According to Nielsen ratings reported in the “Bandwidth Report,” *WebsiteOptimization* (March 2009), available at <http://www.websiteoptimization.com/bw/0904/>

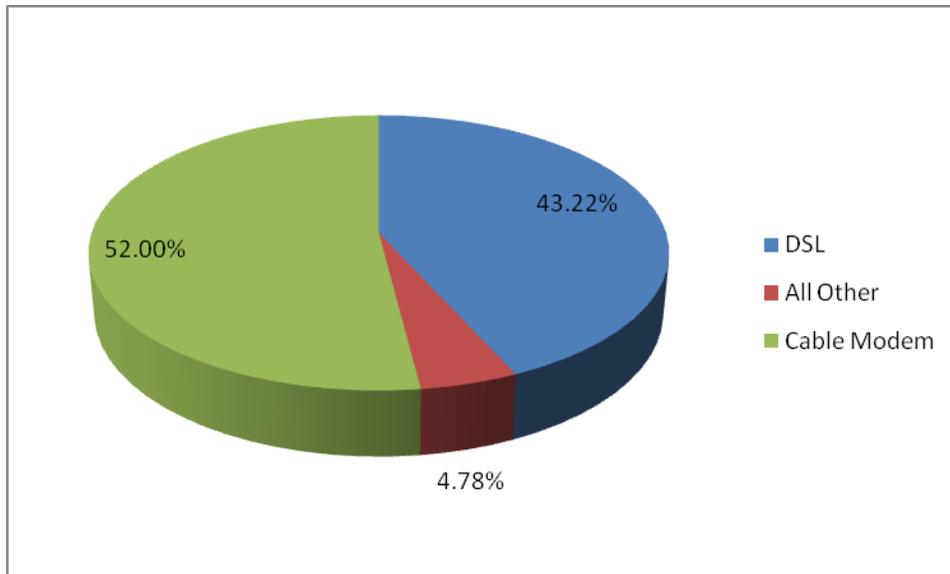


Figure 1: Broadband Deployment by Technology

Technologies other than cable modem and DSL, such as fiber-optic cable, broadband over power lines and fixed wireless, have attracted attention; however, deployment of these technologies remains very low. The FCC’s year-end 2007 data shows that 4.78% of all fixed high-speed connections identified by the FCC are associated with technologies other than cable modem and DSL. While this data is now somewhat stale, other information still points to the continued dominance of the cable/telecommunications broadband duopoly. Even accounting for the growth in fiber connections, resulting largely from Verizon’s FiOS build-out, alternative high-speed platforms are, at the present time, experiencing limited deployment.⁷⁰ Furthermore, Verizon’s fiber build-out does not introduce a new supplier – Verizon’s FiOS offering “competes” with (*i.e.*, cannibalizes) Verizon’s DSL offering where it builds FiOS, thus allowing Verizon to further segment its market.

Nor is there much evidence that the rivalry between DSL and cable offerings provides a

⁷⁰According to more recent industry reports, the total number of fiber-optic connections in the United States has reached 4 million, as of March 2009. This same report indicates that about 13% of U.S. homes are currently passed by fiber. See “North American FTTH Deployment Update,” Fiber to the Home Council (April 2009), available at <http://www.ftthcouncil.org/UserFiles/File/RVA%20slides%20April%202009.pdf>.

reasonable means to ensure that consumers receive the benefits of price competition. Cable companies have not cut prices in response to DSL price cuts, a fact that Comcast CEO Brian Roberts, colorfully noted:

We continue to believe and continue to charge for our services a rate that we think is a great value because the product is so much better. When Hyundai cuts their prices, BMW isn't exactly upset about it.⁷¹

There is no reason to believe that the industry's strategy has changed since that time. Given the lower quality of most DSL offerings, cable companies face little incentive to engage in price competition and experience little pressure to upgrade their facilities to provide improved data speeds.

On the other hand, Verizon's FiOS offering appears to have provided at least some pressure for cable to upgrade its networks. According to Comcast's senior vice president "the company [Comcast], is going to focus these [DOCSIS 3.0] upgrades on areas with FiOS competition first."⁷² But Comcast's pricing strategy for its upgraded service also matches Verizon's, with its new 50 Mbps service priced at \$149.99 per month.⁷³ As discussed in a later section of these comments, this price *matches* Verizon's FiOS price for a similar data speed, and indicates a pricing strategy based on "follow the leader," rather than on the cable providers own costs.

Overall, it is clear that price competition is generally viewed with distaste on the part of broadband providers:

⁷¹*Multichannel News* (July 25, 2005), available at <http://www.multichannel.com/article/CA629568.html?display=Breaking+News&referral=SUPP>.

⁷²"DOCSIS 3.0 Can Be Funded by 'Couch Change,'" *BroadbandReports.com* (May 9, 2007), available at <http://www.dslreports.com/shownews/83684>.

⁷³"Comcast launches 50Mbps broadband... for \$150 per month," *ARS Technia* (April 2, 2008), available at <http://arstechnica.com/news.ars/post/20080402-comcast-launches-50mbps-broadband-for-150-per-month.html>.

One topic that AT&T Inc., its partners and industry analysts all agree on is that the first focus on evolving U-verse must be on a combination of added features, applications and integration with other services (such as wireless to delivery on the three-screen vision).

The worst-case scenario, they agree, is for Tier-one telcos such as AT&T to make price competition with incumbent cable and satellite providers their primary battlefield. That, they said, would result in the devolution of IPTV along the lines of CD players, DVD systems, big screen TVs, PCs and more.

“The notion of competing just on price doesn’t make sense to us,” said Jeff Weber, AT&T’s vice president of product and strategy, who added that the company will not lead on price.”⁷⁴

While price competition appears unlikely, competition over service quality may be more of an issue. Outside the limited areas where Verizon is deploying fiber, however, or where fiber is being deployed by municipalities, competitive pressure is unlikely to provide much of a spur to cable. Conventional cable broadband already offers superior bandwidth compared to standard DSL offerings. Even AT&T’s fiber to the neighborhood network upgrade does not provide data speeds that top conventional cable offerings.

Thus, when considering the impact of broadband market forces the Commission should not be content when the outcome of the market is duopoly. With regard to the prioritization of broadband deployment efforts, areas where no broadband services exist certainly should be given deployment priority in any broadband plan. However, the broadband monopoly or duopoly markets that characterize the reality for the overwhelming majority of U.S. households should not be viewed as broadband competition “success stories.” The lesson from the market to date is that where corporate policy, such as Verizon’s FiOS build-out, results in a technology that is superior to cable’s legacy broadband, some response may be forthcoming from cable operators, in terms of upgrades to cable plant. Where fiber is not being deployed, there is little incentive

⁷⁴ “Evolving the U-verse Ecosystem,” *Xchange Magazine* (Jan. 22, 2007), available at <http://www.xchangemag.com/articles/537/71h221146248404.html>.

for cable operators to invest to bring the DOCSIS 3.0 platform to market. Furthermore, even in areas where cable competes with fiber, there appears to be price-matching behavior rather than price competition. This all-too-expected outcome of a duopolistic market does not promote the public interest.

The FCC should be thoroughly familiar with the pricing behavior of duopolists, given the lackluster performance of the cellular duopoly.⁷⁵ Absent multiple facilities-based providers, capable of offering similar broadband performance, it is unreasonable to expect that market forces will deliver a satisfactory market outcome in terms of broadband price.

c. Consumer benefits of different broadband technologies.

In the NOI, the Commission also seeks comment regarding the characteristics of different broadband technologies and any consumer benefits that may flow from those differences.⁷⁶ One aspect of broadband technology that provides substantial benefits to consumers is symmetrical broadband connections. It is critical that the National Broadband Plan address symmetrical broadband connections, and define broadband in terms of symmetrical transmission channels. Such a definition of broadband is consistent with the overarching mandate contained in Federal law, specifically Section 706 of the 1996 amendments to the Act, which included this directive regarding the deployment of advanced telecommunications capability:

The term ‘advanced telecommunications capability’ is defined, without regard to any transmission media or technology, as high-speed, switched, broadband telecommunications capability that enables users *to originate and receive high-quality voice, data, graphics, and video telecommunications* using any technology.⁷⁷

⁷⁵ See, e.g., Parker, Philip and Lars-Hendrik Roller, “Collusive Conduct in Duopolies: Multimarket Contact and Cross-Ownership in the Mobile Telephone Industry,” *The RAND Journal of Economics*, Vol. 28, No. 2 (Summer 1997).

⁷⁶ NOI, ¶26.

⁷⁷ Pub. L. No. 104-104 § 706(c)(1), *codified at* 47 U.S.C. § 157 note (emphasis added.)

Congress clearly articulated its intent to use the legislation as a means of fostering universal deployment and adoption of a *two-way communications* technology, and not another one-way, one-to-many broadcast medium.

The report accompanying the Senate bill that became the 1996 amendments to the FCA (S.652) also emphasized two-way next generation technology:

The goal is to accelerate deployment of an *advanced capability* that will enable subscribers in all parts of the United States to *send and receive* information in all its forms voice, data, graphics, and *video* over a high-speed switched, interactive, broadband, transmission capability. . . . Section 304 of the bill is intended to ensure that *one of the primary objectives of the bill to accelerate deployment of advanced telecommunications capability is achieved*. Section 4 of the bill states clearly that this bill is intended to establish a national policy framework designed to accelerate rapidly the private sector deployment of advanced telecommunications. More specifically, *the bill's goal is "to promote and encourage advanced telecommunications networks, capable of enabling users to originate and receive affordable, high-quality voice, data, image, graphics, and video telecommunications services."*⁷⁸

Congress' emphasis on video and on two-way telecommunications is a key aspect of Section 706. Clearly Congress intended for the FCC to focus *both* on download speeds (for users to receive high-speed data, including high-quality video) *and* upload speeds (for users to originate high-speed data, including high-quality video).

Thus, the Commission's focus on download speed alone in the NOI ignores both the legislative mandate to encourage two-way broadband communications, and the growing market demand for symmetrical broadband connections. For example, the availability of inexpensive digital video equipment has fueled production of video content. Consumer demand for upload speed to process or share these files has followed and grown rapidly. However, broadband provider practices continue to crimp bandwidth available for uploads. This structural

⁷⁸ Telecommunications Competition and Deregulation Act of 1995, S. 652, .S. Rep. 104-23, 104th Congress, 1st Session (1995).

discrimination limits the ability of individuals to participate in the production and distribution of video information. Accordingly, the definition of broadband should include both upload and download speeds, and should address the performance of symmetrical broadband channels.

NASUCA expects that some network providers will argue that most consumers demand fast download speeds, and the capacity limitations of their last-mile broadband networks limit their ability to provide additional bandwidth for uploads. However, this argument is not – and should no longer be considered – persuasive since it is precisely the same argument that has spawned the major policy failures this Commission must now address with regard to broadband deployment, *i.e.*, market forces are simply not delivering sufficient bandwidth to consumers. In the previous section, NASUCA discussed the market failure which is clearly associated with the monopoly and duopoly provision of broadband access facilities in America. That failure is evident in a multidimensional context:

- Market forces have failed to deliver any broadband services to substantial numbers of American households;
- Market forces have failed to deliver bandwidth with data transfer rates comparable to the broadband networks which are deployed in other industrialized nations;
- Where last-mile broadband networks are available, the prices charged for broadband are excessive, when compared with the price per megabit of transfer speed which is available in other industrialized nations; and
- Where advanced broadband facilities are being deployed which are capable of providing bandwidth on par with the higher speeds available in other industrialized nations, the target recipients of this technology are households with high incomes, reflecting pricing practices which demand extremely high charges for access to advanced broadband technology.

With regard to the FCC's questions regarding wireless broadband networks, it does not appear necessary to offer any special treatment of the specific delivery platform associated with the delivery of fixed wireless broadband services. However, it does make sense to segregate

policy objectives associated with the delivery of fixed broadband versus broadband mobility services. At this time, the uptake of broadband mobility services is in its infancy, and whether broadband mobility services deserve the same priority as fixed broadband is doubtful. With regard to the pricing impact of mobility networks on fixed network pricing, it is abundantly clear that the major providers of broadband mobility services, AT&T and Verizon, have little incentive to design broadband mobility services that compete on the basis of price with their fixed broadband offerings. Thus the Commission can rest assured that the “competition” between fixed and mobility broadband services will be well managed, and any beneficial impact on consumers will be minimal.

d. Role of affordability in defining access.

As is recognized by the Recovery Act, any national broadband strategy must address the affordability of broadband services in conjunction with the deployment of broadband services. The benefits of broadband, given the network effects associated with the technology, will be maximized only when broadband subscription rates reach high levels. Thus, the National Broadband Plan must integrate deployment and affordability issues. The FCC should consider Verizon’s FiOS pricing practices, which as the table below clearly show, indicates the company is not encouraging consumption of higher bandwidths currently available from FiOS.

Verizon FiOS Internet Access Pricing		
	Prices	
Internet Access Speeds (downstream/upstream)	Stand-Alone	With Phone
10 Mbps/2 Mbps	\$49.99	\$44.99
20 Mbps/5 Mbps	\$59.99	\$54.99
20 Mbps/20Mbps	\$69.99	\$64.99
50 Mbps/20 Mbps	\$144.95	\$139.95

The 1996 amendments to the Act specified that all Americans should have access to affordable and high-quality advanced telecommunications services, and the Recovery Act further reinforces this by specifying that the National Broadband Plan should include a detailed strategy for achieving affordability and maximum utilization. Thus, it is not sufficient to make high-quality broadband services available only at high prices, while low-quality broadband is deemed “affordable.” As part of the National Broadband Plan, the FCC should initiate a proceeding to establish an affordability standard for broadband services. While the affordability proceeding is appropriate at the national level, state determinations of affordability are also appropriate, and the Commission should consider employing the expertise of consumer advocacy groups and the Joint Board on Universal Service in addressing affordability issues. In addition, it may be necessary to target subsidy programs to consumers with lower incomes and other populations, such as older American, to ensure that high-quality broadband is within the reach of *all* U.S. households.

3. Measuring Progress.

Among other things, the Commission seeks comment regarding how its current or future data collections can help measure progress toward the goal of ensuring that all Americans have access to broadband, including what metrics the FCC should use for this purpose and how information collected from periodic consumer surveys might help in this effort.⁷⁹ NASUCA recommends that the FCC incorporate the consumer survey data points specified by Congress in the BDIA for inclusion in reports that broadband providers are required to file with the Commission.⁸⁰ These data points provide useful information that would allow the Commission

⁷⁹ NOI, ¶29.

