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**Re: Implementing the American Recovery and Reinvestment Act of 2009:
NASUCA Recommendations.**

Dear Mssrs. Seifert and Kuchno and Ms. McGuire-Rivera:

In February 26, 2009 letters to your offices, the National Association of State Utility Consumer Advocates (“NASUCA”) and its members¹ recently submitted comments

¹ NASUCA is a voluntary association of advocate offices in more than 40 states and the District of Columbia, whose members are designated by state laws to advocate for utility consumers (primarily residential customers), and which operate independently from state utility commissions.

and recommendations to your office regarding implementing the American Recovery and Reinvestment Act of 2009's ("ARRA") provisions for investing in the nation's broadband infrastructure.² In its letter, NASUCA provided a brief summary of guidelines both offices should adopt in implementing the ARRA's provisions, and urged you to consult with us and other consumer representatives, as well as state regulators, for technical and other assistance.³ The February 26, 2009 letter indicated that we would be providing a more detailed explication of NASUCA's recommendations and the bases for those recommendations, together with examples of "shovel-ready" projects that are consistent with the goals and requirements of the ARRA. This submission represents that detailed follow-up.

This submission is divided into the following sections that incorporate and expand upon our earlier recommendations, and contains both background information and supporting rationale, followed by a series of more specific recommendations for implementing the provisions of the ARRA. Recognizing that the ARRA represents an initial "shot in the arm" to stimulate broadband investment in response to the current economic crisis, and as a first, but by no means final, step toward implementing a national broadband strategy, our submission includes both broad, long-term policy recommendations (*e.g.*, Sections 1-3), and specific funding recommendations to assist the agencies in distributing stimulus funds under the ARRA (*e.g.*, Sections 4-6 and Appendix).

Of course, we recognize that some policy recommendations have immediate relevance for funding decisions and some funding recommendations will shape future policy choices. In addition, our submission includes a good deal of historical information that provides the antecedent context for NASUCA's recommendations. Finally, recognizing that Congress made it clear that the agencies' task is to begin distributing funds for broadband investment as quickly as possible, we wish to emphasize that, in terms of prioritizing tasks, the agencies should not delay funding broadband infrastructure projects while they work on long-term issues such as developing a national broadband plan or broadband mapping criteria.⁴ Rather, the agencies should focus on developing an application form for applicants for broadband funding and criteria for identifying projects that will quickly begin providing broadband service to unserved areas (first) and underserved areas (second).

² See NASUCA Letters to Barbara Brown (NTIA) and Ken Kuchno (RUS) (Feb. 26, 2009).

³ Briefly, those recommendations were: (1) Establish an inter-agency task force to coordinate efforts; (2) address unserved areas first; (3) require full-disclosure from grant recipients; (4) otherwise ensure accountability; (5) adopt consumer-focused solutions; (6) ensure affordability; (7) plan for the future; (8) include local government agencies; and (9) adopt programs that stimulate broadband take rates.

⁴ This "cart before the horse" debate has already begun. See "Panelists Debate Whether Mapping Should Precede Broadband Grants," TR Daily (March 4, 2009); available at <http://www.tr.com/outline/trd/2009/td030409/index.htm> (subscription required). For its part, NASUCA believes that postponing or delaying broadband infrastructure or subscription projects until a comprehensive national map or plan has been developed is inconsistent with both President Obama's policy goals and Congress' directives in the ARRA that emphasize the economic stimulus effect of broadband investment.

Section 1 (pp. 5-11): Establishing an inter-agency task force to coordinate efforts to implement the ARRA.

Section 2 (pp. 12-19): Formulating a national broadband plan.

Section 3 (pp. 20-27): Developing a program for mapping broadband deployment in coordination with states and/or local communities.

Section 4 (pp. 28-29): Developing rules or policies to stimulate broadband investment in unserved areas first.

Section 5 (pp. 30-34): Developing criteria for defining underserved areas and affordable broadband second.

Section 6 (pp. 35-40): Developing a uniform template application for entities applying for broadband funding under either the rural broadband programs administered by the RUS or the BTO Program administered by the NTIA.

Appendix (pp. 41-45 and attachments): Examples of “shovel-ready” projects that are consistent with the goals and requirements of the ARRA.

We have requested to meet soon with NTIA and will be requesting to meet with the other agencies charged with implementing the ARRA’s broadband investment provisions. We look forward to discussing our recommendations with you and working with your office as it moves forward with implementing the provisions of the ARRA.

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CC: FCC Commissioners; James B. Ramsay (NARUC)

SECTION 1

ESTABLISHING AN INTER-AGENCY TASK FORCE TO COORDINATE EFFORTS TO IMPLEMENT THE ARRA.

A. Background.

Large areas of the United States lack broadband service altogether, the dollars to be invested in broadband infrastructure – while substantial – are not limitless, and the timeframes established under the ARRA for allocating money to “shovel-ready” projects are short. A coordinated effort among the agencies with responsibility to implement those provisions is essential. Moreover, such coordination is needed in developing sound, long-term broadband policies for the Nation.

1. The Need to Coordinate Efforts is Great.

Private companies are investing substantial sums to deploy advanced broadband infrastructure in many areas. However, large portions of the country – particularly rural areas and low-income urban areas – have either no access to broadband or, where broadband access is available, its capabilities are extremely limited or its cost is extremely high.

- Data compiled by the International Telecommunications Union (“ITU”) shows that the United States’ worldwide ranking, in terms of broadband subscribers per 100 persons, has dropped every year since 1999, from 3rd to 22nd in 2007.⁵ The ITU’s most recent report likewise notes that, from 2002 through 2007, the United States dropped from 11th to 17th on the ITU’s overall Information and Communications Technology (“ICT”) Development Index.⁶
- Similarly, the Organisation for Economic Co-operation and Development (“OECD”) shows the United States declining, in terms of broadband subscribers per 100 persons, from 10th in December 2003 to 15th in June 2008.⁷

⁵ John Windhausen, “Building A Stronger America: A Plan to Extend Super-Fast Broadband Connections to All Americans,” A Century Foundation Report, p. 11 (Jan. 27, 2009) (“Windhausen”), available at <http://www.tcf.org/Publications/mediapolitics/windhausen.pdf>. See International Telecommunications Union, ICT Statistics Database, available at <http://www.itu.int/ITU-D/ICTEYE/Indicators/Indicators.aspx>.

⁶ See “Measuring the Information Society - The ICT Development Index, 2009 Edition,” Table 4.2, p. 22 (March 2, 2009).

⁷ OECD Directorate for Science, Technology, and Industry, Organisation for Economic Co-Operation and Development, OECD Key ICT Indicators, “Broadband subscribers per 100 inhabitants in OECD countries,” available at http://www.oecd.org/document/23/0,3343,en_2649_34225_33987543_1_1_1_1,00.html. There have been questions raised about the specifics and significance of these rankings, but they certainly do not show stellar broadband performance – in deployment, subscription, speed or pricing – for the United States.

- The U.S. also lags in broadband affordability, placing 11th (behind Portugal) in terms of average broadband monthly price per advertised Mbps, according to the OECD.⁸
- Over the period 2005-2008, broadband growth in rural and low-income areas of the U.S. continued to lag behind growth in urban, suburban and high-income areas, resulting in a growing “digital divide” in this country.⁹
- 18 states lag behind the national average broadband penetration rate by household for the country as a whole (47% average for the 18 states in question, versus 60% for the nation).¹⁰

2. The Means and Time for Action are Limited.

In Section 1 of the ARRA, Congress appropriated a total of \$7.2 billion for broadband-related purposes.

Of this amount, \$2.5 billion is available for broadband loans, loan guarantees and grants to be administered through the Department of Agriculture by the RUS. While RUS broadband assistance may be provided to any area of the U.S., at least 75% of the area to be served by the funded project must be in a rural area without sufficient access to high speed broadband service (Section 2, Division A, Title I).

Congress appropriated an additional \$4.7 billion for broadband-related purposes to be administered by the NTIA (Section 2, Division A, Title II). However, the amount available for assistance for broadband infrastructure is somewhat less than this total, since up to \$350 million is dedicated to broadband mapping, at least \$200 million is dedicated to projects that expand public computer center capacity, at least \$250 million is dedicated to projects for encouraging sustainable broadband adoption, another \$10 million must be transferred to the Department of Commerce’s Inspector General, and finally up to \$141 million (3% of the total) may be used for administrative costs (*id.*).

Thus, as little as \$3.75 billion may be left for broadband infrastructure projects administered by the NTIA under the ARRA (assuming appropriation of the specified amounts established for other purposes), meaning the total amount available for broadband

⁸ OECD Directorate for Science, Technology, and Industry, Organisation for Economic Co-Operation and Development, OECD Broadband Portal, “Average broadband monthly price per advertised Mbit/s, by country, USD PPP” (Oct. 2007), available at <http://www.oecd.org/dataoecd/22/45/39575011.xls>.

⁹ See John B. Horrigan, “Home Broadband Adoption 2008,” Pew Internet and American Life Project, p. 3 (July 2008), available at http://www.pewinternet.org/pdfs/PIP_Broadband_2008.pdf.

¹⁰ Alabama, Arkansas, Georgia, Indiana, Iowa, Kansas, Kentucky, Maine, Mississippi, Montana, Nebraska, New Mexico, North Dakota, Oklahoma, Pennsylvania, South Carolina, South Dakota and West Virginia. See Dr. Raul Katz and Dr. Stephan Suter, “Estimating the Economic Impact of the Broadband Stimulus Plan,” Columbia Institute for Tele-Information, Figure 13 (Feb. 2009); available at http://www.elinoam.com/raulkatz/Dr_Raul_Katz_-_BB_Stimulus_Working_Paper.pdf.

infrastructure projects is not likely to exceed \$6.25 billion, administered by the NTIA and the RUS.

Although \$6.25 billion is hardly an insubstantial amount, it is dwarfed by the amount of money that would be required to provide currently unserved and underserved areas of America with access to high-speed broadband service.

- For example, Qwest recently estimated that the cost of expanding broadband availability to business and residential customers from the 85% currently with access, to 95%, and delivering speeds of up to 7 Mbps, would amount to roughly \$3 billion.¹¹ Qwest serves significantly fewer customers than the other two national incumbent local carriers, Verizon and AT&T.
- As noted above, according to one study, at least 18 states – more than 1/3 of the states – lag behind the national average in terms of broadband penetration by household. While the study suggests that extending broadband service to unserved households within these states would be “well within the bounds of the total grants of the program,”¹² the cost of extending broadband to unserved and underserved areas in the remaining states would likely substantially exceed the amount available under the ARRA.
- Although Congress appropriated roughly \$6.25 billion in the stimulus package for broadband infrastructure investment nationwide, Public Spectrum Trust proposed that Congress should appropriate \$15 billion for a nationwide wireless broadband network alone.¹³
- Similarly in comparison to the roughly \$6.25 billion appropriated under the ARRA, industry sources estimated that broadband service providers invested approximately \$70 billion in 2007 alone to expand and upgrade their infrastructure in North America.¹⁴

In short, while the broadband infrastructure funding programs established by the ARRA represent a significant step in the right direction, the amounts appropriated under the legislation are clearly insufficient to meet the Nation’s long-term broadband needs. Moreover, the ARRA’s funding programs make it clear that the emphasis is on economic stimulus first and that a more comprehensive and considered analysis of broadband

¹¹ Lawrence E. Sarjeant, “Implementing The Broadband Stimulus: Maximizing Benefits and Monitoring Performance, Remarks to the National Press Club, p. 2 (Feb. 19, 2009), available at http://www.elinoam.com/bbstimulus2.19.09/sarjeant_paper.pdf.

¹² Katz and Suter, p. 19.

¹³ Alice Lipowicz, “Public safety group urges \$15B broadband investment,” *FederalComputerWeek* (Dec. 22, 2008), available at <http://fcw.com/articles/2008/12/22/public-safety-group-urges-broadband-investment.aspx>.

¹⁴ USTelecom – The Broadband Association, “Promoting Broadband,” available at <http://www.ustelecom.org/Issues/PromotingBroadband/PromotingBroadband.litml>.

deployment and policies affecting broadband must proceed concurrently with funding efforts – and in all likelihood, subsequently as well.

The ARRA contemplates that the \$6.25 billion set aside for broadband investment will be distributed quickly, and that broadband projects funded under the ARRA will likewise be completed quickly. Under the ARRA, all grants administered by the NTIA are to have been awarded before the end of September 2010 (Section 2, Division B, Section 6001(d)(2)) and a project funded by the NTIA must be substantially completed within 2 years of the grant’s award (*id.*, Section 6001(d)(3)).

Moreover, Congress mandated that the NTIA “shall award not less than 1 grant in each State” from the roughly \$3.75 billion available for such projects (Section 2, Division B, § 6001(h)(1)), meaning that states with the greatest need may see badly needed infrastructure funds distributed to states where broadband is more widely available. This is not a criticism: Ensuring that all states benefit from greater broadband investment is fair. However, it does mean that fewer dollars will have to be stretched further in states that substantially lag in broadband access and availability.

B. NASUCA Recommendations.

1. Establish an Inter-Agency Task Force or, Alternatively, Create an Advisory Committee to Assist the Agencies.

In light of the foregoing, and to the maximum extent possible, the Executive Branch agencies charged with implementing the ARRA – the NTIA, the RUS, and the FCC – must closely coordinate their efforts both at a programmatic level and at the level of individual broadband investment projects.

This is a matter of particular concern for NASUCA with regard to the RUS. The RUS currently administers four programs related to broadband services pursuant to which it has made loans, loan guarantees and grants available: (1) distance learning and telemedicine (7 C.F.R. Part 1703); (2) telecommunications programs loans (7 C.F.R. Part 1735); (3) rural broadband access loans and guarantees (7 C.F.R. Part 1738); and (4) broadband “community connect” grant programs (7 C.F.R. Part 1739). Under these regulations, the RUS has established detailed eligibility requirements for applicants and strict criteria related to the types of projects and areas for which funding is available. These requirements and criteria may be unsuited for accomplishing Congress’ goal of funding broadband projects that can be commenced quickly and cost-effectively in rural areas to serve the greatest number of customers. NASUCA notes just a few examples of restrictions in the RUS’ regulations that underscore our concerns:

- Under the rural broadband access loans and guarantees program, the RUS specifies that “individuals or partnerships of individuals” and any entity that “serves more than 2 percent of the telephone subscriber lines installed in the United States” are not eligible to apply for loans or loan guarantees (7 C.F.R. § 1738.16(a)(1) & (2)). Likewise, the same program provides that state or local governments are

eligible for a broadband loan “only if, not later than April 30, 2003, no other eligible entity is already offering or has committed to offer broadband services to the eligible rural community,” as determined by the RUS (7 C.F.R. § 1738.16(b)).

- Under the broadband “community connect” grant program, the RUS’ regulations provide that, in order to be eligible for a grant, the project must “serve a rural area where Broadband Transmission Service does not currently exist” and must serve “one Community recognized in the latest U.S. Census.” (7 C.F.R. § 1739.11(a) & (b)). Further, the regulations provide that grant funds “may not be used to finance the duplication of any existing Broadband Transmission Service provided by another entity” and that “[f]acilities financed with grant funds cannot be utilized, in any way, to provide local exchange telecommunications service to any person or entity already receiving such service.” (7 C.F.R. § 1739.13(a) & (b)).¹⁵

Many of these concerns were cited in the Government Accountability Office’s (“GAO”) 2006 report regarding broadband deployment in the United States.¹⁶ The GAO report noted that “RUS broadband programs provide a possible means for targeted assistance to unserved areas, but stakeholders raised concerns about the effectiveness of the loan program and its eligibility criteria.”¹⁷ And the GAO noted:

It is not clear whether a loan program – such as the RUS loan program – is effective for helping rural areas gain access to broadband services. RUS requires applicants to submit an economically viable business plan But developing a viable broadband business plan can be difficult in rural areas, which have a limited number of potential subscribers. As a result, RUS has rejected many applications because the applicant could not show that the business plan demonstrated a commercially viable and sustainable business. In fact, the agency has been unable to spend all of its loan program funds [since the program’s inception in 2002].¹⁸

Therefore, in order to ensure that projects that should be funded under the ARRA are not denied funding due to the application of agency regulatory requirements or restrictions on applicant or project eligibility that would be inconsistent with Congress’ goals under the legislation, NASUCA recommends that the agencies take the following steps as soon as possible:

¹⁵ See S. Derek Turner, “Putting the Angels in the Details: A Roadmap for Broadband Stimulus Success,” Free Press, p. 5 (Feb. 2009), available at http://www.freepress.net/files/Angels_in_the_Details.pdf.

¹⁶ “Broadband Deployment Is Extensive throughout the United States, but It Is Difficult to Assess the Extent of Deployment Gaps in Rural Areas,” GAO-06-426 (May 2006) (“GAO Broadband Report”), available at <http://www.gao.gov/new.items/d06426.pdf>.

¹⁷ *Id.* at 32.

¹⁸ *Id.* at 33.

- To the maximum extent allowed by law, NASUCA recommends that these three agencies should establish an interagency task force.
- The task force should include groups representing key stakeholders, such as state governments or, preferably, representatives of the states (*e.g.*, NASUCA, NARUC) and possibly public interest organizations with experience in broadband efforts. The states' representatives can assist the agencies and provide input regarding state-specific projects and conditions relevant to broadband projects that may be eligible for funding by either or both NTIA and RUS under the ARRA.
- Alternatively, one or more Executive Branch agencies could establish an advisory committee in accordance with the provisions of the Federal Advisory Committee Act, to assist one or all of them in implementing the provisions of the ARRA. This committee's membership should be the same as that recommended for the interagency task force discussed above.

2. Function Of Inter-Agency Task Force/Advisory Committee.

The inter-agency task force, with input from key stakeholders, should work closely together to:

- Establish criteria for evaluating broadband grant applications and standards for measuring the benefits and efficacy of projects funded under the ARRA;
- Assist states and the FCC in implementing the broadband mapping program established in the ARRA; and
- Assist the FCC in formulating a national broadband plan.

In addition, NASUCA recommends that specific interagency work-groups or sub-committees be established to address each of the three aspects of the ARRA outlined above and to submit either recommended actions or proposed rules, as appropriate under the ARRA, in an expeditious manner.

Each of these three broad programs is discussed in greater detail in the following sections. In addition, NASUCA sets forth examples of "shovel-ready" projects that it believes represent the sorts of broadband investment projects that satisfy most, if not all, the objectives and criteria established by Congress in the ARRA. While it is up to the particular entities identified in this section to demonstrate their eligibility for grants or other assistance under the ARRA, NASUCA believes that the Executive Branch agencies should refer to these projects to establish a "rule of thumb" for evaluating applications for grants or financial assistance from other entities.