⁸⁰ See p. 86, below; see also Pub. L. No. 110-385 § 103(c).

to track changes in such things as the types of broadband service being provided, by technology (*i.e.*, DSL or VDSL), increases in actual broadband transmission speeds (and hence capabilities) delivered to consumers, the price subscribers pay for broadband service on a per Mbps basis (which directly correlates to such things as take rates, affordability and competition), and the types of service most commonly subscribed to by consumers. Additional data that ought to be collected by the Commission includes such information as the communities served by the provider, total number of broadband subscribers by community, whether the provider is facilities-based or provisions service through the facilities or network of another entity, and facilities or network owned or operated by the provider in the state – with particular emphasis on the ownership, location and capabilities of “middle mile” and backbone facilities.

The information collected by the Commission should be developed in coordination with the information collected by the NTIA and the RUS in connection with their implementation of the broadband stimulus programs established by the Recovery Act. Successful grant applicants obviously will have provided a substantial amount of information regarding their proposed projects to the relevant federal agency. Much of this information is spelled out in the Recovery Act’s provisions regarding grants under the NTIA’s broadband technology opportunity program (“BTOP”). Such information should likewise be incorporated in the broadband data collected by the Commission and utilized to measure progress in achieving Congress’ goal.

With regard to claims that information submitted to the Commission is confidential or proprietary, NASUCA has elsewhere spoken to the need to limit, to the maximum extent possible, information withheld from the public based on such claims.⁸¹ The Commission should construe federal laws governing such matters to favor the broadest degree of disclosure possible

⁸¹ See pp. 89-91, below.

and apply that understanding to any confidentiality claims by broadband providers. NASUCA expects that providers will seek to keep maps and other diagrams of their broadband facilities and networks from public view, as well as details of the service offerings and pricing – that certainly has been the experience with many of the States’ efforts to map broadband deployment.⁸²

NASUCA does not believe such information should be exempt from disclosure for a variety of reasons, including the fact that the duopoly for broadband service prevailing in many parts of the United States reduces the competitive harms of disclosure, and the fact that Congress has expressly required that the public should be able to access and manipulate the broadband map and inventory developed under the Recovery Act and the BDIA.⁸³ Similarly, as NASUCA stated in its comments in response to the NTIA/RUS joint notice of inquiry, the NTIA should require any applicant for a grant under the BTOP to waive claims to “trade secrets” or other confidentiality claims for the type of information that will be displayed in the nationwide broadband inventory map developed by the NTIA pursuant to § 6001(*l*) of the Recovery Act as a condition of receiving public funding for broadband projects.⁸⁴

Moreover, the FCC should ensure that the information it collects corresponds to the the broadband inventory map required by Section 6001(*l*) of the Recovery Act. Congress specified that this map must be interactive and capable of displaying, at its users’ (*i.e.*, the public’s)

⁸² Art Brodsky, “Connected Nation Takes Aim At Stimulus Broadband Mapping; Rural Areas Could Be Hurt,” Public Knowledge (Feb. 17, 2009), available at <http://www.publicknowledge.org/node/1998>; *see also* Amy Schatz, “Battle Brews Over Broadband Mapping,” *Wall Street Journal*, B1 & B4 (June 3, 2009).

⁸³ *See, e.g.*, Pub. L. No. 111-5 § 6001(*l*) & Pub. L. No. 110-385 § 106(g). Interestingly, the Iowa Telecommunications Association provided fiber route maps to the Commission recently in connection with this proceeding, without any claim of confidentiality. *See* Iowa Telecom Ass’n *ex parte*, Docket No. GN 09-51, p. 6 (May 12, 2009).

⁸⁴ NASUCA Comments to the NTIA/RUS, p. 38 (April 13, 2009) (“*NASUCA NTIA/RUS Comments*”), available at <http://www.nasuca.org/Comments%20%20NTIA%20RUS%204-13-09.pdf>.

request, multiple layers of information that allow users of the map to select the scale and level of detail of information sought. NASUCA advised the NTIA/RUS that statistical information regarding broadband availability, transmission speeds and capability, mode of delivery (*i.e.*, wireless broadband technology vs. terrestrial vs. satellite), price, providers, etc. contained in the broadband map should be provided at the lowest level of disaggregation available (such as by Census Block or, if available, Census Tract). NASUCA also recommended that broadband facilities and infrastructure displayed via the broadband map should be capable of being displayed to the scale 1:24,000 (1 inch = 2,000 feet), for purposes of both identifying geographic areas that lack access to broadband (*i.e.*, are unserved) and identifying the location of “middle-mile” and “backbone” broadband facilities and networks, whether “lit” or “dark.”⁸⁵ In addition, NASUCA suggested that the broadband map should utilize symbols and color-coded keys for displaying broadband infrastructure or facilities, based on the facilities’ transmission capacity as well as whether the facilities are “lit,” partially “lit” or “dark,” much like highway maps distinguish among highways (Interstate, U.S., State) and other public roads. The broadband map of infrastructure and facilities should also display points on the network where broadband providers may interconnect with the network.

Data collected by the FCC under the BDIA should correspond closely with the level of detail required for the broadband inventory map required by Section 6001(I) of the Recovery Act.

⁸⁵ The U.S. Geologic Society describes this level of detail in such maps as “useful for engineering, local area planning, and recreational purposes.” *See* <http://egsc.usgs.gov/isb/pubs/booklets/usgsmaps/usgsmaps.html#Topographic%20Maps>. Clearly deployment of broadband infrastructure and services, particularly in areas where there is little or none currently, will require both local planning and engineering and thus the degree of detail afforded by such maps will be an invaluable tool for governments and broadband providers.

4. Role of Market Analysis.

The Commission invites parties to comment regarding whether, and how, it should undertake a traditional market analysis with respect to any relevant broadband-related market.⁸⁶ At this time, the Commission should focus its efforts on broadband markets that are associated with the delivery of last-mile broadband connectivity to “all people of the United States.”⁸⁷ One pressing market-analysis issue regarding these markets is the sharing of last-mile network capacity with proprietary services offered by the network provider. AT&T’s U-verse deployment illustrates this issue.

AT&T’s U-verse is based on advanced DSL technology (*i.e.*, VDSL).⁸⁸ AT&T, when deploying its version of advanced broadband, is also interested in marketing its own video services. AT&T has deployed its advanced broadband service to split the overall bandwidth available (typically 25 Mbps in non-pair-bonded deployment) between the provision of its own IPTV video services, and the provision of independent data services (which can include competing video content).⁸⁹ Thus, with any broadband deployment, a critical market issue is the

⁸⁶ NOI, ¶35.

⁸⁷ See Pub. L. No. 111-5 § 6001(k)(2) (“The national broadband plan required by this section *shall seek to ensure that all people of the United States have access to broadband capability* and shall establish benchmarks for meeting that goal [including] an *analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States.*”) (emphasis added).

⁸⁸ Using this broadband platform, AT&T divides the total available bandwidth (about 25 Mbps per subscriber) between the provision of its own video services, including highly bandwidth-intensive high-definition video, and broadband Internet access. Interview with AT&T’s Chief Technology Officer in *Investor’s Business Daily* (Sept. 5, 2007), available at <http://www.investors.com/Tech/TechExecQA.asp?artid=273872348605554>. Where AT&T has deployed U-verse using pair bonding, it may be capable of delivering higher overall bandwidth, however, the allocation issue persists.

⁸⁹ Furthermore, AT&T’s web site states that U-verse must be purchased with video services:

Because AT&T U-verse members will gain the most features and benefits from having both AT&T U-verse TV and AT&T U-verse Enabled Internet, Internet must always be bundled with TV. Customers can purchase AT&T U-verse TV service as a stand-alone product, but they cannot order AT&T U-verse Internet service only.

allocation of bandwidth between “open” Internet services, and proprietary data services (including video).

This structural configuration of a broadband channel illustrates a first order of “bandwidth crimping” on the part of the network provider. Given the limited supply of bandwidth, a provider’s structuring of the overall supply of last-mile bandwidth to favor proprietary applications means that the general Internet access product has its capabilities reduced. AT&T, or other broadband providers, may also implement second order bandwidth limits associated with data usage for the Internet access service.⁹⁰ However, this network limitation comes on top of the first order impact of allocating bandwidth for network providers proprietary video services. The combined impact of the first and second order bandwidth restrictions are a severe degradation in general Internet access.⁹¹ Clearly, the FCC must address both of these market issues when developing a National Broadband Plan.

It is unclear whether the Commission would consider the allocation of bandwidth between general Internet access and the provision of proprietary services to be a “traditional market analysis”; however, it is a market analysis that the Commission *must* undertake. This is especially true with regard to broadband projects that may receive public support.

Last-mile broadband plant provides a platform that, absent rules to the contrary, will enable the owner of the facilities to allocate bandwidth between general Internet access and

<http://www.att.com/UverseModifiedNeighborhood/index.html> (accessed June 1, 2009, follow link to “Requirements”).

⁹⁰ “AT&T Trials Tiered Broadband in Nevada,” *Gigaom.com* (Nov. 3, 2008), available at <http://gigaom.com/2008/11/03/att-trials-tiered-broadband-in-nevada/>.

⁹¹ Network owners’ unfounded complaints about “bandwidth hogs” distract from the fact that these same network owners allow their proprietary content to be downloaded without limit. For example, in a VDSL network, bits are bits, and the fact that an proprietary video stream provided by the network owner can be downloaded 24/7 without penalty (as long as the user pays the video bill), while that same user, using general Internet access may face caps (and or price penalties) for downloading video files that are not sourced by the network owner appears to be patently discriminatory.

proprietary broadband products such as video services (including the bandwidth-intensive provision of high-definition video). This allocation process, should it be allowed at all with broadband projects that receive public support, must be supervised to ensure that the project meets the Commission's objectives with regard to broadband deployment and to ensure that public monies are not used to subsidize the provision of non-supported services, such as proprietary IPTV or video services that are provided by the network owner.

In addition, when considering the prospects of support for broadband deployment, the Commission should ensure that the last-mile broadband network provider has sufficient network capacity to deliver data throughput speeds that are consistent with the Commission's definition of broadband to the point in the service provider's network where traffic is exchanged to higher levels of the Internet.

C. EFFECTIVE AND EFFICIENT MECHANISMS FOR ENSURING ACCESS.

1. Market Mechanisms.

Unfortunately, the Commission proceeds from a false premise when, at the outset of its request for comments on this point, it pronounces that “[m]arket mechanisms have been successful in ensuring access to broadband in many areas of the country.”⁹² To put it bluntly, the Commission's opening statement ignores the fact that the “best” broadband market outcomes observed to date in the United States are duopoly markets. Market-based policies have generally been unsuccessful in fulfilling the mandate regarding advanced telecommunications services that have now been the law of the land for over thirteen years. Given the general failure of market forces to deliver affordable and high quality broadband to all people of the United States, regulatory tools must be employed to correct this obvious market failure. As discussed in the

⁹² NOI, ¶37.

opening of NASUCA’s comments, the FCC must reassert its jurisdiction over broadband facilities and begin anew in using tools that have been demonstrated to lead to improved market outcomes historically in the United States and currently in other nations.

In addition to this criticism of this basic flaw in the Commission’s premise regarding the efficacy of market forces in ensuring adequate broadband access, there are several additional points that NASUCA urges the Commission to fully consider. *First*, the Commission must recognize that broadband has become basic infrastructure and that the current situation – which even the Commission’s notice recognizes as a “patchwork” of broadband buildout⁹³ – is a critical economic failure. Imagine the impact on U.S. economic development if other basic infrastructure, such as highways or airports, had been left to the private entities that need to use the resource. Broadband is no different from such infrastructures.

Second, as has been discussed elsewhere in NASUCA’s comments, for the overwhelming majority of Americans, the “best” that is observed from private-market forces is a duopoly market structure. The firms involved in the duopoly have different business strategies, which are affecting how next-generation technologies are being deployed. As discussed above, AT&T is deploying a relatively low-quality “next-generation” broadband platform. This deployment is not placing much pressure on cable rivals to upgrade their plant, as AT&T’s upgrade falls far short of what is possible with fiber deployment, such as that pursued by Verizon.

Third, one major alternative to attract “risk capital” to broadband would be to encourage, as part of the national broadband plan, municipal broadband projects.⁹⁴ Municipal deployment of broadband access facilities places the provision of the basic infrastructure under the same authority that has been associated with the provision of airports, roads, and other utilities.

⁹³ *Id.*

⁹⁴ By “municipal” here we include other local, tribal and state governmental units.

Moreover, municipal broadband systems may generate greater benefits for the businesses and households served than the current network developed exclusively with private investment. Municipal systems may encourage network diversity, which is a significant factor in attracting businesses to any region.

The infrastructure upgrade rivalry observed in some areas is not likely to be observed in others. Thus, it is reasonable to expect that the deployment of municipal fiber will encourage private investment in network upgrades. This expectation is grounded in actual experience. For example, Qwest, which has lagged AT&T and Verizon in data network upgrades, has deployed fiber near the UTOPIA municipal fiber network in Utah.⁹⁵ Based on the Utah experience, and others, the competition offered by municipal broadband has demonstrated the potential to provide significant benefits to consumers – both in terms of giving them access to high-quality broadband on the one hand, and inducing private entities to begin making investments in the same kind of infrastructure in response to the competitive alternative municipal networks provide.

Third, municipal broadband networks are likely to encourage network neutrality. Municipal networks are more likely to operate on a wholesale level and there is, therefore, little or no conflict of interest between the network owner and third-party sources of content and services. Telephone and cable companies may view third-party content and services available over the Internet as a threat to their affiliated content, but municipalities benefit from the diversity of content and services as this competition is more likely to generate a higher level of

⁹⁵ Qwest fought the UTOPIA municipal fiber deployment, with one Qwest executive stating that the data speeds associated with the fiber-based project “are way more than what most consumers need in their home. Why provide a Rolls-Royce when a Chevrolet will do?” “In Utah, Public Works Project in Digital,” *New York Times* (Nov. 17, 2003), <http://www.nytimes.com/2003/11/17/technology/17utopia.html?ex=1384491600&en=d5c9cafefa1e6064&ei=5007&partner=USERLAND>.

consumption of the broadband access facilities and thus provide more revenue for the municipalities.

Accordingly, as a matter of policy, the Commission should encourage municipal broadband deployment as part of any national broadband plan it develops now, or in the future.⁹⁶ Encouraging such systems is badly needed, both to ensure that currently unserved areas have high-quality and affordable services and to encourage competition in areas where the current duopoly (or monopoly) prevails.