3. Accountability and Transparency.

Many incumbent local exchange carriers (“ILECs”) have already received substantial broadband funding in the form of universal service funding, or have committed to deployment in return for regulatory action. A telephone company that constructs state-of-the-art telecommunications facilities is, by definition, constructing facilities that can be, and in many cases are, used for broadband. For FCC reporting purposes, much of this plant is typically booked as regulated telephone investment even though a significant amount of the revenue that will come from that investment is not reported as either regulated or unregulated telephone company revenue. Instead, the revenue is transferred to a broadband affiliate. The fact that the carriers have constructed broadband plant with other federal (and state) monies, which is not accounted for in a standard fashion, needs to be factored into the equation. Carriers’ reporting of the deployment of telecommunications equipment has been inconsistent, and the telecommunications industry has successfully pushed for diminished reporting requirements.

NTIA and RUS should consult with FCC staff on this issue and require clear reporting of facilities constructed with stimulus funding. NASUCA can offer additional expertise on this matter.

SECTION 2

FORMULATING A NATIONAL BROADBAND PLAN.

A. Background.

Without doubt, the agencies need to formulate a national broadband plan but, in so doing, will need to reconsider and redress many of the policy decisions made in the past that have adversely affected broadband deployment and subscription in the United States. Undoing these decisions obviously will require a concerted effort, over time, that is beyond the scope of the ARRA's goal of providing a needed economic stimulus now – but the agencies must consider those policy decisions as they move forward to implement the broadband stimulus provisions of the ARRA.

1. NASUCA Questions Whether Additional Funds Should or Need to be Transferred to the FCC to Formulate a National Broadband Plan.

Section 2 of the ARRA (Title II, Division A) provides that the Department of Commerce “*may* transfer,” from the \$4.35 billion allocated to it, funds to the FCC “for purposes of developing a national broadband plan or for carrying out any other FCC responsibilities pursuant to [Title II, Division B],” provided that the House and Senate Appropriations Committees are given 15 days notice in advance of such transfer.

NASUCA supports establishment of a national broadband plan by the FCC but questions the need to transfer any additional funds to the FCC for this purpose. NASUCA believes the FCC already has sufficient resources – in terms of budget, personnel, and technical expertise – to develop such a plan. Indeed, the FCC has been reporting – albeit imperfectly – on the deployment of “advanced services” in the United States pursuant to 47 U.S.C. § 706 for many years.¹⁹ Likewise, a number of states have undertaken development of broadband deployment strategies within their respective jurisdictions in recent years, and some of those strategies are fairly well developed. The information and knowledge developed by these states constitutes a source of information that the FCC may utilize at no cost to itself.

2. Funding for the FCC is Not the Real Issue – The Issue is Reversing the FCC's Course During the Past Decade.

What is – or rather has been – lacking at the FCC are not physical resources to develop a national broadband plan but rather the lack of vision at the top decision-making levels regarding broadband policy.

¹⁹ See, e.g., *In re: 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.

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.

Although NASUCA is unabashedly critical of past FCC decisions and policies regarding broadband service, we wish to make it clear that those decisions have rarely been unanimous. Acting FCC Chairman Michael J. Copps and Commissioner Jonathan S. Adelstein have frequently and eloquently expressed similar criticisms in numerous dissents and public comments and NASUCA has always appreciated their criticism. Moreover, with the change in administration, and with a fuller appreciation of the shortcomings in past policy on Capitol Hill and elsewhere, we are hopeful that change is coming – even to the FCC. We are also optimistic that, once he has been confirmed, the FCC will chart a different course under new Chairman Genachowski.

a. The FCC's preference for deregulation over competition as a means of promoting broadband deployment has been fundamentally flawed.

NASUCA agrees with the substance and tone of John Windhausen's critique of the FCC's misguided policies with regard to telecommunications generally, and broadband in particular:

Congress passed the [1996 amendments to the Communications Act of 1934 (the "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.²⁰

²⁰ Windhausen, at 4.

b. The FCC's flawed philosophy has adversely impacted broadband deployment and subscribership.

NASUCA also agrees with the following summary of specific FCC decisions that were shortsighted and have had – predictably – a negative impact on broadband investment and deployment in the United States, as noted by Mr. Windhausen:²¹

- Deciding, in 2002, to treat broadband Internet service provided by cable companies as a deregulated “information service,” not a regulated “telecommunications service”²² – a decision upheld by the Supreme Court in deferring to the FCC’s interpretation under *Chevron*.²³
- Making similar findings thereafter for DSL services, broadband over power lines, and wireless broadband.²⁴
- 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.²⁵

NASUCA likewise agrees with Mr. Windhausen’s concise summation of the problems created by the FCC’s past policies and decisions:

²¹ *Id.* at 4-5.

²² See *In re: 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).

²³ 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)..

²⁴ See *In re: 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) (determining wireline DSL is an information service); *In re: 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 powerline service to be information service); *In re: 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).

²⁵ See *In re: 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); *In re: Review of Section 251 Unbundling Obligations of Incumbent Local Exchange Carriers, Order on Reconsideration*, 19 F.C.C.R.20293 (Oct. 2004) (eliminating unbundling obligations for fiber-to-the-curb (“FTTC”)); *In re: 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”)).

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 [or, for that matter, competitive data service providers (a now, virtually extinct form of competitor referred to as a “DLEC”)], where once the United States had hundreds of independent ISPs, cable and telephone giants now dominate the provision of Internet access service nationwide.²⁶

Moreover, the FCC’s “advanced services” annual reports, referenced above, compounded the consequences of bad policy-making and bad decisions over the last several years by glossing over the adverse consequences of those policies and decisions. Generally speaking, the FCC annual reports regarding advanced services deployment required by 47 U.S.C. § 706 have assured Congress – and Americans – that “all is well,” based on a number of glaringly flawed assumptions and logic. Those flawed assumptions and logic include the following, as stated by Mr. Windhausen:

- Until very recently, the FCC defined “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.²⁷ 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.
- It is by now well understood that the FCC’s assumption that a single subscriber to high-speed services in a zip code means such service is available to anyone located in that zip code is highly misleading and, empirically speaking, tells regulators virtually nothing about actual service

²⁶ Windhausen, pp. 5-6 & Figure 1.

²⁷ Compare *In re: 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 *In re: 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).

deployed to customers, service capabilities, the actual subscribership to broadband service, the price of broadband service, etc.²⁸

- The most recent FCC “advanced services” report notes America’s fifteenth-place ranking in broadband subscription, but offers several less-than-convincing arguments that this ranking is of no concern, to-wit:

- The FCC notes that the U.S. has the largest total number of broadband subscribers (about 66 million), which is more than the total number of broadband subscribers of the top twelve ranked countries combined. However, by extension, the U.S. would also be one of the world leaders in the number of people who are unsubscribed to broadband service.

- The FCC claims broadband statistics depend upon the geography and population distribution of the country but ignores the fact that low-speed broadband services have already been deployed to almost all American homes, yet most Americans are still not subscribing because of the high price and lack of competition. Furthermore, OECD data demonstrates that there is very little correlation between the rurality of the country and broadband penetration.

- The FCC claims the U.S. market is distinctive because of its multiple broadband platforms, such as cable modems, wireless, and broadband over power lines, while most other countries are dominated by DSL service provided by the local telephone company. However, as the FCC’s own data shows, the actual market presence of satellites and broadband-over-power-line platforms is negligible, and wireless services do not generally have enough capacity to provide robust broadband services. However, even if the FCC were correct, the availability of multiple service providers and platforms would lead one to expect a higher rate of broadband subscription than other countries.

- The FCC lastly points to the prevalence of wireless services, including Wi-Fi “hot spots,” that are not taken into account in the OECD rankings, but does not attempt to compare wireless capabilities in the U.S. with those in other countries, something that is not surprising since European countries are known to have more wireless users than North America.²⁹

²⁸ The FCC now collects data on a census tract level, but the basic criticisms of its reporting remain valid.

²⁹ Windhausen, at pp. 17-18.

Although the FCC established a “Federal-State Joint Conference on Advanced Services in 1999,” NASUCA notes that this body submitted its last report to the FCC in November 2002 – over six years ago. That report included the following observations:

[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.³⁰

To NASUCA’s knowledge, the FCC never acted upon the concerns noted by the Federal-State Joint Conference on Advanced Services in its 2002 report, nor does the FCC’s website note any meetings of the body since at least 2002.

The FCC was not alone in overstating broadband deployment, capabilities and availability to Americans in its reports. For example, a January 2008 report released by the Department of Commerce cited increases in broadband investment, and deployment of and subscription to a large variety of broadband services but failed to make a comparison of U.S. broadband growth to broadband growth in other countries and made no mention of the ITU and OECD data that show the U.S. steadily losing ground to other developed countries in Europe, Asia and elsewhere.³¹ This report remains the current statement of the NTIA on the issue.

³⁰ “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.

³¹ “Networked Nation: Broadband in America 2007,” National Telecommunications and Information Administration, U.S. Department of Commerce, p. i (Jan. 2008); available at <http://www.ntia.doc.gov/reports/2008/NetworkedNationBroadbandinAmerica2007.pdf>.

B. NASUCA's Recommendations.

In light of the foregoing, any national broadband plan developed by the FCC – in consultation with the other Executive Branch agencies charged with implementing the ARRA – as well as representatives of state governments and associations representing broadband consumers – should be based on an objective, and fundamental, reassessment of basic policy and regulatory decisions made by the agency over the past decade. If the FCC is to develop a sound, national broadband plan – in accordance with the directives of Congress in the ARRA – it should commit itself to revisiting and reconsidering a number of basic policy decisions and assumptions 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 powerline 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 decision 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
- 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

³² See *In re: 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 *In re: Federal-State Joint Board on Universal Service*, Recommended Decision, 22 F.C.C.R. 20477 (Nov. 27, 2007).

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.

With regard to NTIA, NASUCA further recommends that:

- NTIA make it clear that the 2008 "Networked Nation" report's findings and conclusions are being re-evaluated and should not be considered a definitive statement of NTIA's position regarding broadband deployment in the United States.

SECTION 3

DEVELOPING A PROGRAM FOR MAPPING BROADBAND DEPLOYMENT IN COORDINATION WITH STATES AND/OR LOCAL COMMUNITIES

A. Background.

The ARRA provides that, “of the [\$4.35 billion] provided under [Division A], up to \$350 [million] may be expended pursuant to Public Law 110-385 (47 U.S.C. 1301 note) and for the purposes of developing and maintaining a broadband inventory map pursuant to division B of this Act.” (Sec. 1, Div.. A, Title II). Congress’ appropriation provides funds to implement provisions of the Broadband Data Improvement Act of 2008 (“BDIA”). Among other things, the BDIA required improved data gathering by the FCC on broadband under 47 U.S.C. § 706, including directing the FCC to consider comparable broadband deployment (including pricing and transmission speeds) in other countries and to periodically conduct surveys of consumers regarding their broadband service and usage that will, in turn, be publicly available (S.1492, Sec. 103). In addition, the BDIA established a state broadband data and development grant program, to be implemented by the Department of Commerce through the NTIA, which was intended to develop “a baseline assessment of broadband service deployment in each State” including identifying the speeds of service available using the tiered benchmarks established by the FCC (S.1492, Sec. 106).

NASUCA welcomed passage of the BDIA and welcomes Congress’ action in following through by providing funding necessary to achieve that legislation’s purposes. However, NASUCA urges the NTIA to proceed cautiously before it allocates the entire \$350 million appropriated for broadband mapping, in light of the following concerns.

1. Numerous States Have Already Undertaken Broadband Mapping.

Numerous states have already provided funding for, and undertaken or commenced undertaking, broadband deployment studies of their own. For example:

- According to a July 2008 survey released by CostQuest Associates, at least 39 of 50 states have some form of broadband initiative in place, either through legislation or through a more informal effort to increase broadband access. While only 10 states have actually undertaken a definitive broadband mapping effort, another 17 states currently have plans to conduct broadband mapping – leaving 23 states without any mapping planned.³³
- However, of the states that have undertaken, or currently plan to undertake definitive broadband mapping effort(s), states vary widely in the degree of detail included in their mapping efforts: (1) 7 states plan to identify the location of key broadband infrastructure item; (2) 7 states plan to use their broadband initiatives to

³³ CostQuest Associates survey and press release, available at http://www.costquest.com/costquest/docs/State_Broadband_Initiatives_Survey_CostQuest.pdf.

encourage carriers to deploy in high cost/uneconomic areas; (3) 11 states have analyzed, or plan to analyze, deployment barriers such as the cost to deploy broadband; and (4) 15 states plan to conduct mapping of broadband availability at or below the census block level.³⁴

- State approaches to mapping efforts vary as well. For example: (1) at least 5 states – Kentucky, Minnesota, Ohio, Tennessee and West Virginia – have mapped, or are in the process of mapping, broadband deployment within their borders as part of the Connected Nation project;³⁵ (2) several states – including California, Illinois, Iowa, Maine, Massachusetts, Nebraska, New Hampshire, North Carolina, Pennsylvania, Vermont, New Hampshire and Washington – have undertaken their own survey of broadband deployment under state broadband initiatives.³⁶

2. State Efforts to Obtain Meaningful Broadband Deployment Data Have Been Hampered by Broadband Providers’ Control Over Data Provided.

States’ efforts to map broadband deployment, availability and capability have often been hindered by conflicts regarding the data broadband providers are willing to provide them. State officials have at times sought but been denied access to more granular information than the providers are willing to provide – information of the sort contemplated in the BDIA. In some instances, broadband providers refuse to turn over information unless the state executes an onerous non-disclosure agreement (“NDA”) first.

For example, in North Carolina’s e-NC project, the state and AT&T wrestled for months over the information that AT&T would provide in response to state queries regarding broadband deployment. Eventually North Carolina executed a restrictive NDA, which is typical of the NDAs Connected Nation uses across the country. Such NDAs provide that the maps and websites created to show broadband coverage “may not differentiate between general broadband service types (such as DSL, fixed wireless, BPL and others) and may not, at a pinpoint, address level, identify broadband providers at a

³⁴ *Id.* The categories are not cumulative – in other words, one of the 27 states mentioned may be listed in more than one category of activity.

³⁵ See http://www.connectednation.com/state_programs/. In addition, South Carolina appears to have conducted broadband mapping through the Connected Nation approach, according to the Oregon commission staff’s report. See “Oregon Broadband Data Collection and Mapping – Report to the Oregon Public Utility Commission,” Telecommunications Division Staff (June 18, 2008), available at http://www.puc.state.or.us/PUC/telecom/Broadband_Mapping_2008_Staff_Report.pdf.

³⁶ See, e.g., Report of the California Broadband Task Force (Jan. 2008), available at <http://www.calink.ca.gov/taskforcereport/>; New Hampshire Broadband Action Plan (online survey), available at http://www.surveymonkey.com/s.aspx?sm=Mp8hTiwEcn3tmTpR2xrltCA_3d_3d. A very good review of various state broadband deployment mapping and surveying projects is contained in the Oregon commission’s staff report cited in the prior footnote.

given location.”³⁷ Similarly, any information collected by e-NC remains the property of AT&T and can be required to be returned or destroyed at any time, upon AT&T’s request. Under such NDAs, some of the broadband maps produced for states show little more than that a broadband provider has service at a general location. This may have been the intention of the mapping effort, but it leaves consumers and regulators in the dark regarding what technology is used to provide broadband service, what its transmission speed or capability is, or at what price the service is provided.³⁸

North Carolina state legislators engaged in a public dispute over perceived shortcomings of the broadband data obtained by e-NC from providers like AT&T, with some legislators proposing that the state ask the North Carolina Telecommunications Industry Association to provide its own broadband reporting, while other legislators balked at following the Connected Nation approach, since the same general information was likely to be provided under that approach as was provided to e-NC.³⁹

Independent, community-based surveys of broadband service availability and capability in parts of North Carolina appear to corroborate the problems in the general, less detailed broadband data supplied by providers, with the result being that broadband penetration is typically overstated by some 10-15% or more. For example, a survey of citizens in 21 eastern North Carolina counties found that only 60-65% of residents in Halifax County had access to broadband, while the e-NC survey – based on data supplied by providers like AT&T – indicated that 81.7% of residents of the same county had access to broadband. The same disparity between surveys was found in Nash County, North Carolina – the independent survey found broadband access in the 60-65% range while e-NC reported 78.5% of households had broadband access.⁴⁰

A review of the broadband deployment maps and information maintained on some of the “Connect x” states’ websites bears out this concern. For example, the basic broadband maps available through the Connect West Virginia and Connect Ohio websites provide only the most high-level, aggregated data and provide virtually no information regarding the type of technology being used to provide broadband, its advertised or actual transmission speed or capability, particular routes or locations where the service is available, and price.⁴¹ On the other hand, Connect Ohio and Connect West Virginia also have interactive maps available that, with some effort, allow consumers to link to the

³⁷ 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>. A copy of the NDA utilized by AT&T in its dealings with e-NC is available at <http://www.publicknowledge.org/pdf/enc-nda-20090107.pdf>.

³⁸ *Id.*

³⁹ See Brodsky online article.

⁴⁰ *Id.*

⁴¹ See http://connectwestvirginia.org/mapping_and_research/; http://connectohio.org/mapping_and_research/Availability_Maps.php.

broadband providers serving the consumer's location.⁴² There remain serious questions about the accuracy of this information, however.

The BDIA contemplates much more detailed, granular broadband data being provided than has been provided in many of the state surveys conducted to date,. The NTIA should take its cue from Congress and issue rules or orders that make it clear that entities conducting broadband deployment and mapping projects with grants funded under the ARRA are entitled to the sort of detailed information Congress intended broadband providers to supply in response to such projects.

3. Consumer-Based Surveys Regarding Broadband Availability Offer an Alternative Source of Broadband Data.

In response to perceived problems associated with broadband data supplied to states by broadband providers, either in response to state initiatives or through the Connected Nation approach, a number of consumer-based surveys of broadband availability, capability and subscription have been undertaken. The North Carolina consumer-based surveys referenced above are one example. Another example is BroadbandCensus.com, an Internet-based, interactive survey and information clearinghouse that seeks both to obtain and to provide information regarding broadband service.⁴³ This organization was founded in January 2008 and only recently began development of its state database of broadband availability.

The BDIA authorizes grants for state-based initiatives to map broadband deployment to be issued to "eligible entities," which include state or local governments, nonprofit organizations, or independent agencies or commissions in which a state office is a member (S.1492, Sec. 106(b) & (i)). Groups like BroadbandCensus would appear to fit within the scope of entities eligible to apply for, and be awarded, grants to identify and track the availability and adoption of broadband services within each state.

B. NASUCA Recommendations.

1. Broadband Mapping Should Not Require the Entire \$350 Million Appropriated by Congress in Order to Maximize Funds Available for Broadband Deployment Projects.

In light of efforts that are already underway or that have been completed at the state level, the entire \$350 million appropriated by Congress for broadband mapping may not need to be used. The NTIA does not need to "reinvent the wheel" but rather should take advantage of efforts in states that have conducted broadband mapping projects and

⁴² See http://www.connectohio.org/mapping_and_research/interactive_map.php; http://www.connectwestvirginia.org/mapping_and_research/interactive_map.php.