2. Determining Costs.

In its NOI, the Commission requests parties to submit comments regarding how useful or necessary it is for the FCC to understand the costs of deploying broadband networks to unserved and underserved areas of the United States and related issues.⁹⁷ As an initial matter, the Commission should take to heart Congress' clear, oft-stated and longstanding directive that "all people of the United States" should have access to high-quality broadband service and capability.⁹⁸ Congress' command is sweeping and unconditional – *all* Americans are to have access to broadband service, not just those who reside in areas where the cost of providing service ensures a respectable return on investment and not just those whose incomes allow them to afford such service. Accordingly, the broadband plan developed by the Commission now, and

⁹⁶ Of course, such a policy may have to be reconciled with the Supreme Court's ruling in *Nixon v. Missouri Mun. League*, 541 U.S. 125 (2004).

⁹⁷ NOI, ¶38.

⁹⁸ See Pub. L. No. 111-5 § 6001(k)(2) ("The national broadband plan required by this section *shall seek to ensure that all people of the United States have access to broadband capability* and shall establish benchmarks for meeting that goal [including] *an analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States.*") (emphasis added); see also Pub. L. No. 104-104 § 706, codified at 47 U.S.C. § 157 Note ("The Commission and each State commission with regulatory jurisdiction over telecommunications services *shall encourage the deployment on a reasonable and timely basis of advanced telecommunications capability to all Americans . . . by utilizing, in a manner consistent with the public interest, convenience and necessity, price cap regulation, regulatory forbearance, measures that promote competition in the local telecommunications market, or other regulating methods that remove barriers to infrastructure investment.*") (emphasis added).

as it may be amended from time to time going forward, must strive to ensure that all Americans in all areas of the country have access to high-quality broadband service and capability - *even in those areas where the costs of providing broadband exceed the benefits* as calculated in a conventional cost/benefit test.

Because broadband networks yield network effects, conventional cost/benefit analyses will not accurately calculate the desirability of projects. However, this fact does not mean that the costs of providing broadband to remote, insular, and/or low density areas should be ignored. Rather, the Commission must develop the needed expertise to ensure that the overarching objective of providing affordable, high-quality broadband to all people of the United States is achieved in the most efficient, timely and cost-effective manner.

The Recovery Act expressly provides that the Commission's broadband plan "shall include an analysis of the most effective and efficient mechanisms for ensuring broadband access by all people of the United States."⁹⁹ Given this directive, the Commission must have a sound understanding of the costs of providing broadband services. While the Commission will not itself build the broadband networks needed to satisfy the statutory objectives, it must gain an understanding of the costs of building those networks, and cost models provide an efficient vehicle to achieve this goal. The Commission has extensive experience associated with analyzing and estimating the costs of providing other telecommunications services and the network elements and facilities associated with such service. For the Commission to develop a national broadband plan, the FCC must apply and expand its expertise to the issue of the costs of providing broadband service.

⁹⁹See Pub. L. No. 111-5 § 6001(k)(2)(A). Congress previously provided examples of such mechanisms in Section 706 of the 1996 amendments to the FCA but that was clearly illustrative rather than exclusive and the Commission is obligated to utilize any other mechanism consistent with the public interest, convenience, and necessity, to achieve Congress' objectives – including restoring greater regulation to ensure that networks are open to potential competitors on a reasonable, non-discriminatory basis.

It should be clear to the Commission, in a general sense, that the costs associated with the deployment of last-mile broadband networks have many characteristics similar to costs associated with last-mile voice services. For example, the Commission is familiar with the fact that broadband networks that are designed to serve fixed locations (*e.g.*, households and businesses) are subject to entry barriers that arise from economies of scale, population density, climate, terrain, etc. As discussed elsewhere in these comments, even in high density areas, it is likely that the market structure is characterized by, at best, a broadband duopoly, with cable and telephone company broadband offering the dominant “choice” to consumers. However, while this general knowledge regarding costs is helpful in understanding certain policy issues, such as whether “competition” is likely to solve the broadband deployment problem (it is not), more specific information regarding costs is needed and will be useful when developing the National Broadband Plan.

In order to determine the “most effective and efficient” mechanisms for ensuring broadband access to all people of the United States, the FCC must develop and apply its expertise in the cost of providing broadband networks. In so doing, cost models will be beneficial in a number of ways.

First, cost models will allow the FCC to develop an independent perspective on cost questions. The reduction in reliance on industry data sources will encourage efficiency and help the FCC (and States) prevent fraud and abuse of programs that support broadband build-outs.

Second, cost models could allow the Commission to identify the most cost-effective technology choices for delivering broadband services. Cost models could be developed for alternative technologies and deployments (*e.g.*, greenfield vs. incremental, terrestrial wireline vs. terrestrial fixed wireless). The results of these cost models could be used to encourage the most

efficient mechanism for serving unserved areas, or improving service in underserved areas.

Finally, given other reductions in FCC data collection,¹⁰⁰ cost models provide an alternative means of developing information regarding the characteristics of broadband network deployments,¹⁰¹ cost models. Cost models, when kept current with up-to-date input prices, will allow the FCC to recognize construction price trends and better evaluate competing proposals.

With regard to the question of how the Commission should proceed to obtain cost models, updating the existing FCC High Cost Model (“HCM”) is one part of the overall process. NASUCA has recently provided the FCC with recommendations regarding what actions must be taken to update the HCM,¹⁰² so those will not be repeated here.

Altering the HCM so that it can provide broadband cost estimates that will be useful in implementing the National Broadband Plan will require additional modifications. For example, as also noted by NASUCA, the existing HCM is consistent with the provision of broadband services over copper, as it specifies loop lengths of no more than 18,000 feet. Altering the maximum length of the copper portion of the loop would enable the model to develop cost estimates for higher speed broadband services, such as those associated with broadband deployments similar to AT&T’s U-verse deployment. Similarly, the HCM could be modified to

¹⁰⁰ See, e.g., *Service Quality, Customer Satisfaction, Infrastructure and Operating Data Gathering; Petition of AT&T Inc. for Forbearance Under 47 U.S.C. § 160(c) From Enforcement of Certain of the Commission's ARMIS Reporting Requirements*, Memorandum Opinion and Order and Notice of Proposed Rulemaking, 23 F.C.C.R. 13647 (Sept. 6, 2008); *Petition of Qwest Corporation for Forbearance from Enforcement of the Commission's ARMIS and 492A Reporting Requirements Pursuant to 47 U.S.C. § 160(c); Petition of Verizon for Forbearance Under 47 U.S.C. § 160(c) From Enforcement of Certain of the Commission's Recordkeeping and Reporting Requirements*, Memorandum Opinion and Order, 23 F.C.C.R. 18483 (Dec. 12, 2008).

¹⁰¹ Without cost models, other sources of cost information, such as auctions, may be undermined in their effectiveness. While there are myriad difficulties associated with conducting auctions, one of the more intractable is establishing an appropriate reserve price given the likelihood of a small number of bidders. Cost models could be utilized to develop reasonable reserve prices, which would make an auction process more tractable than if no specific knowledge of costs is available.

¹⁰² See *Federal-State Joint Board on Universal Service*, CC Docket No. 96-45, *High-Cost Universal Service Support*, WC Docket No. 05-337 (“96-45/05-337”), NASUCA Comments, pp. 50-53 (May 8, 2009).

identify the cost of deployment fiber to the premises, as the basic outside plant design associated with FTTP utilizes much of the same approach as a fiber/copper hybrid network.¹⁰³ Once customer location files are developed, the incremental effort to expand the scope of cost modeling to include alternative technology, such as coaxial cable networks, or wireless networks is reduced. Many of the same basic data (terrain, soil conditions, density, etc.) will be factors in alternative technology models.

The Commission also questions in the NOI whether the models can be verified.¹⁰⁴ Models utilized to assist with the development of the National Broadband Plan offer do not necessarily pose the same contentious issues, as was the case when the FCC applied cost models to provide a foundation for UNE rates or universal service support. The application of cost models and the resulting expertise gained by the Commission as a result of the development and application of cost models will assist the Commission in determining whether applicants for public monies had viable plans, and help to benchmark applicant performance. Furthermore, given that broadband networks provide a multi-service platform, the development of cost models will provide valuable information regarding the incremental costs of providing bandwidth on networks that provide multiple services, whether they are newly constructed networks, or existing networks.

3. Universal Service Programs.

The Commission seeks comment on the impact of broadband on its existing universal service programs.¹⁰⁵ In general, NASUCA supports the concept of modifying existing universal

¹⁰³ See, e.g., George Abe, *Residential Broadband*, chapter 5 (2000).

¹⁰⁴ NOI, ¶38.

¹⁰⁵ NOI, ¶39.

service programs to address broadband, but NASUCA's support is predicated on the Commission taking action to address the fundamental issue of funding, including whether broadband meets the criteria for being a supported service pursuant to Section 254 of the Act.¹⁰⁶ NASUCA notes that these issues have been developed in other proceedings, including responses to the Joint Board's *Comprehensive Reform Recommended Decision*, which proposes the adoption of separate broadband and mobility universal service funds.¹⁰⁷ Similarly, petitions to expand the Low-Income Program to support broadband connections have been filed with the Commission, but not yet opened for comment.¹⁰⁸

NASUCA agrees with the Joint Board that the initial focus should be on bringing broadband to unserved areas and populations. A key step must therefore be to define "unserved." To that end, the Commission has already engaged in an inquiry to determine where broadband has been deployed, and what transmission speeds are available.¹⁰⁹ The Commission should also coordinate with the NTIA and the RUS on developing a definition of the terms "unserved" and "underserved."

¹⁰⁶ The following material is adapted from NASUCA's filings in 96-45/05-337, including initial Comments on the Joint Board Recommended Decision (April 17, 2008) at 16-21; NASUCA's Comments on the Notice of Inquiry (May 8, 2009) at 53-54 and NASUCA's NRHC Remand Comments (March 26, 2006) at 55-56.

¹⁰⁷ See 96-45/05-337, Recommended Decision, FCC 07J-4 (Fed.-State Joint Board, 2007).

¹⁰⁸ *TracFone Wireless, Inc. Petition to Establish a Trial Broadband Lifeline/Link Up Program*, WC Docket No. 03-109, CC Docket No. 96-45 (filed Oct. 9, 2008); *In the Matter of Petition for Rulemaking to Enable Low-Income Consumer to Access Broadband Through the Universal Service Lifeline and Link-Up Programs*, WC Docket No. 03-109, CC Docket No. 96-45 (filed Oct. 7, 2008).

¹⁰⁹ See, e.g., *Development of Nationwide Broadband Data to Evaluate Reasonable and Timely Deployment of Advanced Services to All Americans, Improvement of Wireless Broadband Subscribership Data, and Development of Data on Interconnected Voice over Internet Protocol (VoIP) Subscribership*, WC Docket 07-38, NASUCA Comments (June 15, 2007) ("NASUCA 07-38 Comments").

- a. *Wireline broadband should be a supported service but **only** if the Commission addresses the need for additional funding.*

Section 254(b)(2) of the FCA provides that “[a]ccess to advanced telecommunications and information services should be provided in all regions of the Nation.” The Commission has ostensibly sought to promote consumers’ access to these services but cannot provide support for advanced services at this point because they have not been found to meet the test for support in Section 254(c)(1) of the Act. A complicating factor, of course, is the Commission’s ill-advised determination to define broadband services as “information services”; Section 254 allows support only for “telecommunications services.”¹¹⁰

The Joint Board recommended that broadband meets the statutory qualifications for being designated a supported service under Section 254(c)(1) of the FCA.¹¹¹ Apart from the definitional issue (“information service” vs. “telecommunications service”), with one significant exception, NASUCA agrees, and also supports the basic proposals contained in paragraphs 12-15 of the *Comprehensive Reform Recommended Decision* for the establishment of a separate Broadband Fund. The Joint Board’s recommendations assume that broadband will be a supported service, whether provided by a wireless provider or a wireline provider.¹¹² But because of the current significant differences between mobile wireless and wireline broadband capabilities, only wireline broadband (and potentially fixed wireless broadband provided over facilities such as WiFi or WiMax) meets Section 254(c)(1)’s tests to be a supported service.

¹¹⁰ 47 U.S.C. § 254(c)(1).

¹¹¹ *Comprehensive Reform Recommended Decision*, ¶58.

¹¹² *Id.*, ¶58, citing 47 U.S.C. § 254(c)(1). This should mean that Lifeline customers should be eligible for discounts on their broadband services, consistent with NASUCA’s previous positions. See *Sprint Spectrum LLC Petition for Declaratory Ruling*, WC Dockets 03-109 and 07-138, NASUCA Comments, pp. 3-4 (Aug. 9, 2007); see also *Comprehensive Reform Recommended Decision*, ¶71 and petitions cited in footnote 108, above.

Thus, at the outset at least, any universal service broadband support should only be available for wireline and WiFi/WiMax wireless broadband service.

The growth and public demand for mobile wireless broadband offerings presently falls significantly short of meeting Section 254(c)(1)'s standards in order to qualify for receipt of funding under the USF. In the future, it is conceivable that the existing mobile broadband networks may evolve into networks that could qualify for high-cost support based on the unique service capabilities inherent in wireless networks, just as both wireline broadband and standard wireless service have evolved to meet the Section 254(c)(1)'s criteria. The Commission should remain ready to address these networks at that time.

b. The Commission must address broadband funding in concert with a national broadband plan.

(i) Funding mechanisms should be revised to assess broadband services to support broadband funding.

Funding is perhaps the most critical question when it comes to considering whether to expand existing Federal universal service fund ("USF") programs to include broadband. As it stands, funding for USF comes from assessments on wireline and wireless telecommunications services. The Commission has deemed broadband to be an information service and, consequently, broadband services contribute nothing to universal service support. The escalating funding requirements for non-broadband USF have been a huge cause for concern and the subject of multiple comment cycles at the Commission. Broadband service prices (although they vary depending on location) are, in general, substantially higher than the rates for wireline telephone service supported by the USF programs. Further, broadband is not a substitute for the basic telephone service supported by the current USF's funding mechanisms.¹¹³ Expanding

¹¹³ Thus subscribers to a Lifeline broadband program should also continue to be eligible for Lifeline telephone service.

current USF programs to include broadband without assessing surcharges to broadband services to provide additional financial support would not be tenable. If the USF is to support broadband, the Commission must assess universal service support costs on broadband services.

The Joint Board, in its *Comprehensive Reform Recommended Decision*, proposed establishing separate universal service funds for broadband and wireless service. NASUCA supports this concept, provided that the crucial funding, statutory and definitional issues raised by the proposal are addressed.¹¹⁴ The national demand for broadband service and the broader public interest make it appropriate to define broadband as a supported service, and make necessary a new national goal that will achieve ubiquitous broadband services throughout both rural and non-rural carriers' territories at affordable and reasonably comparable rates.

Under the current USF, funding is available only for eligible telecommunications carriers ("ETCs").¹¹⁵ NASUCA recommends that FCC funding should also be available for broadband services offered in previously unserved areas by non-carrier recipients of Recovery Act funding (e.g., public entities and non-profit corporations). This would have to be provided under a broadband fund separate from the USF.