⁴³ See <http://broadbandcensus.com>. Information regarding specific cities or counties, by zip code, in each state is available at <http://development.broadbandcensus.com/zipcodes/states>. Since this information has only recently begun being collected, and posted, it is largely incomplete.

undertake a survey of the successes and failures of those states' efforts. This review would seek to develop "best practices" criteria that entities seeking mapping grants under the ARRA should be required to follow in order to obtain the best data available regarding broadband deployment. NASUCA recommends that the NTIA, in consultation with the RUS and the FCC, should take the following actions to limit the amount of money allocated to state broadband mapping efforts and to maximize the funds available to support actual broadband infrastructure and subscription projects:

- As expeditiously as possible, the NTIA should consult those states that have completed broadband mapping efforts thus far in order to study: (i) the manner in which data was collected – whether by the state directly or through a third party, such as Connected Nation or a consultant; (ii) the degree to which data collected was consistent with the BDIA's requirements for greater detail and granularity regarding broadband service; (iii) the cost of completing the broadband mapping project; (iv) the amount of time required to complete the broadband mapping project; (v) any flaws or shortcomings in the mapping project's data collection efforts; and (vi) any other information that the NTIA, in consultation with the other agencies, deems necessary and appropriate.⁴⁴
- Based on the review of state broadband mapping efforts, the NTIA should develop "best practices" that state mapping efforts should utilize in order to expeditiously generate the most accurate, detailed broadband data possible for the least cost practicable. In addition, the NTIA's review of past state broadband mapping efforts should be utilized to provide some basis for determining a reasonable projected cost to complete future mapping projects.
- The NTIA should assign first priority to funding efforts to analyze and map broadband deployment and subscription in the approximately 23 states that have not yet undertaken such initiatives. This mapping and analysis should be consistent with the provisions of the BDIA with regard to assessing speed and price of services falling under the FCC's tiered system based on transmission capability, and mapping deployment at the census block level or smaller. Since these states have not, to-date, undertaken or considered undertaking such analyses, it is likely that they will not map their broadband deployment and subscription without federal assistance, financial or otherwise.
- Second priority should be assigned to funding state efforts to analyze and map broadband deployment that have previously been completed but that are not fully consistent with the provisions of the BDIA with regard to assessing speed and price of services falling under the FCC's tiered system based on transmission capability, and mapping deployment at the census block level or smaller. Notwithstanding the fact that there are flaws and deficiencies in many of the studies conducted by these states to-date, some may have already allocated funds for

⁴⁴ The agencies may wish to review the previously-cited June 18, 2008 report prepared by Staff of the Oregon Utilities Commission, which summarizes state broadband mapping and information-gathering efforts and consult with Oregon staff to identify appropriate contacts in other states.

further studies or be engaged in additional mapping efforts that are already underway. At the very least, the agencies should evaluate the analyses currently underway or planned to determine whether significant additional federal funding is needed to develop the sort of information contemplated in the BDIA.

- As previously noted,⁴⁵ under no circumstances should the award of broadband deployment grants or other funding by either NTIA or RUS be postponed or delayed while efforts to develop nationwide broadband mapping are ongoing.

2. The Agencies Should Ensure That Broadband Providers Supply Granular Data That is Publicly Available or Consider Bypassing Providers to Develop Such Data Through Local Communities, Consumers and Independent Researchers.

As noted above, it appears that broadband providers have exercised significant control over the quantity and quality of data provided to states that have undertaken broadband mapping efforts in the past. As a result, state broadband deployment maps and other data may significantly overstate the degree to which consumers have access to broadband service and are unlikely to provide much detail about the types of service available in a given community, its capabilities or its price – in other words, the kind of information that consumers need and expect in deciding whether to subscribe to broadband service. Accordingly, NASUCA recommends:

- The interagency task force/advisory committee recommended above should assist the NTIA in developing proposed “best practices” standards for gathering, analyzing and reporting data produced by broadband mapping efforts.
- The NTIA should issue rules making it clear that entities conducting broadband deployment and mapping projects with grants funded under the ARRA are entitled to the sort of detailed information Congress intended broadband providers to supply in response to such projects and provide enforcement mechanisms to compel the production of such data if it is not provided in response to lawful requests. To the maximum extent possible, consistent with the provisions of the BDIA and the ARRA, and relevant federal and state law, the agencies should require public disclosure of information regarding broadband availability, by type of service, transmission capabilities and price for on a census block basis, so that such information may be accessed without limitation by, among others, providers, consumers and government officials.
- The three agencies should identify and assist organizations and state or local governments that are attempting to develop interactive, Internet-based surveys that can produce publicly-available, detailed maps of broadband availability, subscription and capability that consumers, and regulators, can easily access. The agencies should encourage and assist such efforts in order to validate broadband

⁴⁵ See footnote 4, above.

deployment studies that are often totally dependent upon broadband providers who may have a vested interest in providing less detailed information.

SECTION 4

RULES OR POLICIES TO STIMULATE BROADBAND INVESTMENT IN UNSERVED AREAS SHOULD BE DEVELOPED FIRST.

A. Background.

As noted above, there are large areas of the country, primarily in rural areas but also in urban or suburban areas that generally have larger low-income or minority populations, where citizens currently have little or no access to broadband service. NASUCA believes that Congress intended that providing broadband access to unserved areas would be a priority for infrastructure projects funded under the ARRA. This is clear under the provisions allocating funds to the RUS, as well as the provisions establishing the BTO Program administered by the NTIA. For example, with regard to the RUS program, Congress required that “priority for awarding funds . . . shall be given to projects that provide service to the highest proportion of rural residents that do not have access to broadband service.” (Sec. 2, Division A, Title I). Likewise, Congress placed “provid[ing] access to broadband service to consumers residing in unserved areas of the United States.” (Sec. 2, Division B, Title VI, § 6001(b)(1)).

B. NASUCA Recommendations.

Funding projects in unserved areas should be the first priority of the agencies implementing the ARRA as it is both the most cost-effective approach and the most consistent with Congress’ objectives. By contrast, as discussed in the next section, expanding or enhancing existing service in “underserved” areas requires more planning with respect to definitions, standards and choices, more review to prevent conflicts of interest, and more administrative oversight to prevent simple subsidization of infrastructure that might have been built or planned anyway. Specifically, NASUCA recommends:

- That an “unserved” area be defined as an area that is not served by any form of facilities-based broadband or where Internet connectivity is available only through dial-up service or satellite.⁴⁶

⁴⁶ Free Press proposes a three-tier definition of “unserved.” See “Putting the Angels in the Details,” at 4 (cited in footnote 15). Free Press’ proposal appears better suited to defining “underserved” areas.

- For purposes of defining an “unserved” area, “broadband” should be defined as any service with information transfer rates equal to or greater than 768 kbps but less than 1.5 mbps, corresponding to “basic broadband tier 1 service” defined by the FCC.⁴⁷ Although we should aspire to much faster rates, this is the minimum speed that should be required for areas currently without any service at all.

⁴⁷ See *In re: 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). NASUCA believes that this is the appropriate standard for defining unserved rather than the 200-768 kbps service defined by the FCC as “first generation data service” because, as even members of the FCC have recognized, the current FCC definition is too slow and obsolescent to be considered as a standard for the sort of high-speed broadband envisioned by Congress and President Obama. *Id.* at 9764 (separate statement of Commissioner Michael J. Copps); *id.* at 9767 (comments of Commissioner Jonathan S. Adelstein).

SECTION 5

CRITERIA FOR DEFINING UNDERSERVED AREAS AND AFFORDABLE BROADBAND SHOULD BE DEVELOPED SECOND.

A. Background.

While the ARRA makes it clear that investing in broadband infrastructure to provide access in areas that are currently unserved should be the highest priority for funding, the legislation also makes “underserved” areas eligible for broadband infrastructure investment funds, directing that the BTO Program’s purpose includes “provid[ing] improved access to broadband service to consumers residing in underserved areas of the United States.” (Section 2, Division B, Sec. 6001(b)(2). NASUCA reads “improved access” in conjunction with “underserved” to mean that areas suitable for funding include not only areas where broadband subscription is low, but also areas where current broadband service is inadequate in terms of transmission capabilities, reliability, competitive alternatives, or price. Indeed, NASUCA believes that in some smaller, more urban or less geographically challenging states – for example, Rhode Island, Connecticut, Delaware and the District of Columbia – there may be few areas that lack broadband access altogether. In order to meet Congress’ directive that at least one grant be issued for each state, eligible projects in some states may be primarily directed at increasing subscription, reducing broadband rates or enhancing the quality and capability of broadband service in such areas.

Experience has shown that simply constructing broadband facilities and making the service available does not automatically translate into expanding broadband service take-rates or usage. For instance, a soon-to-be-released study undertaken by the Wireless Comparative Analysis and Best Practices Education Project (“WCABPEP”) takes a close look at several government-led wireless projects throughout California. The resulting study offers important insights into the relative successes and failures of government-led wireless initiatives. Drawing from this experience, the WCABPEP suggests a number of “best practices” that could be followed in order to achieve true digital inclusion.⁴⁸

B. NASUCA Recommendations.

Among other things, NASUCA recommends that the agencies, either through the inter-agency task force, or with the assistance of an advisory committee (both discussed earlier) should develop criteria for identifying and prioritizing underserved areas for purposes of funding BTO Program projects.

⁴⁸ “Wired for Wireless? Towards Digital Inclusion and Next Generation Government-Led Wireless Networks,” A Summary Report of the Wireless Comparative Analysis and Best Practices Education Project, Richard Chabran (Policy Advisor, California Community Technology Policy Group), Oscar E. Cruz (Program Director, Community Partners), Linda Fowells (Executive Vice President, Community Partners), Allen Hammond (Director, Broadband Institute of California); draft report available at <http://www.communitypartners.org/wireless-documents.html>.