The *Comprehensive Reform Recommended Decision* did not specifically discuss how the broadband fund would be funded. In response to the Joint Board, NASUCA proposed that additional money for the broadband fund could come from a separate assessment on broadband services. The Commission previously assessed digital subscriber line ("DSL") service to support the entire USF but that assessment ended in 2006.¹¹⁶ As information services that use

¹¹⁴ See 96-45/05-337, NASUCA Comments on the Joint Board Recommended Decision, at 16-21 (April 17, 2008).

¹¹⁵ See 47 U.S.C. 214(e)(1).

¹¹⁶ *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order, 20 F.C.C.R. 14853 ¶¶ 112-113 (Sept. 23, 2005).

telecommunications, cable modem service and DSL are both within the Commission's discretion to assess for universal service purposes.¹¹⁷ Like traditional wireline voice services, broadband service shows "network effects." That is, the larger the network, the more value accrues to each user. These effects underlie and justify the entire universal service scheme and justify assessing broadband service to help pay for the expansion of broadband service for which the broadband fund will be created.

(ii) *High-Cost Model funds that currently support broadband-capable facilities should be quantified and acknowledged as broadband support.*

In addition to supporting broadband by expanding the USF funding base to include assessments on broadband services, the Commission should also take into account the fact that federal high cost support of telecommunications networks, by definition, supports the construction of broadband facilities. As the Commission noted in the NOI,

Although the High-Cost program does not explicitly support the provision of broadband, as do the Schools and Libraries and Rural Health Care programs, a carrier providing broadband services indirectly receives the benefits of high-cost universal service support when its network provides both supported voice services and broadband networks.¹¹⁸

Further, the Commission has acknowledged that:

Although advanced telecommunications and information services currently are not supported by the non-rural high-cost mechanism, the public switched telephone network is not a single-use network, and modern network infrastructure can provide access not only to voice services, but also to data, graphics, video, and other services. The Commission has found that the use of high-cost support to invest in infrastructure capable of providing access to advanced services is not inconsistent with the requirement in section 254(e) that support be used

¹¹⁷ 47 U.S.C. § 254(d).

¹¹⁸ NOI, ¶39.

“only for the provision, maintenance, and upgrading of facilities and services for which the support is intended.”¹¹⁹

Thus, it is clear that significant amounts of the current high-cost fund are actually used to fund investments in broadband service, as numerous carriers have acknowledged.¹²⁰ NASUCA recommends that existing funding used for broadband purposes be quantified and acknowledged as broadband support.

Adding funding for broadband to the USF will increase the strain on an already overburdened source unless current high-cost funding is transitioned to the broadband fund. Creating a separate assessment on DSL, cable modem and similar fixed wireline broadband services will alleviate the burden on current funding.¹²¹ And if the broadband fund were to begin in limited form as NASUCA has previously recommended, the effect on broadband customers should be minimal.¹²² One source estimated that U.S. broadband revenue for 2007 totaled \$31.4 billion.¹²³

¹¹⁹ *Federal-State Joint Board on Universal Service*, Notice of Proposed Rulemaking, 20 F.C.C.R. 19731, 19737-38 ¶12 (Dec. 9, 2005).

¹²⁰ See, e.g., *Hawaiian Telecom, Inc. Petition for Waiver of Sections 54.309 and 54.313(d)(vi) of the Commission's Rules*, WC Docket No. 08-4, Petition of Hawaiian Telecom, pp. 21-23 (Dec. 31, 2007).

¹²¹ As noted above, NASUCA does not propose that wireless mobility broadband service be eligible to receive money from the broadband fund. Given the network effects, it would nonetheless be appropriate to assess the growing wireless broadband services to pay into the broadband fund. The fact that wireless broadband services do not receive universal service funding is irrelevant to whether they should be required to pay into the broadband fund. First, long distance providers (“IXCs”) do not receive universal service funds, despite the fact that interstate long distance revenues have traditionally been the primary source of funding for the federal fund. Second, many non-rural local carriers receive no funding, despite the fact that they pay into the fund based on their subscriber line charges being considered to be interstate revenues, as well as based on their own interstate traffic. The very nature of the fund dictates, among other things, that there will be imbalances, by industry, by state, and by carrier between amounts paid into the fund and benefits received.

¹²² In its initial comments regarding the *Comprehensive Reform Recommended Decision*, NASUCA proposed a “Jump Start Mobility Trial” (see Appendix 1) that would fund limited expansion of mobility services to unserved areas in each state with construction starting as early as 2010. NASUCA recommends considering the same approach for the Broadband Fund.

¹²³ See <http://www.plunkettresearch.com/Telecommunications/TelecommunicationsStatistics/tabid/96/Default.aspx> (accessed March 20, 2008).

c. *Coordination with Recovery Act broadband stimulus.*

The Commission's effort to establish a national broadband plan should be coordinated with the work being undertaken by the NTIA and the RUS to implement the ARRA. For example, it would be counterproductive for the FCC, the NTIA and the RUS to adopt different definitions of terms such as “unserved and “underserved.”

Pursuant to the Recovery Act, the NTIA is undertaking a comprehensive effort to map the availability of broadband service and develop accurate data on unserved and underserved customers. It will be difficult for the Commission to develop an effective national broadband plan or to determine funding requirements without this data. Accurate data will be critical to the Commission's efforts to target broadband universal service funding to those customers and areas most in need, and to evaluate the success of such programs.

Further, the Commission should coordinate with NTIA and the RUS to track the receipt and expenditure of Recovery Act funds by broadband applicants. To the extent that such funds are used to construct additional facilities utilized by telecommunications carriers, they must be taken into account in the FCC’s assessment of additional funding needs. This would allow the Commission to work in concert with the NTIA and the RUS to leverage both stimulus program and universal service funds to maximize deployment and minimize double dipping by fund recipients.

4. Wireless Service Policies.

NASUCA notes that Skype’s petition requesting the Commission to apply the *Carterfone* doctrine to wireless telecommunications services has been pending before the FCC since 2007.¹²⁴ Consistent with the views expressed herein, NASUCA believes that the relief sought by

¹²⁴ *Skype Communication S.A.R.L.*, Docket No. RM 11361, Petition to Confirm a Consumer’s Right to Use Internet Communications Software and Attach Devices to Wireless Networks, (Feb. 20, 2007).

Skype – essentially the portability of equipment across wireless systems, as is currently the case throughout much of Europe – would lower the threshold to wireless broadband connectivity, and should be granted.

The Commission asks whether it should adopt mechanisms to encourage wireless broadband deployment in rural and tribal areas.¹²⁵ NASUCA generally supports a technology-neutral approach to deployment that ensures installation of the least expensive, most robust technology in each part of the country. If wireless services meet these requirements, then they should be eligible for funding, with important conditions.¹²⁶

First, any wireless provider that receives funding must furnish records and reports regarding its costs, service quality, progress of build-out, and other relevant information in the same manner as any other broadband provider. That is, the provider must submit to limited regulation so that the FCC is able to monitor the cost, progress and quality of its build-out.

Second, wireless carriers should not receive subsidies to build out broadband systems if market participants would build out the same or a comparable system unaided by subsidies. Mechanisms to encourage wireless broadband deployment should focus on areas that would not otherwise receive service, as they should for all broadband infrastructure.

¹²⁵ NOI, ¶42.

¹²⁶ As noted above, however, NASUCA does not support funding for mobile wireless broadband under the USF.

5. Open Networks Are Essential For Economic Growth and the Information Society as a Whole And Must Be Protected.

a. The value of open networks.

The FCC seeks “comment on the value of open networks as an effective and efficient mechanism for ensuring broadband access for all Americans.”¹²⁷ NASUCA respectfully suggests that the FCC’s question is too modest. We live increasingly in a world where information is power.¹²⁸ To ask whether the value of open broadband networks lies simply in ensuring “access for all Americans” says little. Access is a means to a multiplicity of ends that are essential for the well-being of the country. Thus, the “value of open networks” lies in the economic growth, political participation and consensus building,, social cohesiveness, cultural development, and democratic decision-making.

The economic growth triggered by an open and neutral network is reflected in a few names – Google, eBay, Amazon – but is a far deeper and wider phenomenon. There can be no doubt: What made this economic and cultural watershed possible was the Internet’s “end-to-end” nature, the fact that it is “dumb in the middle,” with its intelligence at the edges, allowing innovation by anyone who need “only connect.”¹²⁹ Thus, although the Commission does not

¹²⁷ NOI, ¶ 47.

¹²⁸ A literal application of this maxim is found in recent reports that the Obama administration is moving towards creating a military branch capable of waging digital warfare. Sanger/Shanker, “Pentagon Plans New Arm to Wage Cyberspace,” *New York Times*, p. A1 (May 28, 2009); *see also* Gravell, “Some Observations along the Road to “National Information Power,” 9 *Duke J. Comp. & Int’l L.* 401 (1999) (discussing information as a strategic asset, “at a time when virtually every aspect of life on Earth is hurtling headlong toward expression in informational form”); *see also* Testimony of Barbara van Schewick, *FCC En Banc Hearing on Broadband Network Practices*, Docket 07-52 (Stanford, April 17, 2008) (addressing business opportunity costs of information bottlenecks); *cf.* McLean, “1993 Call for Papers: Death and Rebirth of a National Information Policy: What We Had and What We Need,” 85 *LAW LIBR. J.* 743 (1993).

¹²⁹ Adam Werbach, “Only Connect,” 22 *Berk. Tech. L.J.* 1233, 1266 (2007) (“content and application providers at the edges of the internet [are] essentially becoming network operators themselves”); *see also* Werbach, “The Digital Broadband Migration: Rewriting the Telecommunications Act: Communications Law Reform: Breaking the Ice: Rethinking Telecommunications Law for the Digital Age,” 4 *J. on Telecomm. & High Tech. L.* 59, 62 (2005) (“Intelligence moves to the edges of the network”).

define “open network,” this concept is clearly connected to the “four freedoms” enunciated by the Commission in its *Internet Policy Statement*: citizens’ freedom to access content of choice; freedom to run applications and use services of their choice; freedom to connect devices of their choice; and freedom of competition among network, application and service providers.¹³⁰ These freedoms, in turn, strongly imply a common carrier model, where the conduit transports all content without discrimination,¹³¹ resulting in the “end-to-end” network that has enabled the U.S. economy to reinvent itself.¹³²

NASUCA believes that the Commission’s rejection of this common carrier principle in its *Wireline Broadband Order*¹³³ was a wrong turn. In a world where information is power, economic participation means open and universal access to such information. On the supply side, online access has become an integral part of U.S. manufacturing, and is increasingly

¹³⁰ NOI, ¶47, citing *Appropriate Framework for Broadband Access to the Internet over Wireline Facilities, et al*, Policy Statement, 20 F.C.C.R. 14986, 14988, ¶4 (Sept. 23, 2005) (“*Internet Policy Statement*”).

¹³¹ 47 U.S.C. § 202(a) (“It shall be unlawful for any common carrier to make any unjust or unreasonable discrimination in charges, practices, classifications, regulations, facilities, or services for or in connection with like communication service, directly or indirectly, by any means or device, or to make or give any undue or unreasonable preference or advantage to any particular person, class of persons, or locality, or to subject any particular person, class of persons, or locality to any undue or unreasonable prejudice or disadvantage”).

¹³² Lawrence Lessig, “Reply: Re-Marking the Progress in Frischmann”, 89 *Minn. L. Rev.* 1031, 1040 (2005) (“[T]he Internet was born with an end-to-end architecture. That architecture shifts intelligence in this network to the ends, or edge, so far as that is possible, and seeks to keep the network itself as simple as possible”). The end-to-end architecture was – at least at the terminating ends – in fact the architecture of the common-carrier telephone company distribution systems. See Werbach, “Digital Migration,” *supra*, at 76 (“The argument was that the open platform model used for the phone network had been the foundation for the Internet’s spectacular growth”); compare Speta, “A Common Carrier Approach to Internet Interconnection,” 54 *Fed. Comm. L.J.* 225, 279 (2002) (“common carrier obligations . . . provide a useful starting point for considering regulation of Internet interconnection issues”).

¹³³ *Wireline Broadband Order*, 20 F.C.C.R. 14853 (Sept. 23, 2005); see also *National Cable & Telecommunications Ass’n v. Brand X Internet Services*, *supra*, 125 S. Ct. at 2688.

necessary for job application, job training, and job performance.¹³⁴ On the demand side, online access has enabled a new world of commerce, and has the potential to narrow the information asymmetries that exist in society, for instance those between consumers and manufacturer/providers.¹³⁵ Broadband network operators become essential intermediaries in two-sided, indeed multi-sided, markets.¹³⁶ NASUCA reads the Commission's promulgation of the four freedoms in the *Internet Policy Statement* as tacit recognition that common carrier principles remain a prerequisite for continued and widespread economic growth.

Socially, FaceBook, MySpace and Twitter have changed the rules for social networking. The Internet has also provided new means for the dissemination of culture, and in many cases for the creation of culture.¹³⁷

¹³⁴ Frieden, "Killing with Kindness: Fatal Flaws in the \$6.5 Billion Universal Service Funding Mission and What Should be Done to Narrow the Digital Divide," 20 *Cardozo Arts & Ent. L.J.* 447, 454 and n.25 (2002) ("efficient, effective, and widely available telecommunications services can stimulate social and economic development by providing the vehicle for greater commerce, political discourse, education, and delivery of government services such as job training"). Job openings and application procedures are increasingly available primarily, if not exclusively, in online form. See <http://agency.governmentjobs.com/sfmuni/default.cfm?action=agencyspecs> (job openings for SF Muni busdrivers and mechanics -- "Email notification is sent on the date the job announcement is posted. Some Entrance positions may be open for filing for one day only").

¹³⁵ As one economic analyst put it:

In the past, retailers could make profits from what economists call "*information asymmetry*": sellers knew much more about prices, quality, and value than consumers did, in large part because good information for consumers was either hard to obtain or just not available at all. Today, it's easy to research and comparison-shop, and most consumers do it for at least some of their purchases.

Surowiecki, "A Buyer's Christmas," *New Yorker* (Dec. 24, 2007) (emphasis added), available at http://www.newyorker.com/talk/financial/2007/12/24/071224ta_talk_surowiecki. At the same time, telecommunications carriers (and other providers of goods and services) are collecting a tremendous amount of information relating to "customer information profiles." See Glazer, "Winning in Smart Markets," 40:4 *Sloan Management Rev.* 62 (1999). Again, privacy concerns are triggered, and transparency is imperative.

¹³⁶ See, e.g., Werbach, *Only Connect*, *supra*, 22 BERK. TECH. L.J. at 1274 and n. 188.

¹³⁷ Tomassini, *YouTube Symphony Orchestra Melds Music Live and Online*, NEW YORK TIMES (April 16, 2009) available at http://www.nytimes.com/2009/04/17/arts/music/17symphony.html?_r=1&scp=1&sq=youtube%20orchestra&st=cse.

Perhaps the most fundamental value of open access is its potential to inform, to promote political discourse and to enable meaningful political participation across disparate groups.

Professor Lessig draws the connection between structure and speech:

The architecture of the Internet, as it is right now, is perhaps the most important model of free speech since the founding. This model has implications far beyond e-mail and web pages. Two hundred years after the framers ratified the Constitution, the Net has taught us what the First Amendment means.¹³⁸

Although rarely mentioned in network neutrality or network management debates, the constitutional values at play here are essential and fundamental: “It is the right of the public to receive suitable access to social, political, aesthetic, moral and other ideas and experiences which is crucial here.”¹³⁹ The non-discrimination and interconnection obligations in the Recovery Act represent Congress’ recognition that an essential input for all these varieties of online activity is an open and neutral network:

Concurrent with the issuance of the Request for Proposal for grant applications pursuant to this section, the Assistant Secretary shall, in coordination with the Commission, publish the *non-discrimination and network interconnection obligations* that *shall be contractual conditions of grants awarded under this section*, including, at a minimum, adherence to the principles contained in the

¹³⁸ Lawrence Lessig, *Code and the Law of Cyberspace*, p. 167 (1999),

¹³⁹ *Red Lion Broadcasting v. FCC*, 395 U.S. 367, 390 (1969) (affirming the broadcasting Fairness Doctrine); *see also Associated Press v. U.S.*, 326 U.S. 1, 20 (1945) (First Amendment “rests on the assumption that the widest possible dissemination of information from diverse and antagonistic sources is essential to the welfare of the public”); *Red Lion*, *supra*, 395 U.S. at 390 (“right of the public to receive suitable access to social, political, esthetic, moral, and other ideas and experiences; *Richmond Newspapers, Inc. v. Virginia*, 448 U.S. 555, 575-76 (1980), quoting *First National Bank of Boston v. Bellotti*, 435 U.S. 765, 783 (1978) and *Kleindienst v. Mandel*, 408 U.S. 753, 762 (1972) (“[The] First Amendment goes beyond protection of the press and the self-expression of individuals to prohibit government from limiting the stock of information from which members of the public may draw”; “In a variety of contexts this Court has referred to a First Amendment right to ‘receive information and ideas.’”). *Red Lion* remains the most explicit expression in United States constitutional jurisprudence of a First Amendment right to receive information. *Red Lion* has fallen into semi-obscurity, however, while the Fairness Doctrine has been increasingly marginalized, and finally declared unconstitutional by the FCC. *See* OWEN FISS, *IRONY OF FREE SPEECH*, at 58-74 (Harv. U. Press, 1996) (providing a detailed description of the rise and subsequent fall into obscurity of *Red Lion*). While the Fairness Doctrine might not have been the most efficient mechanism to achieve these constitutional goals, NASUCA believes that protection of the Internet’s end-to-end functionality offers efficient structural protection for constitutionally desirable viewpoint diversity.

Commission's broadband policy statement (FCC 05-15, adopted August 5, 2005).¹⁴⁰

b. The threat to open networks.

The threat to open networks (*i.e.*, the common carrier or end-to-end model) comes primarily from vertically-integrated carriers seeking to market content (or services) along with their basic transport function.¹⁴¹ Recent history has made quite clear that there is both a motive and a capability to disrupt this “end-to-end” equality of access. Although some have declared that the net neutrality issue is “dead,”¹⁴² Free Press’ recent petition to the FCC pointed out that the issue, by whatever name, remains with us:

Because of Comcast’s recent practices – which consist of precisely the most egregious network neutrality violations that concerned by “alarmist” network neutrality advocates – there now remains no doubt that the empirical threat to network neutrality is real and upon us. Because Comcast claims its actions conform to the FCC’s [Internet] Policy Statement, unless the FCC acts, even broadband service providers which agreed in merger agreements to follow the Policy Statement – such as Verizon and AT&T – may feel emboldened to engage in activity mirroring Comcast’s.¹⁴³

The Commission granted Free Press’ complaint, finding Comcast’s undisclosed traffic-shaping practices to be violation of the four freedoms.¹⁴⁴ Although Comcast claimed it was merely “delaying” that traffic, Free Press translated the harm into non-technical terms:

¹⁴⁰ Pub. L. No. 111-5 § 6001(j).

¹⁴¹ Compare Crawford, “The Internet and the Project of Communications Law,” 55 *UCLA L. Rev.* 359, 406 (2007) (claims of Christopher Yoo and others favoring “vertically integrated” network operators “are based on a supply-chain view of communications that dictates optimizing infrastructure for a particular kind of use, and that takes the systemic, human reality of communications as exogenous”).

¹⁴² Declan McCullough, “Ten Things That Killed Net Neutrality,” *C/NetNews.com* (Sept. 6, 2007), http://www.news.com/8301-13578_3-9773538-38.html.

¹⁴³ *Broadband Industry Practices*, WC Docket No. 07-52, Free Press Petition, p. 7 (Nov. 2, 2007) (“Free Press Petition”).

¹⁴⁴ *Formal Complaint of Free Press and Public Knowledge Against Comcast Corporation for Secretly Degrading Peer-to-Peer Applications*, Memorandum Opinion and Order, 23 F.C.C.R. 13028 (Aug. 20, 2008).

Alice telephones Bob, and hears someone answer the phone in Bob's voice. They say "I'm sorry Alice, I don't want to talk to you", and hang up. Except, it wasn't actually Bob who answered the phone, it was Comcast using a special device to impersonate Bob's voice. Comcast might describe this as 'delaying' Alice and Bob's conversation, on the theory that perhaps they'll keep calling each other until some day when Comcast isn't using their special device. They may also invoke the theory that Alice will call other people who are a lot like Bob, but aren't on Comcast's network, so her conversation will only be delayed.¹⁴⁵

Earlier examples of Internet blocking are also on the record.¹⁴⁶

The economic incentive of network operators to block, degrade, delay or distort the traffic of potential competitors is obvious and the inevitable product of committing essential communication facilities to an unregulated marketplace.¹⁴⁷ Providers of network routing devices employed by network operators tout their ability to "create bottlenecks" and "sticky" interfaces that will allow the service provider to extract maximum revenue from its traffic.¹⁴⁸ The threat remains real, even if network operators are temporarily refraining from the worst of such actions because of adverse publicity or the threat of effective net neutrality legislation.

¹⁴⁵ Free Press Petition, at 11, quoting an Electronic Frontier Foundation blog.

¹⁴⁶ *Madison River Communications, LLC and Affiliated Companies*, Order, 20 F.C.C.R. 4295 (March 3, 2005).

¹⁴⁷ See, e.g., van Schewick, "Towards an Economic Framework for Network Neutrality Regulation," 5 *J. Telecomm. & High Tech. L.* 329, 342-68 (2007).

¹⁴⁸ Financial incentives for network manipulation are also evidenced by the description of network control mechanisms in industry whitepapers: In Cisco System's *Cisco and Service Provider IP*, Cisco asserts says the reasons to move to Cisco's "next generation network" include: "Regaining control of networks and the services that run on them to increase control of the business," which allows the network operator to "offer new value-added services (far beyond connectivity) for top-line revenue growth." Cisco concludes "To use an analogy, carriers must move from a basic 'highway' service structure to a 'toll-way' service structure to reap benefits of their broadband investment." Similarly, Alcatel's *Exploiting IP Networks to Create Sticky Services* counsels that "benefits [of 'sticky services'] are lower churn and new sources of revenue." Operax' *Efficient network resource control – a source of competitive advantage* paper notes that "to maximize revenues for value added services there must be clear perceived difference in the performance between these services and lower quality services running [on the rest of the Internet]. *Bottlenecks are the foundation of this differentiation . . .* bottlenecks may be actual resource bottlenecks or managed gates in the network" (emphasis added). Papers are on file with NASUCA counsel.

c. *Protecting open networks.*

The “layered” nature of “next generation networks,” allowing many different information-centric applications (*e.g.*, telephony, email, data, search, radio and video) to ride on a common transport or network layer,¹⁴⁹ both increases the ability of network providers to discriminate and provides the remedy for such discrimination.

Because the Commission specifically invites “comment on any national broadband policies or programs adopted by other nations or international organizations that may be useful to the Commission,”¹⁵⁰ NASUCA here describes a solution advanced by the Commission’s British counterpart, Ofcom.

Several years ago, Ofcom decided that British Telecom had obtained such a degree of significant market power in both last-mile and backhaul segments of the network as to constitute an impediment to competition. These dangers led to a negotiated “functional separation”

¹⁴⁹ While there is general agreement about the layered nature of IP networks, there are “numerous competing models.” Sicker & Blumensaadt, “The Layered Regulatory Model Debate: Misunderstanding the Layered Model(s),” 4 *J. Telecomm. & High Tech. L.* 299 (2006) (overview of various models, with different regulatory consequences).

Next generation networks (“NGNs”) are described in a recent consultation document of the European Regulators Group, as:

Electronic communications networks [are] becom[ing] packet switched, mostly or completely based in the IP [Internet Protocol]. They will be multi-service networks, rather than service specific networks for audio (including voice), video (including TV-services) and data networks, allowing a decoupling of service and transport provision... A core feature of IP networks is the separation of ... transport and service. This distinction potentially allows competition along the value chain more easily than in the PSTN [telephone] world. A crucial point is the adoption of open and standardized interfaces between each functional level in order to allow third parties to develop and create services independent of the network.

ERG Consultation Document on Regulatory Principles of IP-IC/NGN Core (ERG 08) 26rev1, at 96-97, available at http://www.erg.eu.int/doc/publications/consult_ngo_2008/erg_08_26rev1_consul_ip_ngo_080604.pdf. The ERG sees the separation of transport and service layers as a natural and inherent characteristic of such networks.

¹⁵⁰ NOI, ¶51.

between British Telecom and its underlying transport subsidiary, Openreach.¹⁵¹ All the last-mile *and backhaul* infrastructure of British Telecom was put into Openreach, a separate, ring-fenced, wholesale-only division, which was then required to sell access to this infrastructure *on the same terms* to BT and to third-party service providers.¹⁵² The genius of the functional separation approach is in this core concept of “equivalence of inputs,”¹⁵³ which creates a level playing field for third-party competitors. At the same time, this enforced separation – policed by Ofcom with full subpoena powers – solves the most difficult problems associated with vertically integrated network operators. This approach has led to an explosion of new service providers, a lowering of price, and general acceptance by both industry and consumers.¹⁵⁴ Britain’s approach has also led to proposals before the European Commission to expand this approach throughout Europe (Sweden is currently its other largest proponent), requiring the separation of the transport layer

¹⁵¹ In 2002, the British Parliament passed the Enterprise Act, which greatly strengthened antitrust enforcement in England. See http://www.opsi.gov.uk/acts/acts2002/ukpga_20020040_en_1.htm. Also in 2002, Parliament passed a Communications Act creating the Office of Communications (Ofcom), and in 2003 passed another Communications Act authorizing Ofcom to enforce provisions of the Enterprise Act, and to police anti-competitive conduct or situations in the communications markets. See 2003 Act, at §§ 369, available at http://www.opsi.gov.uk/acts/acts2003/ukpga_20030021_en_1. This legal authority resulted in a settlement between Ofcom and British Telecom in 2005, “Undertakings given to Ofcom by BT pursuant to Enterprise Act 2002,” found at <http://www.ofcom.org.uk/telecoms/btundertakings/btundertakings.pdf> (“Undertakings”).

¹⁵² In the Ofcom/BT model, Openreach was located in a separate building, and had separate management and incentive structures. *Id.* The concept of functional separation received recent domestic exposure at a day-long conference sponsored by Columbia’s Institute for Tele-Information (CITI). The presentations are available here, <http://www4.gsb.columbia.edu/citi/networkseparation>, including presentations by Eli Noam, Kevin Werbach, and BT Global Services Chief Counsel Richard Nohe.

¹⁵³ The BT Undertakings also require such non-discriminatory provision of service. See Undertakings, *supra* note [656], at ¶ 3.1.1 (“BT shall apply Equivalence of inputs to the following [wholesale] products . . .,” defined as provision of “the same product or service to all Communications Providers (including BT) on the same timescales, terms and conditions”).

¹⁵⁴ Ofcom published a report on May 29, 2009, confirming these results. See www.ofcom.org.uk/telecoms/btundertakings/impact_sri/; see also “Functional Separation: the UK Experience,” Presentation of Ofcom’s Tom Kiedrowski, available at <http://www.wik.org/content/erc/Kidrowski,%20Tom%20-%20%200408.pdf>. Even BT’s Chief Counsel Richard Nohe has agreed that the functional separation agreement had provided “increased clarity” and competition. See http://www4.gsb.columbia.edu/rt/null?&exclusive=filemgr.download&file_id=69168&rtcontentdisposition=filename%3DNohe.pdf

from the applications (service and content) layer of any future network; whereby the transport layer would be run effectively as a common carrier.¹⁵⁵

Whether or not Britain's approach merely represents a species of unbundling more effective than the aborted experiment in competition reflected in the 1996 Telecommunications Act¹⁵⁶ (effectively killed by court and FCC action) may be debated. What is clear is that this separation of conduit from services and content goes a long way toward protecting an open and neutral broadband network. It reflects a *balancing* of competing speech interests, in which the scales tip in favor of the speech interests of the millions rather than those of the network

¹⁵⁵ A November 13, 2007 draft amendment to the EC's Directives 2002/21/EC on a Common Regulatory Framework for Electronic Communications Networks and Services, 2002/19/EC on Access to, and Interconnection of, Electronic Communications Networks and Services, and 2002/20/EC on the Authorization of Electronic Communications Networks and Services, calls for a new Article 13a to be inserted into the Access Directive, providing in relevant part:

A national regulatory authority may, in accordance with the provisions of Article 8, and in particular the second subparagraph of Article 8(3), impose an obligation on vertically integrated undertakings to place activities related to the wholesale provision of access products in an independently operating business unit.

That business unit shall supply access products and services to all undertakings, including other business units within the parent company, on the same timescales, terms and conditions, including with regard to price and service levels, and by means of the same systems and processes.