1. Defining “Underserved” Areas.

Granting applications for funding for broadband in underserved areas requires that NTIA adopt a definition of “underserved.” If funds appropriated by Congress under the ARRA are to be used effectively, it is critical that significant thought be given to this definition by the agencies.

As noted earlier, broadband data collected by states to-date largely consists of information that is, reported by carriers, with limited ability by state authorities to verify the information provided to them and even more limited public scrutiny of the data. While more recent broadband data compiled by states, such as California, is more granular and therefore more useful than the FCC’s zip code data, in and of itself it is not sufficient to support the NTIA’s efforts to implement the ARRA with regard to increasing broadband service in underserved areas.

A first step, therefore, in the process of defining “underserved” areas is to verify that such areas are not, in fact, unserved.

- To the extent possible, NASUCA urges NTIA to identify additional sources of information to supplement its reporting and mapping requirements, so that it may identify pockets of need within communities that are underserved. For example, consistent with the examples noted in the Brodsky article discussed above,⁴⁹ the studies cited below pertaining to California studies indicate that state reports have overstated broadband availability. NASUCA believes that it may be fruitful for the agencies’ staff to consult with the authors of these and similar studies to determine whether areas that might appear at first blush to be underserved are, in fact, unserved.

In defining “underserved,” NASUCA recommends that the agencies consider the following:

- The term “underserved” may refer to different situations. For example, “underserved” might mean that an entire community receives some form of broadband service at very low speeds or very high price.
- “Underserved” may also include geographic areas, such as telephone company/cable company service territories, where broadband may be generally available, but where there are disparities in the speed and quality of the services provided to different neighborhoods. There may be unserved neighborhoods within larger areas that generally have service and some neighborhoods or communities with poor service compared to that which is available to the rest of the surrounding area. Similarly, an “underserved” area may also include areas in which restrictive conditions apply to existing broadband service that do not apply to other forms of broadband service such as, for example, a situation in which only mobile broadband

⁴⁹ See footnote 37, above.

is available and the provider imposes download limitations or metering whereas fixed broadband providers in nearby areas impose no such restrictions.

- “Underserved” may also refer to segments of the population who lack the training, experience or education to utilize broadband service and thus, without support, would not subscribe to broadband service. For example, studies have shown that broadband utilization in Los Angeles is lower among Latinos, African Americans and the elderly, as well as in neighborhoods that are relatively isolated due to a reliance on public transportation and no access to automobiles. Thus, in defining the term “underserved,” NTIA should consider areas where adoption rates are low.⁵⁰

From the mid-1990s through 2002, NTIA produced a series of reports, entitled *Falling Through the Net*,⁵¹ which highlighted the digital divide. Subsequently, the report was renamed *A Nation Online* and the way in which NTIA reported statistics regarding broadband coverage changed. The *A Nation Online* reports did not provide as much detail as the *Falling Through the Net* series regarding which segments of the population were actually using broadband. Several studies such as those by Manuel Pastor looked more carefully at the gaps between broadband availability and broadband subscription (or “take rate”).⁵²

After 2004, NTIA stopped preparing the *A Nation Online* reports altogether and the federal reporting regarding broadband deployment and availability was carried out primarily in the FCC’s advanced services reports. As has been widely recognized, the FCC reports were woefully deficient. In addition to greatly overstating the availability of broadband facilities, the FCC’s reports did not consider adoption rates and relied exclusively on carrier-reported deployment. The FCC’s reports have been somewhat improved – primarily by Congress’ intervention through the BDIA and criticism leveled at the FCC by the GAO – by requiring reporting on a census tract level, but this is still insufficient to provide a true picture of broadband deployment and use among underserved

⁵⁰ See “Technology and The Geography of Inequality in Los Angeles”, Ali Modarres, Ph.D., Bill Pitkin, Ph.D., Edmund G. “Pat” Brown Institute of Public Affairs, California State University, Los Angeles, (Sept. 2006), available at http://www.patbrowninstitute.org/publications/documents/CTF_Report.pdf; see also “In Search of Digital Equity: Assessing The Geography of Digital Divide in California,” Edmund G. “Pat” Brown Institute of Public Affairs, California State University, Los Angeles, Issue Brief No. 5 (Dec. 2008), <http://www.patbrowninstitute.org/documents/PolicyBrief.pdf>

⁵¹ See NTIA, *Falling Through the Net: A Survey of the ‘Have-Nots’ in Rural and Urban America*, (Washington, DC: NTIA, 1995); NTIA, *Falling Through the Net II: New Data on the Digital Divide*, (Washington, DC: NTIA, 1998); NTIA, *Falling Through the Net: Defining the Digital Divide*, (Washington, DC: NTIA, 1999); NTIA, *Falling Through The Net: Toward Digital Inclusion, A Report On Americans’ Access To Technology Tools*, (Washington, DC: NTIA, 2000); NTIA, *A Nation Online: How Americans Are Expanding Their Use of the Internet*, (Washington, DC: NTIA, 2002); and United States Department of Commerce, Economics and Statistics Administration and National Telecommunications and Information Administration, *A Nation Online: Entering the Broadband Age*, Washington, DC: (Sept. 2004).

⁵² *Crossing the Divide – Immigrant Youth and Digital Disparity in California*, Robert W. Fairlie, Rebecca A. London, Rachel Rosner, Manuel Pastor, Center for Justice, Tolerance and Community, University of California, Santa Cruz (Sept.. 2006).

populations. Data collected on a census tract basis simply does not provide the level of detail necessary to ensure accurate reporting of underserved communities.

Moreover, NASUCA believes that it would be shortsighted for the agencies to focus solely on deployment in reporting and monitoring areas that are underserved for broadband. For example, the ARRA makes a major investment in improving health care through information technology. Broadband is increasingly used for transmitting electronic records and e-prescriptions, doctors are encouraged to make increasing use of information technology. The success of these programs will depend on people being connected. Similar issues arise with respect to education. Studying deployment only, as been the practice of the FCC, is insufficient. Take rates should also be a major consideration.

With the foregoing in mind, NASUCA offers the following recommendations with regard to assessing reporting regarding provision of broadband to underserved communities:

- The NTIA studies on broadband adoption and use (identifying the underserved) should be reinstated.
- The FCC reports should be refined to collect data at the census block group level.
- NTIA should formally and carefully examine the differences between the reports on broadband deployment vs. broadband adoption.
- NTIA should reassess national average subscription rates in areas that currently have broadband service.

2. Defining “Affordability.”

The ARRA directs the NTIA, in awarding grants, to consider whether an application “will, if approved, increase the affordability of, and subscribership to, service to the greatest population of users in the area,” (§6001(h)(2)(a)). However, the statute does not define “affordable.” This consideration will be particularly important in situations where broadband is provided by existing carriers, but subscribership is low due to economic circumstances. NTIA is faced with questions such as:

- (1) How should “affordability” be defined and how will NTIA know if service is affordable?
- (2) Should pricing requirements be imposed on grant recipients and, if so, how are such requirements to be determined?

Similarly, all entities - private and public - receiving public money under the ARRA to construct facilities should be presumed to have an obligation to offer good quality broadband service at affordable prices. Should special pricing obligations apply to services

offered by privately owned carriers utilizing facilities constructed with grant money and, if so, how would this be accomplished in light of the fact that such carriers offer other broadband services to other customers at different prices, often as a bundled offering?

Accordingly, NASUCA recommends:

- The agencies should establish national, regional, or even state-specific benchmark prices for broadband services based on the tiered transmission capability identified by the FCC and endorsed by Congress in the BDIA, across all technologies utilized to provide broadband service.
- That NTIA/RUS should consider a requirement that grant recipients offer a stand-alone broadband service that is priced either no higher than a national average benchmark for the same or substantially similar service in terms of transmission capability and technology, or the lowest-priced offering for the same or substantially similar service of any broadband provider in the state.
- In conjunction with the foregoing recommendation, the agencies might consider whether private entity applicants should be precluded from offering their lowest-priced broadband service as part of a bundle or package of their commercial services (such as triple-play offerings of Internet, video and telephone service), which induces customers to subscribe to services not funded under the ARRA in order to subscribe to broadband.

3. Addressing Other Factors Contributing To Lower Service Utilization.

As NASUCA pointed out in previous letters pertaining to broadband stimulus funding, it is crucial that the program addresses issues such as language and educational barriers to broadband subscription, as well as economic barriers to access to equipment and training. Moreover, community level involvement is crucial to the success of broadband initiatives.⁵³ For example, experience has shown that while information is abundant on the Internet, for the Latino community there is still a need to have culturally relevant content in Spanish and English, along with training and e-literacy programs. The ARRA specifically earmarks funds to address expanding public computer center capacity, and to encourage sustainable adoption of broadband service. Accordingly, NASUCA recommends:

- That in order to maximize broadband subscription and utilization in underserved areas, the NTIA should take advantage of the experience in states such as California where models for supporting the adoption of broadband have been tested.

⁵³ See, e.g., Blanca Gordo, Xitlaly Aranda, Jonathan Mason, and Pedro Ruiz, "Disconnected: A Community and Technology Needs Assessment of the Southeast Los Angeles Region (SELA)," Center for Latino Policy Research, University of California at Berkeley. Policy Reports and Research Briefs: Paper GordoArandaMasonRuiz2008 (July 29, 2008); available at <http://repositories.cdlib.org/issc/clpr/pr/GordoArandaMasonRuiz2008>.