The document is accessible (along with useful background information) through the EurActiv website at <http://www.euractiv.com/en/infosociety/telecoms-internet-regulation-review/article-169286#links>; compare common carrier duty of non-discrimination under U.S. law, 47 U.S.C. § 202. Ofcom's model resembles the "structural separation" found in the energy sector. See e.g., Reiter, "The Contrasting Policies of the FCC and FERC Regarding the Importance of Open Transmission Networks in Downstream Competitive Markets," 57 *Fed. Comm. L.J.* 243, 254 (2005) (requirement that gas pipelines "unbundle (i.e., separate) their sales services from their transportation services at an upstream point near the production area").

¹⁵⁶ See *AT&T v. Iowa Utilities*, 525 U.S. 366, 370 (1999) ("Technological advances, however, have made competition among multiple providers of local service seem possible, and Congress recently ended the longstanding regime of state-sanctioned monopolies"); *United States Telecom Ass'n v. FCC*, 359 F.3d 554 (D.C. Cir. 2004).

owner.¹⁵⁷ To protect a democratically constitutive plurality of voices, opinions, and information on next generation networks, lawmakers and regulators will have to require a transport system with “open and standardized interfaces.”¹⁵⁸ This is where common carrier and First Amendment interests meet.

6. Competition.

The Commission should take note of studies that demonstrate the economic impossibility of platform competition for most countries.¹⁵⁹ The underlying transport layer is at least a bottleneck, if not a natural monopoly. For this reason, NASUCA believes that some form of *effective* unbundling is necessary, perhaps along the lines of the functional separation described above. The network operator’s control of the broadband “pipe” invites the network operator to suppress content. This is most clearly seen in the proposals of Time Warner to introduce tiered pricing for broadband use, while at the same time excluding its own video-on-demand services from any usage caps. Thus, the network operator is in a position to squelch the service offerings

¹⁵⁷ The word “balancing” is a loaded term in First Amendment jurisprudence, implicating the old debate among First Amendment “absolutists” and “relativists.” *Compare, e.g., Konigsberg v. State Bar of California*, 366 U.S. 36, 61 (1961) (Black, J., dissenting) (“I believe that the First Amendment’s unequivocal command that there shall be no abridgement of the rights of free speech and assembly shows that the men who drafted our Bill of Rights did all the ‘balancing’ that was to be done in this field”); Stembridge, “Adjusting Absolutism: First Amendment Protection for the Fringe,” 80 *B.U. Law R.* 907, 911-919 (2000) (describing the different strains of absolutism, Justice Black and Prof. Meikeljohn *inter alia*, and noting that “the Supreme Court has never accepted the absolutist position”). Many of the classic “balancing” cases pitted First Amendment “rights” against other interests, whereas with the evolution of First Amendment law and electronic networks the Court is now more prone to see important First Amendment interests on both sides of the equation.” *Turner Broad. Sys. v. FCC*, 520 U.S. 180, 227 (1997) (Breyer concurrence) (finding that must-carry statute at issue “strikes a reasonable balance between potentially speech-restricting and speech-enhancing consequences”).

¹⁵⁸ *ERG Report*, at 96-97 (discussed at n.107, above). The argument to be made against this is essentially the same argument made by cable companies in Germany and United States against retransmission requirements, and more recently even by telephone companies with regard to common carrier obligations: the imposition of public interest duties infringes on the economic (or speech) rights of the underlying network owners.

¹⁵⁹ See WIK Consulting, *The Economics of Next Generation Access*, Executive Summary ¶ 9, available at http://www.wik.org/content_e/ecta/ECTA%20NGA_masterfile_2008_09_15_V1.pdf (concluding that fiber deployment “is not profitable in any of the six countries analyzed on the basis of current costs.”).

of third-party providers of such services, such as Netflix. The conflict of interest is as obvious as it is poisonous to an open Internet.

7. Other Mechanisms.

The Commission might also profitably consider the plan in Australia to employ public-private partnership to build and operate a fiber-optic broadband network reaching 90% of homes and workplaces. Wireless and satellite technology would be used to reach the remaining 10% in the outback.¹⁶⁰ Proponents of Australia's program argue that the government-subsidized network promises myriad opportunities for online businesses and enhancements to energy efficiency, media distribution and public safety.¹⁶¹ Consumers would benefit from the increased competition and lower monthly rates; whether those benefits would amortize the tax bill required for such construction is a matter that at least deserves further study.

D. AFFORDABILITY AND MAXIMUM UTILIZATION.

In addition to affordability, other initiatives that should be considered regarding the Recovery Act's instruction to the FCC to develop a plan that will advance consumer welfare, and a host of other public interest objectives. The National Broadband Plan should include an educational program and incentives that encourage broadband consumption. The education efforts should be oriented toward "lifelong learning," which will ensure that all members of society will have sufficient knowledge to understand the benefits of information technologies, including broadband.

The promotion of broadband consumption should leverage telework, telehealth, electronic commerce, electronic government, and distance-education activities as key focus areas. Special attention should be given to demonstrating the utility of broadband applications in

¹⁶⁰ See *Rural Broadband Report*, p. 178 ¶119.

¹⁶¹ See <http://benton.org/node/25559>.

areas that will meet, for example, the independent living assistance broadband can provide the elderly and disabled; the benefit that broadband can provide with employment training; and the benefits that broadband provide in healthcare provision for all persons. The broadband plan developed by the Commission should also make special efforts to target those, such as the elderly, disabled, and low income populations that may be less inclined to recognize the benefits that broadband can bring. Promotion of broadband to serve the public interest objectives envisioned in the Recovery Act should include the following:

- Tax incentives to encourage consumption;
- Formation of government/industry working groups to identify and address impediments to the adoption of broadband solutions;
- Programs that promote the refurbishment and distribution to low-income households of discarded but serviceable computers, to ensure the availability of computers in low-income households;
- Public service advertising;
- Expanding digital government initiatives;
- Expanding adult/community education programs targeting broadband and computer use; and
- A national initiative to ensure a minimum level of technology education in schools and other appropriate venues.

1. Affordability.

The Commission seeks comment on how it should define “affordability” with respect to broadband access.¹⁶² If broadband is to be a supported service under Section 254 of the FCA, it must meet the tests set out in the statute and, therefore, must be “affordable.” A definition of the terms “affordable” or “affordability” should take three factors into account:

- Subscribership/take rates;

¹⁶² NOI, ¶54

- The price of a service relative to the national average price of broadband; and
- The ratio of service price to median household income.

In its comments to the NTIA and the RUS regarding the broadband stimulus programs established by the Recovery Act, NASUCA recommended judging the affordability of prices for service contained in grant applications by measuring the proposed monthly retail service cost as a percentage of an area's median household income, and then comparing this with the national average monthly broadband service cost as a percentage of the average median household income. Comparing the average monthly broadband service cost as a percentage of the average median household income is a reasonable starting point for developing a definition of "affordable." The Commission should develop a process to adjust for marketplace changes to such factors as the number of competitors and/or service options, price and income levels.

While relying on national averages is convenient, for a national broadband plan to succeed, it is important for the Commission to take regional differences into account when considering whether broadband service is affordable. Differences in income levels in different parts of the country, and even within a given state, can mean that a national average price that is affordable in some areas is unaffordable in others. Given this circumstance, it would make sense for the Commission to cooperate with states to develop a process to allow states to make determinations about affordability, consistent with criteria established by the Commission. In particular, the Commission should solicit additional information in the form of comments to more fully explore how it might develop and apply the concept of affordable service in the course of implementing a broadband Lifeline pilot program. Parties should be asked to provide detailed information about the criteria for determining affordable prices for other essential

services and examples of programs in which regional differences are accounted for when determining eligibility for support.

As discussed elsewhere in these comments, NASUCA supports the adoption of a pilot broadband Lifeline program. The success or failure of both a pilot and the National Broadband Plan will depend on consumer take rates. The pilot program would provide an opportunity for the Commission to explore options such as subsidizing installation and monthly subscription costs and supplying computers. There are synergies with the concept of a Commission-sponsored pilot program and the broadband projects that will be funded under the Recovery Act. For example, under the Recovery Act, training and education for broadband will be funded. It is also the case that there are many community-based projects already being undertaken throughout the country that focus on broadband education, training and distribution of equipment.

One of the challenges facing the Commission in the development of a National Broadband Plan is to integrate new initiatives with the work that is already being carried out. The NTIA has received a great deal of information about such projects and the Commission should coordinate with the NTIA to determine how to utilize these resources effectively. By running a pilot program and assessing the results in terms of subscribership, the Commission will learn a great deal about what price level represents affordable broadband service.

2. Maximum Utilization.

For any national broadband plan to succeed, it must incorporate elements designed to support adoption of broadband, not just deployment. In particular, community-based education that employs innovative methods of engaging populations who are unfamiliar with either the technical aspects of broadband or the multitude of uses to which it can be put would be fundamental to overall success of the national plan.

Again, this is an opportunity to make maximum use of the broadband stimulus funding under ARRA. In its comments to NTIA/RUS, NASUCA offered detailed recommendations about how to maximize adoption rates on the part of communities that are currently underserved. These recommendations are also relevant to the effort now being undertaken by the Commission. For example, a major impediment to effective use for many people is a basic unfamiliarity with computers and the internet. Public computing centers can play an important role in breaking down this barrier and stimulating broadband adoption, provided that the programs are designed in a user friendly manner and offer skills and information that would encourage participation by the people in a community. Key measures for a successful program would include:

- Ensuring that public computer centers are able to accommodate special needs, through the use of measures such as providing material in multiple languages, large print, having no physical barriers to access, providing ergonomic work stations, and offering voice recognition software.
- Ensuring that public computer centers should provide clear, user-friendly written instructions, in appropriate languages.
- Ensuring that public computer centers should offer a curriculum that allows residents of the community to make full use of the broadband facilities. Successful projects will offer more than just open laboratories.

There are two components to such a curriculum: (1) training on how to effectively use the computer and the Internet/World Wide Web; and (2) training that will encourage adoption of broadband. The curriculum should be designed to serve community members at different levels of knowledge - from the most basic beginner to more advanced students who already have some knowledge of computers.

Training to use the technology effectively should include hands-on instruction on topics such as:

- Using word-processing software to prepare a resume;

- Troubleshooting technical problems;
- Using a web browser and setting up e-mail accounts;
- Privacy safeguards and Internet scams and fraud;
- Conducting research using the World Wide Web;
- Filling out applications on a computer; and
- Understanding the differences between software operating systems (*e.g.*, Windows vs. Mac).

Training to provide community members with the ability and incentive to use broadband services should focus on accessing interesting, relevant content available through the Internet, such as:

- Using broadband as means for participants to learn about their history and culture;
- Job hunting;
- Improving language skills;
- Using online curriculum to prepare for a GED;
- Obtaining school assignments online; and
- Social networking.

These are examples of the information that would be conveyed in a curriculum that could successfully enable and encourage use of broadband.

As for locations where such training and information could be provided to enhance individuals' experience and utilization of broadband services, NASUCA offers the following recommendations but notes that this is clearly a non-exhaustive list:

- Public computer centers should be accessible to low income neighborhoods, both in terms of location and hours. They should provide services during evenings and weekends.

- Public computer centers offered by Community Colleges should be open to the entire community, at no charge, or for a small flat fee. Students should not be charged additional fees to utilize the lab. Community colleges should consider holding training off-site to encourage broader participation.
- Recipients such as libraries and community colleges should be encouraged to partner with community-based organizations.

In seeking to maximize broadband utilization, NASUCA urges the Commission to give community-based organizations a prominent place in the National Broadband Plan. Community-based organizations play a major role in providing people access to computers with broadband as well as training and support services. Such organizations have proven success in providing services to populations not otherwise reached. By establishing computer learning centers at already established community-based organizations, families have ready access to the computers, employment counseling, continued education, literacy classes, “English as a Second Language” programs, citizenship classes, and emergency services. Many hard-to-reach youth feel more comfortable in computer technology programs that are not located on school grounds. By extending the eligible programs to include off campus programs, a greater number of hard-to-reach students can be targeted and served.

All of these measures would greatly improve the chances of implementing a successful national broadband plan. It is imperative that the Commission coordinate with the NTIA to share information about the success and failures of various projects and approaches. NASUCA would support the development of a clearinghouse of information pertaining to outreach and computer and broadband training initiatives, as suggested by the Commission.¹⁶³ Such a clearinghouse could provide a forum for gathering data for use in periodic evaluations of the broadband plan,

¹⁶³ NOI, ¶57.

and should also provide opportunities for organizations involved in outreach and training to share information with each other.

3. Broadband Privacy.

Telecommunications customer privacy issues have long been subject to scrutiny and protection at both the state and federal levels. Concerns about the treatment and use of customer proprietary network information (“CPNI”) by telecommunications carriers had been examined repeatedly by the states. Federal CPNI protections were finally established by the addition of 47 U.S.C. § 222 in the 1996 amendments to the FCA.¹⁶⁴

Among the chief concerns of consumer advocates with respect to telecommunications CPNI is the ability of the carriers to engage in the practice of “data mining.” Data mining refers to the analysis of customers’ private call detail that can be used for customer profiling in conjunction with other data bases, in order to identify people based on information customers consider to be private such as data pertaining to income, medical conditions, academic information, ethnicity and many other characteristics.¹⁶⁵ This sensitive information can be used for unwanted marketing or for purposes that could be harmful to customers, such as insurance profiling. Telecommunications carriers took concerns about the inappropriate use of CPNI to new territory when it was revealed that AT&T had created a secret wiretapping room to redirect customer Internet data to data mining equipment installed by the National Security Administration.¹⁶⁶ With this development, it became abundantly clear (if it was not already) that privacy issues should be front and center of any consideration of the social, cultural, economic

¹⁶⁴ 47 U.S.C. § 222.

¹⁶⁵ See NASUCA Resolution 2007-5, Telephone Customer Privacy (June 27, 2007), available at www.nasuca.org/resolutions.

¹⁶⁶ “Whistle-Blower Outs NSA Spy Room,” *Wired* (Apr. 7, 2006), available at <http://www.wired.com/science/discoveries/news/2006/04/70619>.

and political implications of the increased integration of telecommunications networks and computers.¹⁶⁷

The same data mining concerns that are of concern with respect to telecommunications, apply ten-fold with respect to broadband services. The Center for Digital Democracy summarizes this issue as follows:

Online marketers have deployed an elaborate system of digital surveillance on consumers that tracks, compiles, and analyzes our movements across the Internet, from log-on to sign-off. Consumers' online activities and experiences are monitored, with data about our "behaviors" used to compile "profiles" controlled by marketers and third parties.¹⁶⁸

For the past decade, the Federal Trade Commission ("FTC") has addressed the practices of online behavioral advertisers, engaged in the practice of tracking online activities in order to deliver advertising supposedly tailored to an individual's interests. In February, 2009, the FTC issued a report setting forth revised principles for self-regulation by Internet advertisers, web sites and service providers.¹⁶⁹ However the FTC's narrow focus was decried by Commissioner Pamela Jones Harbour who issued the following statement:

Threats to consumer privacy abound, both online and offline, and behavioral advertising represents just one aspect of a multifaceted privacy conundrum surrounding data collection and use. I would prefer that the Commission take a more comprehensive approach to privacy, and evaluate behavioral advertising within that broader context.