The “broadband problem” in this country is both a supply-side problem (which will be addressed by the infrastructure investments most often discussed in this context) and a demand-side problem. Programs that assist consumers in understanding the benefits of broadband service and stimulate the demand for such service should also be adopted.

SECTION 6

THE AGENCIES SHOULD JOINTLY DEVELOP A SINGLE FORM FOR ENTITIES APPLYING FOR BROADBAND FUNDING UNDER THE ARRA

A. Background.

The ARRA sets forth a number of priorities and other requirements for entities seeking broadband grants from either the RUS and/or from the NTIA. Section 1, Division A, Title 1 of the ARRA sets forth requirements for broadband funding administered by RUS and criteria for evaluating applications for such funding, while Section 1, Division B, Title 2 (§ 6001) sets forth the restrictions and requirements that govern broadband funding under the BTO Program administered by NTIA. However, the act is silent with regard how entities should apply for broadband funding and the agencies will need to address many of the details regarding applications, public availability of application forms and information to assist, among others, state and local governments in consulting with the agencies.

B. NASUCA Recommendations.

The purposes and requirements of the broadband programs administered by RUS and NTIA overlap to a considerable extent, and indeed, an unsuccessful applicant for broadband funding under one agency's program may be eligible for funding under the other agency's program. In order to maximize the agencies' synergies in implementing their respective programs and to make applying for broadband funds as simple as possible, NASUCA recommends the agencies develop a single application form/template by which entities may apply for federal assistance for broadband-related projects under either the rural broadband program(s) administered by the RUS or the BTO Program administered by the NTIA. NASUCA believes that development of such an application form will not only be of assistance to applicants for federal funding but will also assist the agencies in coordinating their efforts to distribute federal funding under the programs expeditiously and to ensure that funds are spent and accounted for appropriately.

Accordingly, NASUCA recommends that:

- The application form should provide an instructions and summary section at the outset, to provide applicants with a summary of the distinct purposes or requirements, and funding options available, applicable to each program and appropriate instructions for filling out sections applicable to one agency's program or both.
- Following the instructions/summary section, the agencies' application form should include a section – applicable to *both* programs – that collects basic data regarding any applicant for federal funding under either rural program(s) administered by the RUS or the BTO Program administered by the NTIA. Such information should include:

- The full legal name, address, telephone number and email address of the applicant, together with the full name, address, telephone number and email address of a natural person who is designated to serve as applicant's point of contact for the agencies.
- A statement whether the applicant is: (i) a state entity (or political subdivision thereof), (ii) the District of Columbia, (iii) a territory or possession of the United States, (iv) an Indian tribe (as defined in 25 U.S.C. § 450(b)), (v) a native Hawaiian organization, or (vi) a nonprofit foundation, corporation, institution or association.
- A statement whether the applicant is: (i) a borrower or former borrower under title II of the Rural Electrification Act of 1936, or (ii) whether the applicant's project includes such a borrower or former borrower.
- A one-sentence description of the project, the number of persons/households to be served by the project, and the project's location – *e.g.*, “To construct a Wi-Max network capable of providing wireless broadband service with a transmission capability of ___ Mbps (upload) and ___ Mbps (download).”
- Applicants should provide specific information about upload and download speeds associated with the proposed broadband project. For example, if a specific deployment would result in 20% of customers receiving speeds of 5 Mbps/2 Mbps, 50% of customers receiving speeds of 1.5 Mbps/768 kbps, and 30% of customers receiving speeds of 384 kbps/128kbps, these detailed statistics should be presented.
- A general description of the area and customers to be served by the project, including such information as:
 - Description of the community/area to be served (*i.e.*, a rural unincorporated community located in ___ county, Maine, x number of square miles, terrain, vegetation, reasons that have made broadband deployment uneconomic);
 - Statement whether the community/area is currently unserved/underserved, including a brief explanation why the project is needed (*e.g.*, there is a small telephone company serving the community that has failed to deploy broadband; there are customers who are located outside a current provider's service territory who could not be served by established providers; there is no service at all, etc);
 - Number of customers/households to be served;
 - Important information regarding income levels, unemployment, demographics in the community/area to be served.
- A section requiring the applicant to identify the broadband funding program pursuant to which applicant wishes to apply for funding, and an optional check-off for funding under the other agency's program(s), which constitutes a certification that the applicant reasonably believes it could qualify for funding under the other agency's program(s).

- For applications submitted under the rural broadband programs administered by the RUS, the application form should include a separate section that requires the applicant to provide the following:
 - The type of funding assistance sought (*i.e.*, grant, loan or loan guarantee) and the amount of funding assistance sought.
 - Information demonstrating that at least 75% of the area to be served by the project is in a rural area that is without sufficient access to high speed broadband service.
 - Information explaining whether the broadband system that is the subject of the application will deliver end users a choice of more than one service provider.
 - Information explaining whether the project will serve the highest proportion of rural residents that do not have access to broadband service.
 - Information demonstrating that all project elements will be fully funded if approved.
 - Information demonstrating that all activities associated with the proposed project can be completed if the requested funds are provided. Included in section should be information demonstrating the scalability of the proposed project, demonstrating that some elements of the project can be completed if less than the amount sought is awarded, including cost estimates for each element of the proposed project.
 - Information demonstrating that activities can commence promptly following approval.

- For applications submitted under the broadband programs administered by the NTIA, the application form should require the applicant to provide the following:
 - A statement setting forth the total amount of grant sought.
 - A statement indicating the activities the grant sought will be used to finance, consistent with § 6001(g)(1) – (6).
 - An explanation why the proposed project would satisfy the purposes of the BTO Program (including a check-off list of the purposes set forth in § 6001(b)).
 - If an application proposes to deploy broadband infrastructure in an area, a statement explaining how the criteria set forth in § 6001(h)(2)(A) – (D) will be satisfied.
 - A detailed explanation meeting the requirements of § 6001(e), including:
 - A showing that the project would not be constructed prior to the end of Fiscal Year 2010 (*i.e.*, September 30, 2010) without funding from the grant program (For example, the applicant has a budget of \$100,000 for the next fiscal year, but has a project that could be implemented over a wider territory with additional funds. The additional funds would result in the entire project being complete within the next two years, rather than being spread out over 5 or 6 years.).

- A statement demonstrating that the applicant is capable of carrying out the project or function to which the application relates in a competent manner in compliance with all Federal, State and local laws, as required by § 6001(e)(4). Included in this statement should be information regarding the applicant's technical or managerial experience and financial resources.
 - A statement demonstrating, and certifying, that the applicant will appropriate or otherwise unconditionally obligate from non-Federal sources, funds required to meet the 20% non-Federal matching share of the project's overall estimated cost. Applicants should be allowed to include contributions in kind (*e.g.*, dedication of rights-of-way, provision of donated material or volunteer labor) with a reasonably estimated fair market value equivalent to the 20% match.
 - Provide a check-off box if the applicant intends to submit a petition for a waiver of this requirement, based on a showing of financial need.
 - A statement disclosing each source and amount of any other Federal or State funding sources from which the applicant receives, or has applied for, in order to fund activities or projects to which the grant application relates.
 - A statement acknowledging that, if the grant is awarded, the applicant shall comply with the quarterly reporting requirements adopted by the NTIA pursuant to § 6001(i)(1).
 - A statement acknowledging that, if the grant is awarded, the applicant shall comply with any additional reporting and information requirements adopted by the NTIA pursuant to § 6001(i)(2).
 - A statement certifying that the applicant will employ procedures, and describing same, that would allow the NTIA to ensure that the funds are used and accounted for in an appropriate manner.
- A final section applicable to all applications submitted under *both* the rural broadband program(s) administered by the RUS or the BTO Program administered by the NTIA, setting forth the following certifications and assurances:
 - A statement whether any other entity's application for broadband funding for the particular community or area is pending review or approval by the RUS/NTIA, or certification that the applicant has exercised due diligence to ascertain whether any such applications are pending review or approval and found none.
 - A certification that no part of the area of a broadband project to be funded under RUS/NTIA program is receiving or will, during the period of the funding assistance under the ARRA, receive funding from the other agency.
 - Certification that the information provided in, attached to, or subsequently submitted in relation to, the application is true and correct, subject to penalty of perjury.
 - Acknowledgement that information provided in conjunction with the application may be included in any publicly accessible database established

by the NTIA that contains the information set forth in § 6001(i)(5), or that may be established by the RUS that contains substantially similar information.

- Certification to cooperate, in good faith, with the RUS, the NTIA, the FCC or the State in which the proposed project is located, in any efforts to obtain data to map broadband deployment, subscription, capabilities, price or similar information.

In addition, in order to assist both funding applicants and states and local governments in consulting with the agencies regarding funding applications, NASUCA recommends that:

- Each agency, including the FCC, should prominently display a link to a read-writable ARRA-funding application form on their websites and provide a link where completed application forms may be submitted electronically to the relevant agency(ies). If the agencies develop a single form that allows funding applications to programs administered by each agency simultaneously, the agencies should consider developing and providing a link to a joint web page for applications.
- Each funding agency should maintain a publicly-accessible inventory of funding applications that have been submitted or allocated to the agency for funding under the ARRA on its website, arranged by state or territory.