More recently, on June 2, 2009, the White House announced its intent to monitor the FTC's self-regulatory programs "and assess whether they provide adequate transparency,

¹⁶⁷ See "Privacy in the Clouds: Risks to Privacy and Confidentiality from Cloud Computing," prepared by Robert Gellman for the World Privacy Forum (Feb. 23, 2009), available at http://www.worldprivacyforum.org/pdf/WPF_Cloud_Privacy_Report.pdf.

¹⁶⁸ "Behavioral Targeting and the Online Assault on Personal Privacy," Center for Digital Democracy, available at <http://www.democraticmedia.org/node/401>.

¹⁶⁹ <http://www.ftc.gov/opa/2009/02/behavad.shtm>.

consumer control and ‘reasonable security of consumer data.’”¹⁷⁰ The FTC is to be responsible for determining what particular practices constitute unfair and deceptive acts under this policy initiative.

While the job of policing the treatment of customer-specific data collected through on-line activity falls to FTC, this Commission nonetheless has a key role to play in addressing several privacy concerns. *First*, the Commission has jurisdiction over the telecommunications companies that carry telecommunications and broadband traffic, and it should coordinate with states to ensure that CPNI requirements are being met. *Second*, public education will be a key aspect of the national broadband plan being developed by the Commission. The Commission should coordinate with the NTIA and the RUS to ensure that education programs, including but not limited to those supported with ARRA funds, include information that will enable broadband users understand the privacy issues associated with using the Internet, the ramifications of data mining and how to take any possible measures to safeguard their privacy. *Finally*, the Commission should coordinate with FTC to obtain information about the extent to which the FTC’s measures are successful and identify situations where Commission action could aid in securing privacy protections.

E. STATUS OF DEPLOYMENT.

1. Subscribership Data and Mapping.

NASUCA has addressed most of the issues the Commission wishes parties to address in this part of the NOI elsewhere in its comments.¹⁷¹ However, there is one question the FCC raises that NASUCA will address here, namely whether measurement of broadband deployment by

¹⁷⁰ <http://online.wsj.com/article/BT-CO-20090602-708994.html>.

¹⁷¹ See Section B.3, above.

Census Tract adequately captures deployment on tribal lands or in rural areas.¹⁷² In its comments to the NTIA/RUS, NASUCA recommended that information contained in the broadband map developed pursuant to Section 6001(l) of the Recovery Act should be provided at the lowest level of disaggregation available (such as by Census Block or, if available, Census Tract).¹⁷³

While NASUCA stands by that recommendation, broadband data collected and displayed by the Commission (and the NTIA) should be disaggregated to the maximum extent possible - ultimately to the street address level. For rural (and similarly tribal) areas, Census Tracts remain too large to provide sufficient granularity or detail to be particularly useful bases upon which to collect and display broadband deployment data. Since the national broadband plan being developed will be very much a work-in-progress for the foreseeable future, NASUCA urges the FCC to strive for the utmost granularity and detail in maps and data developed in accordance with the both the BDIA and Recovery Act.

2. Stimulus Grant and Loan Programs.

NASUCA's comments elsewhere have addressed coordination of the FCC's efforts to implement Congress' directive to develop a National Broadband Plan, with the broadband funding programs being implemented by the NTIA and the RUS.¹⁷⁴ That said, NASUCA believes that the interagency work group established by the Obama Administration – or the interagency task force it previously recommended – should have coordinating the collection and sharing of broadband data collected by the FCC, the NTIA and the RUS as one of its primary

¹⁷² NOI, ¶61.

¹⁷³ NASUCA NTIA/RUS Comments, p. 39.

¹⁷⁴ *See, e.g.*, pp. 46, 51-52, above.

tasks. In addition, with respect to the Commission's request for comment whether the information regarding grants it must monitor under the Recovery Act is limited to the NTIA's grant program or whether that monitoring extends to the RUS' broadband funding programs.¹⁷⁵ NASUCA believes that FCC monitoring of these programs is permitted under the Recovery Act. More importantly, given some of the criticisms and concerns raised regarding the RUS' implementation of its broadband funding programs in the past,¹⁷⁶ NASUCA believes that FCC monitoring of these programs is vital to ensuring that they are implemented in a manner that furthers Congress' goals.

F. SPECIFIC POLICY GOALS OF THE NATIONAL BROADBAND PLAN.

1. Advancing Consumer Welfare.

With regard to this element of the NOI, NASUCA suggests that consumer welfare will be maximized if the following three conditions are met, each of which is discussed elsewhere in these comments. *First*, consumer welfare will be maximized if the transport component of broadband service is regulated as a monopoly and public good. *Second*, consumer welfare will be maximized if access to the broadband network is regulated under enforceable rules of open access and net neutrality for all providers or potential providers of applications, services and information. *Finally*, consumer welfare will be maximized if access to the network is made available, accessible and affordable for all consumers.

¹⁷⁵ The Commission erroneously refers only to "grants" in connection with the RUS program. There are, in fact, a number of different funding mechanisms available to the RUS under the broadband programs it administers, including grants, loans and loan guarantees.

¹⁷⁶ *See, e.g.*, Government Accountability Office, "Rural Utilities Service: Opportunities to Better Target Assistance to Rural Areas and Avoid Unnecessary Financial Risk," GAO-04-047 (June 2004).

2. Civic Participation.

NASUCA refers to its comments above on the value of open networks, which reflect how interwoven are the goals of open networks and civic participation. Providing open access to government information can only strengthen public accountability and transparency.¹⁷⁷

3. Public Safety and Homeland Security (omitted).

4. Community Development.

The ARRA establishes eligibility, if not a preference, for municipal and non-profit groups to sponsor and/or build the projects in question.¹⁷⁸ We believe that such locally-generated broadband build-out can also be a driver for community development. NASUCA notes here that many municipalities are building municipally-owned fiber and other broadband facilities, and these efforts should be supported to the full extent possible, notwithstanding the historic ILEC opposition to such “competition.” If ILECs or cable companies are unwilling or unable to build or operate a network that incorporates non-discrimination, interconnection and reporting requirements required by law,¹⁷⁹ it makes the case for such a preference for municipal or cooperative undertakings that are willing to operate under those conditions even more compelling.

The goals referenced in the NOI relating to community development (*i.e.*, solving local problems, developing local resources, providing communities with news and information)¹⁸⁰ are

¹⁷⁷ See, e.g., <http://www.stat-usa.gov/> (government statistics); http://appdev.cbonline.com/news/microsoft_unveils_open_government_data_initiative_120509 (Microsoft tools to sort and analyze government data).

¹⁷⁸ See Pub. L. No. 111-5 § 6001(e).

¹⁷⁹ See, e.g., Peterson, “Verizon, AT&T May Tell U.S. to Keep \$7.2 Billion Stimulus Money,” *Bloomberg* (March 31, 2009).

¹⁸⁰ NOI, ¶80.

all advanced by encouraging the municipal build-out of fiber and other high-speed broadband systems. NASUCA is aware that San Francisco has been able to run fiber into some of its public housing, and – through wireless modems – make broadband available throughout such housing developments with little or no expenditure on the part of the residents.

5. Health Care Delivery (omitted).

6. Energy Independence and Efficiency.

Despite its many benefits, the Internet and its usage creates demands on the Nation's energy grid that the FCC should address in developing its broadband plan. The FCC acknowledges that energy and communications issues are beginning to converge in several inquiries about the impact of Smart Grid deployment on the national broadband plan.¹⁸¹ Because some Smart Grid technology will likely rely on the Internet and other applications that require broadband, the FCC should consider energy efficiency in developing its plan.

Internet server farms can consume vast quantities of energy. As the *New York Times* reported, “[b]ehind every Google search, direct deposit, MapQuest request and rant on a blog is a data center crammed with machines called servers and, behind them, a power plant.”¹⁸² While server farms are becoming more energy efficient, as recently as 2002, according to the California Energy Commission (“CEC”), a single server farm in Northern California was projected to use 180 megawatts of energy, enough to supply energy to an entire city.¹⁸³

In developing its plan, NASUCA recommends that the FCC partner with the Federal Energy Regulatory Commission (“FERC”), the Department of Energy (“DOE”), the

¹⁸¹ *Id.*, ¶86.

¹⁸² Matthew L. Wald, “Taming the Guzzlers that Power the World Wide Web,” *New York Times* (Nov. 7, 2007), available at <http://query.nytimes.com/gst/fullpage.html?res=9F02E7D8113CF934A35752C1A9619C8B63&sec=&scpon=&scp=3&sq=server%20farm%20energy%20use&st=cse>

¹⁸³ See discussion of the Los Esteros Critical Energy Facility in the CEC's May 26, 2006 brief, available at http://www.energy.ca.gov/sitingcases/losesteros2/documents/2006-05-30_MOTION_OVERRIDE.PDF, p. 2.

Environmental Protection Agency, other state and federal expert agencies, and other interested parties so that broadband deployment does not result in unintended consequences for the nation's power grid. It would be ironic in the extreme if ubiquitous deployment of one interconnected network created bottlenecks on the nation's other important network. We suggest the FCC obtain input from these agencies – and related interest groups – before finalizing its plan.

With regard to Smart Grid technologies specifically, the FERC and state commissions are actively involved in reviewing the policy and rate implications of both pilots and more widespread deployment. Deployment of a “Smart Grid” is not an end in itself, but is expected to provide a means to improve reliability, save energy, reduce greenhouse gas emissions, and enhance the Nation's energy independence. The concept of a “Smart Grid” includes a wide range of technologies and rate designs, such as advanced metering infrastructure, distribution automation and real-time pricing. Before the FCC supports Smart Grid deployment, it should determine whether the proposed goals can and will be achieved with the proposed technology, again in consultation with the agencies and other stakeholders that are more directly involved in Smart Grid policymaking.

Further, development of a Smart Grid will be costly, and all costs will be borne by ratepayers. Infrastructure upgrades will clearly be expensive, as the FCC is aware in its own capacity promoting broadband deployment. As this new infrastructure is added to rate base, much attention should be given to ensure that rate recovery is net of any benefits and that all expenses have been prudently incurred, in order to protect consumers from exorbitant and unjust rate increases. Consumer rate protections are not limited simply to rate recovery; the Smart Grid will enable the design of new rate structures that are based on dynamic pricing, such as, but not limited to, time of use pricing (“TOU”) that sets a higher prices for electricity during peak hour

usage and a lower price for electricity usage during off-peak hours, where rates are reflective of congestion on the grid. Any dynamic pricing structure may be harmful to customers, residents and small commercial, if they are unable to adjust electricity usage during times of increased rates. Small business and residential customers may be least able to adjust their energy usage to time of day (or night) when the grid is least stressed. The result may be rate shock as consumers learn the true cost of the energy they are powerless to conserve.

NASUCA cautions the FCC to avoid treading in these areas without a clear examination of the energy and ratepayer implications of the plan it adopts and further requests that any dynamic rate design be a voluntary, opt-in program, with an alternative fixed structure available.

7. Education.

NASUCA refers the Commission to its comments with respect to maximum utilization, which address many aspects of the Commission's inquiry under this subject.¹⁸⁴

8. Worker Training.

The NOI also asks how to interpret the portion of the Recovery Act that requires the FCC to include in its National Broadband Plan "a plan for use of broadband infrastructure and services in advancing worker training."¹⁸⁵ The NOI's primary focus is on whether workers and job seekers can use the Internet to gain job training and employment. NASUCA believes the Internet can be a powerful tool for these uses, but also thinks the FCC should expand its interpretation of the foregoing Recovery Act provision to include a "green jobs" focus.

New broadband deployment around the country will create job opportunities in two key areas: construction of new infrastructure in unserved areas, and outreach/education to low

¹⁸⁴ See, e.g., pp. 68-71, above.

¹⁸⁵ NOI, ¶94.

income communities with low adoption rates in the inner city. Both opportunities will create jobs in areas where they are desperately needed. NASUCA therefore recommends that the National Broadband Plan direct that funds be set aside for low-income workers in the communities the new broadband infrastructure or enhanced outreach will serve.

In its comments to the NTIA, NASUCA recommended that scoring of projects for Recovery Act funding include an additive for projects that will create jobs in underserved communities:¹⁸⁶

As Free Press correctly notes in its scoring proposal, an over-arching goal of the ARRA is economic stimulus. or to put it more bluntly, getting people back to work and pumping money back into the economy. NASUCA supports Free Press' proposal to establish a scoring criterion that recognizes and rewards proposed grant applications that address Congress' goal though the 15 points recommended by Free Press seems excessive compared to the scoring criteria associated with other, valid objectives of the ARRA. Accordingly, NTIA should establish the following scoring criteria for States to use in assessing applications for projects funded under the BTOP:

Multiplier (Jobs created/\$ million expended in total projected cost, including 20% match)	Points Awarded (Out of a Possible 10)
< 5	0
≥ 5 but < 10	2
≥ 10 but < 15	4
≥ 15 but < 20	7
≥ 20	10

We recognize that the FCC is engaged in longer term planning, and not simply in carrying out the short-term economic stimulus. Nonetheless, the foregoing scoring additive translates easily to the FCC's plan. NASUCA recommends that the FCC take steps to ensure that up to 10% percent of the jobs created as a result of its plan be reserved for rural or low-income inner city residents, and that training of such workers be an explicit part of the plan as well. In this way, communities undertaking broadband installations will not only benefit from

¹⁸⁶ NASUCA NTIA/RUS Comments, p. 23.

the online applications and broadband facilities make possible, but also gain job training and local employment in the process.

Further, essential to any job creation is worker training. While the FCC will not itself train workers to install broadband infrastructure or engage in community outreach about the benefits of broadband, it should require programs that furnish broadband to do so. Especially in inner cities where infrastructure is availability but the low income take rate is low, community based organizations can be a solid partner in reaching out to residents and training staff to promote greater adoption in their communities.

9. Private Sector Investment.

A national broadband network with open access and universal availability can serve as a foundation for economic activity, political participation and communication, much as the Nation's highway, rail, freight or postal systems have. NASUCA does not believe that the broadband network, as a transport platform, in and of itself is the best target for private sector investment. Instead, the access and availability necessary to maximize production suggest that the network platform be operated as a public good, and not restricted or embargoed for private profit.

NASUCA's view of the broadband network is based not just on classic economic theory, but also on the last decade of deregulation in the telecommunications industry. NASUCA has seen the failure of ILECs' promises of increased capital investment fall by the wayside. Likewise, the argument for regulatory freedom and the ability of unfettered profits to invest in capital infrastructure has proven hollow as ILECs' investment in infrastructure has fallen sharply, in sharp contrast to their increasing revenues.

Experience shows that the nature of the broadband network is such that profits would be maximized only when access or “supply” is withheld and limited to the highest bidder. In contrast, the total benefits to society are maximized only when the network is made available to all and supported by separate and profitable services. It is the nature of profit-seeking private investment that limits the growth of broadband. Private investment will not receive an adequate return, or will not receive that return in a sufficiently short time-frame, to extend the network to communities and areas that pose either high-cost connections, or low-yield populations. Government-supported broadband platforms or municipal projects have a longer outlook and contemplate the bigger picture: the public benefits that occur from universal access and the social benefits accrued from the layers of private entrepreneurial activity that the public platform supports.

That said, the development, protection and maintenance of an open and universal system would be the optimal way to encourage private-sector investment and entrepreneurial activity in the related goods and services and installations that rely on such a network. Were investors and companies to be able to depend on the broadband network as a platform for their activities, their safety with regards to this area of uncertainty would decrease, and thus the risk perceived in new investments would also decrease. The structural separation discussed above will be the best way to encourage private sector investment in those applications of services and content; these private enterprises reside on the transport network that should be treated and protected as a public good, with public investment and regulation.

- 10. Entrepreneurial Activity (omitted).**
- 11. Job Creation and Economic Growth (omitted).**
- 12. Other National Purposes (omitted).**

G. RELATIONSHIP BETWEEN THE RECOVERY ACT AND OTHER STATUTORY PROVISIONS.

In the NOI, the FCC seeks comment regarding how the National Broadband Plan it is charged with developing should accommodate other statutory provisions that touch on broadband issues, including existing Commission policies and such legislation as the BDIA and the 2008 Farm Bill.¹⁸⁷ Some of these relationships have already been addressed elsewhere in NASUCA's comments and NASUCA will refrain from repeating them.

One point that positively cries out to be addressed again, however, is the Commission's assertion that it "has for many years encouraged broadband deployment and promoted the public interest through policies such as universal service and competition for telephone and video services."¹⁸⁸ To give the Commission the benefit of the doubt, while encouraging broadband deployment may have been its intent, its "deregulate first, ask questions later" approach over nearly the last decade have clearly had the opposite effect, with disastrous results. As discussed at the outset of these comments, the Commission's policies and rulings have focused on deregulating virtually every aspect of broadband service: This has included reversing policies established under *Computer II* that appropriately differentiated between "basic" and "enhanced" telecommunications services and imposed open network architecture ("ONA") obligations to ensure that "enhanced" service providers could access the "basic" components of the network they needed to provision their service. It has also included eliminating most unbundling and interconnection obligations that competitive providers needed to provision competing data services, and eliminating virtually all the monitoring and reporting requirements that allow the Commission (and States and the public) to examine and understand telecommunications service

¹⁸⁷ NOI, ¶¶106-11.

¹⁸⁸ NOI, ¶107.

providers' finances and operations. The result has produced a virtually unregulated duopoly (at best) for broadband service in the United States, in which access to broadband is anything but "universal."¹⁸⁹

Thus, with respect to the FCC's request for comment "on how these existing Commission activities and policies intersect with and can support the Commission's requirement to develop a national broadband plan," NASUCA has already answered this request. The Commission's existing policies – based on decisions issued since 2000 – clearly "intersect with" (and interfere with) development of a national broadband plan. More importantly, these policies – if continued – will not, and cannot, "support" development of a national broadband plan – at least if the plan's goal is to improve the current dismal state of broadband deployment, access, affordability, subscription or utilization in the United States currently. Instead reversal, or at the very least substantial modification, of these policies should be a cornerstone of the National Broadband Plan developed and implemented by the Commission.

Turning from criticism of past Commission policies, NASUCA offers suggestions for integrating recent statutory enactments into the National Broadband Plan the FCC is to develop and implement. With regard to the relationship between the BDIA's amendment of Section 706 of the 1996 amendments to the Act and the National Broadband Plan, and the adequacy of information obtained under this section to support the FCC's evaluation of the status of broadband deployment, NASUCA offers the following suggestions.

¹⁸⁹ Again, NASUCA recognizes that the Commission decisions and policies it criticizes so harshly herein were not the product of the current Commission leadership. NASUCA has frequently – and sincerely – praised the dissenting comments and other public statements of the current Acting Chairman and outgoing Commissioner Adelstein as they decried many of those Commission policies and decisions. But it is absolutely vital that the Commission acknowledge the mistakes of the past, without attempting to put a gloss on them as the NOI seems to do at several points. This is necessary in order for the Commission to begin extricating itself and the Nation's citizens from the very deep hole those mistakes have dug when it comes to America's broadband market.

First, the expanded Section 706 inquiry required by the BDIA will not be sufficient, without more, to implement the requirement that the plan include an evaluation of broadband deployment's status. The BDIA's amendments to Section 706 focused on identifying "unserved" areas but did not address the equally important question of "underserved" areas, or the sufficiency of broadband service in "served" areas. Likewise, the BDIA amendments to Section 706 did not address the "efficiency" of broadband service – such as its affordability, subscription levels, speed, or population served. Such concerns were, however, an important feature of the Recovery Act.¹⁹⁰ Accordingly, the Commission should seek additional data that ensures that the National Broadband Plan advances the goals of Congress to the fullest and assists other federal agencies in their implementation of other programs in the Recovery Act.

Second, with respect to what additional data the Commission should obtain, NASUCA suggests that the data Congress required the FCC to obtain via consumer surveys in the BDIA should be integrated into the provider reporting required pursuant to either Section 706 of the 1996 amendments or the Commission's other data-gathering and reporting authority. The BDIA calls for periodic surveys of consumers in "urban, suburban, and rural areas" and in "the large business, small business, and residential consumer markets" – provider reports to the Commission should incorporate such market-specific information. The BDIA also requires the Commission's surveys to solicit information regarding: (1) the "types of technology used to

¹⁹⁰*Compare* Pub. L. No. 110-385 § 103(a) *with* Pub. L. No. 111-5 §§ 6001(k)(2) (requiring the national broadband plan to include an analysis of "the most effective and efficient mechanisms for ensuring broadband access by all people of the United States," a strategy for achieving "affordability" and "maximum utilization," and an evaluation of the status of broadband deployment "including progress of projects supported by grants" administered by the NTIA); see also Pub. L. No. 111-5 § 6001(a)(2) (requiring BTOP grants to "provide improved access to broadband service to consumers residing in underserved areas"); § 6001(g) (allowing issuance of BTOP grants to, among other things, facilitate access to broadband service by low-income, unemployed, aged, and otherwise vulnerable populations and to construct and deploy broadband facilities that improve public safety broadband communications services); § 6001(h) (requiring the NTIA to consider, among other things, whether BTOP grants will "increase the affordability of, and subscribership to, service to the greatest population of users in the area" and "provide the greatest broadband speed possible to the greatest population of users in the area.").

provide the broadband service capability”; (2) the “amounts consumers pay per month for such capability”; (3) the “actual data transmission speeds of such capability; and (4) the “types of applications and services consumers most frequently use in conjunction with such capability.”¹⁹¹ NASUCA sees no reason why broadband service providers cannot provide the same sort of information to the Commission in order to assist it in developing and implementing a national broadband plan.

The other specific comments the Commission sought in its NOI on this subject – such as what “immediate action to accelerate [advanced telecommunications] deployment” and how the universal service definitions and obligations contained in Section 254 of the FCA relate to development of a national broadband plan – have been dealt with elsewhere in NASUCA’s comments.

H. IMPROVING GOVERNMENT PERFORMANCE AND COORDINATION WITH STAKEHOLDERS.

The Commission invites comment on a number of issues related to how government agencies and interested individuals and groups can coordinate their efforts to achieve Congress’ goal of ensuring that all Americans have access to broadband.¹⁹² As an association of state agencies that advocate exclusively on behalf of utility consumers – whose concerns about the direction of Commission past broadband and related telecommunications policies have been largely disregarded in FCC decisions over the past several years - NASUCA welcomes the opportunity to offer suggestions regarding how the Commission may better enlist those interests in fulfilling Congress’ broadband goals.

¹⁹¹ Pub. L. No. 110-385 § 103(c)(1)(A)-(D).

¹⁹² NOI, ¶112.

1. Coordination Among Federal Agencies And Others.

In comments previously submitted to both Congress and the NTIA and the RUS regarding the Recovery Act, NASUCA strongly advocated for establishment of a formal interagency task force comprised of the Executive Branch agencies charged with implementing broadband-related provisions of the Recovery Act and, to the extent allowed by law, including key stakeholders such as state governments or their representatives (*e.g.*, NASUCA, NARUC) and possibly public interest organizations with experience in broadband efforts. Alternatively, NASUCA recommended establishment of one or more advisory committees in accordance with the provisions of the Federal Advisory Committee Act, to assist the Executive Branch agencies in implementing the provisions of the Recovery Act.¹⁹³ In addition, NASUCA recommended that any inter-agency task force (in conjunction with any advisory committees created) include permanent work groups or subcommittees to address the three broad components of the Recovery Act: (1) establishing criteria for evaluating broadband grant applications and standards for measuring the benefits and efficacy of projects funded under the Recovery Act; (2) assisting States and the FCC in implementing the broadband mapping program established in the Recovery Act; and (3) assisting the FCC in formulating a national broadband plan.¹⁹⁴

Based on its review of the Commission's *Rural Broadband Report* recently released by the Commission, it appears that many of NASUCA's recommendations regarding inter-agency coordination are already being implemented by "the interagency working group [formed shortly after President Obama took office] under the auspices of the National Economic Council to bring

¹⁹³ NASUCA NTIA/RUS Letter, pp. 9-10 (March 18, 2009); *see also* NASUCA NTIA/RUS Comments, pp. 55-56.

¹⁹⁴ *Id.*

agencies together to discuss broadband issues of common interest.”¹⁹⁵ Consistent with its past comments, NASUCA supports the interagency working group created by the Obama Administration and urges that its membership and focus be amended, if necessary, to incorporate such groups and issues as those identified in NASUCA’s comments.

In its *Rural Broadband Report*, the Commission also noted elements within the agency charged with cooperating with States and tribal governments – referring to, among other things, the Indian Telecommunications Initiative (“ITI”)¹⁹⁶ and the Joint Conference on Advanced Services.¹⁹⁷ NASUCA certainly supports the continued operation of these bodies, and encourages the Commission to expand their duties and collaboration with stakeholders as much as possible. In its comments above, NASUCA noted its concerns that the Joint Conference appears to have been moribund since 2002 and that its report on broadband issued that year appears to have gone largely unacknowledged and unimplemented in the intervening seven years.¹⁹⁸ NASUCA hopes the new emphasis on broadband deployment and cooperation with States, etc. will revive the Joint Conference’s role and input to the Commission. Finally, to the extent the FCC’s *Rural Broadband Report* acknowledges the vital role input from local communities should play in formulating and implementing a national broadband plan,¹⁹⁹ NASUCA recommends that the Commission incorporate representatives of local government associations either in the inter-agency task force or any advisory committees assisting the task force.

¹⁹⁵ See *Rural Broadband Report*, p. 26 ¶59.

¹⁹⁶ *Id.* at 27-28 ¶63.

¹⁹⁷ *Id.* at 29 ¶66.

¹⁹⁸ See pp. 5-6, above.

¹⁹⁹ See *Rural Broadband Report*, pp. 29-30 ¶¶67-68.

2. Public/Private Partnerships And Cooperatives.

As discussed above and in the NTIA/RUS comments, NASUCA believes that public/private partnerships may be the most effective way of accomplishing a ubiquitous deployment of broadband service.

3. Confidential Information/Data Sharing.

The Commission seeks comment regarding, among other things, the extent to which federal agencies may share confidential information received in the course of discharging their broadband responsibilities under the various statutes enacted by Congress to spur broadband deployment, as well as laws applicable to tribal, state and local governments and non-governmental entities that receive such information.²⁰⁰ Suffice to say, NASUCA believes that information obtained by the Commission and other federal agencies in the course of discharging their responsibilities under the 2008 Farm Bill, the BDIA or the Recovery Act, should be publicly available to the maximum extent possible under existing federal laws, such as the Freedom of Information Act (“FOIA”),²⁰¹ Consumer Information Protection and Statistical Efficiency Act of 2002,²⁰² etc.

The Commission has, in the past, been willing to liberally interpret the exemptions from disclosure provided under the FOIA or to find other grounds on which to withhold from public scrutiny vital information about the health and extent of telecommunications networks and systems.²⁰³ Carriers’ claims that such information would be invaluable to competitors (an ironic

²⁰⁰ NOI, ¶¶120-22.

²⁰¹ 5 U.S.C. § 552.

²⁰² 44 U.S.C. § 3501 note.

²⁰³ See *New Part 4 of the Commission's Rules Concerning Disruptions to Communications*, Report and Order and Further Notice of Proposed Rulemaking, 19 F.C.C.R. 16830 (Aug. 19, 2004).

claim in light of the concentration of market share and power in the hands of just a few carriers) or would-be terrorists have generally sufficed to convince the Commission to extend blanket protection to data submitted to it.

NASUCA urges the Commission to reconsider its liberal interpretation of exemptions under FOIA and other federal statutes in the past and to, going forward, interpret those laws to favor the widest disclosure possible going forward. This is particularly important if the broadband inventory and map required by the Recovery Act and the BDIA is to have any utility for consumers, government officials and potential competitive providers of broadband service.²⁰⁴ Likewise, for applicants seeking broadband grants under the Recovery Act, the notion that recipients of public funds should be able to withhold from the public information about the networks or services paid for with those funds is particularly noxious.

NASUCA believes that there are, or at least there should be, minimal constraints on the ability of federal officials to share broadband-related data they obtain under the various statutory programs with one another. Likewise, Commission officials and officials of other federal agencies should be able to freely share confidential information with their counterparts within state, local or tribal governments so long as state law recognizes any applicable federal protections.²⁰⁵

III. CONCLUSION.

For all the foregoing reasons, NASUCA urges the Commission to incorporate its comments and recommendations in any future decisions or actions related to its preparation and

²⁰⁴ See, e.g., Amy Schatz, “Battle Brews Over Broadband Mapping,” *Wall Street Journal*, B1 & B4 (June 3, 2009).

²⁰⁵ See, e.g., *W. Va. Code* § 29B-1-4(a)(5) (exemption for information specifically exempted from disclosure by statute).

submission of a national broadband plan to Congress by February 17, 2010, as required by the Recovery Act, and any future amendments to such plan.

Respectfully submitted,

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