Finally, NASUCA believes the agencies should consider adopting the following additional recommendations for applications seeking broadband funding under either the RUS- or NTIA-administered programs:

- Require funding assistance to be conditioned on applicants' agreement to the following broadband pricing commitments, in order to maximize broadband take rates:
 - Applicants should be required to include a broadband pricing commitment that would apply for an initial period of three years. Most of the costs of establishing a broadband network are fixed costs, which will be subsidized by the grant program. Thus it would be appropriate for prices for broadband service deployed under the ARRA not to increase by more than the general rate of inflation for a period of at least three years.
 - Applicants should be required to state the prices they currently charge for broadband service and the prices they would charge for service following receipt of broadband funding under the ARRA. Such pricing information should include any service connection charges and early termination fees.
 - Applicants should also be required to indicate whether they will offer broadband service on a month-to-month basis, or on a longer-term contract basis.
- Agency verification of broadband transmission capabilities.

- The NTIA and RUS should implement a process to evaluate the data speeds of projects funded under the ARRA. One means of doing so would be to consider the busy-hour engineering plan associated with the deployment, and evaluate whether this is consistent with transmission speeds reported for the project.
 - The agencies should also establish criteria for determining how broadband transmission speeds will be measured once the proposed project is complete.
-
- Establishing criteria for objectively evaluating the relative merits of different broadband applications for the same or overlapping areas. The agencies may want to review the criteria developed by the California commission for evaluating requests for funding under the state's advanced services fund for guidance.
 - Establishing provisions for applicants to supplement their initial funding applications in order to reflect changed circumstances that arise subsequently.

APPENDIX

EXAMPLES OF “SHOVEL-READY” PROJECTS THAT ARE CONSISTENT WITH THE GOALS AND REQUIREMENTS OF THE ARRA.

A. Sampling Of Prior Public/Private Broadband Deployment Efforts.

In considering the “shovel ready” projects appended hereto, NASUCA suggests that the agencies review some of the public/private broadband projects that have been undertaken around the country previously, in order to assist the agencies in developing an understanding of options and approaches that have been utilized successfully in the past, and to develop a real-world basis for evaluating funding requests that the agencies will begin receiving in the very near future (if not already).

A number of communities have responded to a lack of private broadband investment and built their own fiber-optic or other broadband networks to provide broadband service to their citizens. These projects include:

- Philippi, West Virginia: In 2007, the city of 2,900 completed construction of a 48-mile fiber-to-the-home (“FTTH”) cable system utilizing Motorola’s AXS2200 series platform to provide voice, data, and video services to subscribers. The Philippi system is fully operational and supports over 1,400 optical network terminal devices (with the capacity to serve 800 more), each capable of transfer speeds of 20 Mbps downstream and 5 Mbps upstream. In addition, subscribers needing higher transfer speeds can contact the city to create custom data packages. The city configured its system to be capable of being extended to serve customers located outside municipal limits and a more detailed description of the Philippi system is included in Part B of the Appendix as an example of a “shovel-ready” project that could be completed quickly.
- Ft. Wayne, Indiana: Built a new broadband network, prompting Raytheon to expand its presence in the city and turn a decade of declining growth into a 4% annual growth rate.⁵⁴
- Cedar Falls, Iowa: Built a hybrid fiber/coaxial cable network to attract Peregrine Financial Group and several other businesses to relocate there, some of them from the neighboring city of Waterloo, which has no broadband network.⁵⁵
- Bristol, Virginia: Located in an economically depressed area of southwestern Virginia, this city of just over 17,000 overcame legal challenges from

⁵⁴ “Doing the Work: 2007 Verizon Corporate Responsibility Report,” Verizon (May 2008), available at http://responsibility.verizon.com/pdfs/verizon_cr_report_2007.pdf.

⁵⁵ Drew Anderson, “With Relocation of Peregrine Financial Group, Comes Lots of Spending Money,” WFCourier.com (June 24, 2007), available at <http://www.wfcourier.com/articles/2007/06/24/business/local/c8f3fa51d61835ca86257303001cbd2a.txt>.

telephone and cable companies to build a FTTH network that has attracted two new employers that will bring 1,500 high-paying jobs.⁵⁶

- Tacoma, Washington: The city began building a broadband network ten years ago and has attracted more than one hundred high-tech businesses as a result.⁵⁷
- Scottsburg, Indiana: Built a wireless broadband network that saved more than sixty jobs and a local Chrysler repair shop, and also saved the city \$6,000 per month in reduced telecommunications expenses.⁵⁸
- Pocahontas, Iowa: A community of approximately 2,000, the town of Pocahontas turned to a wireless system provider after being told that Qwest was not interested in providing broadband service locally. Rather than spending \$4 million upgrading the town's cable system for broadband, Pocahontas chose a multipoint microwave distribution system ("MMDS") for an initial investment of only \$32,000. The system was based on non-line-of-sight technology providing greater flexibility and quicker installation, but less bandwidth, than older line-of-sight systems. Evertek, Inc. provides the MMDS system, which operates in the 2.1 to 2.7 Ghz frequency range and allows a single radio tower to cover a 35-mile radius. Using Evertek's MMDS system, the town provided 512 Kbps downloads to customers for a \$29.95 monthly fee. The town splits the monthly customer revenue with Evertek.⁵⁹
- Grant County, Washington: Grant County took advantage of changes in state law which allowed local utilities to provide telecommunications services. The Grant County Public Utility built its own community-wide fiber optic network after it was unable to get service from firms such as Qwest and Verizon. Over 6,000 homes and businesses were connected to the gigabit Internet network via Grant County's Zipp Net, a wholesale access platform used in coordination with competitive Internet service providers ("ISPs") who offered an array of value-added retail services directly to consumers and businesses, such as video on demand, Voice over Internet Protocol and web services.⁶⁰

⁵⁶ Paul Miller, "Bristol's Broadband Push," Virginia Business (Nov. 2006), available at <http://www.gatewayva.com/biz/virginiabusiness/magazine/yr2006/nov06/tele1.shtml>.

⁵⁷ Karin Kahn, "Getting Enough Fiber in Tacoma," Business Facilities (Feb. 2002), available at http://www.businessfacilities.com/bf_02_02_move.asp.

⁵⁸ "Scottsburg, Indiana, USA: Award Winning Network Ensures Continued Survival of Small Town's Economy," Alvarion (2006), available at http://www.alvarion.com/upload/contents/291/alv_cs_Scottsburg_LR.pdf.

⁵⁹ Federal-State Joint Conference on Advanced Services Report, p. 49.

⁶⁰ *Id.* at 53.

NASUCA also recognizes that the private sector has, on occasion, been successful in deploying broadband infrastructure and services in rural, unserved or underserved communities. These projects include:

- Hickory Tech Corporation – Iowa/Minnesota: A small ILEC, CLEC and wireless provider providing service in southern Minnesota and central Iowa, completely overbuilt the existing networks in 15 communities in the aforementioned area in order to provide telecommunications, broadband and video services to these communities.⁶¹
- Grande Communications – Texas: A CLEC, Grande used fiber optics to link seven Texas cities with a new network capable of delivering video, telephone and broadband Internet services. Grande’s fiber-optic technology was initially capable of providing transmission speeds of 10 Mbps, scalable to 100 Mbps with a relatively small upgrade.⁶²

⁶¹ *Id.* at 47.

⁶² *Id.* at 47-48.

B. Examples of “Shovel Ready” Projects.⁶³

Attachment 1. Plumas-Sierra Electric Cooperative Broadband Initiative (California)

This project would bring wireless broadband to four counties in northeastern California (Plumas, Sierra, Modoc and Lassen), which cover 12,000 square miles. The area is characterized by rugged mountains and dense forests, posing unique challenges for providing telecommunications services, let alone broadband. Moreover, the population is widely dispersed, with numerous small towns. Many of the customers live either outside the serving territory of the local telephone company, or in communities where broadband has not been deployed. In those rare instances when “broadband” is available, it is extremely slow (under 256 kbps), and most communities and households have no access even to this service. No state broadband funds appear to have been provided to any applicants in this region. Plumas-Sierra has, on its own, begun providing satellite and wireless broadband. As a locally owned, non-profit cooperative operating since 1937, Plumas-Sierra has a proven track record of providing electrical service throughout the territory, with a great deal of experience in constructing and maintaining facilities and accounting for equipment and expenditures supported with funds for electrical service through the RUS. Plumas-Sierra is well versed in understanding the planning, regulatory requirements and resources necessary to deploy wireless broadband in this region. Federal

⁶³ The projects included herein are a select few of the many public or public/private broadband investment projects to provide broadband in unserved areas that are ready to begin but have been stymied by lack of funding assistance. Clearly there are many, many more such projects around the country.

Other state-specific resources should be used to identify broadband projects that appear to be “shovel-ready.” For example, as discussed above, Connected Nation has affiliates in Kentucky, Minnesota, Ohio, Tennessee and West Virginia. See <http://www.connectednation.org/>. NASUCA is not suggesting that the Connected Nation process should be accepted as a model for all states – *i.e.*, there are genuine disputes about the adequacy of information produced by the Connected Nation process, and concerns about the influence of major telecommunications and cable providers in the organization. Moreover, the focus of the “Connect x” programs varies from state to state, with Minnesota and West Virginia focusing primarily on mapping, while Kentucky, Ohio and Tennessee also address deployment issues. See http://www.connectednation.org/state_programs/. These issues should not, however, cancel out the benefits of reviewing the organization’s data regarding projects underway or being planned.

For example, a crucial element of Ohio’s Connected Nation effort to foster broadband deployment and subscription is the formation of e-Communities in each of the state’s 88 counties. See http://www.connectohio.org/ecommunity_strategies/. The e-Community process in Ohio helps develop community-based, community-specific projects, many of which deserve consideration as possible “shovel ready” projects. Similarly, Connect Ohio is also a partner to the state-created Ohio Broadband Council, which also develops lists of broadband projects that likewise should be considered. See <http://www.ohiobroadbandcouncil.org/council/index.shtml>. These pre-existing proposals should also be considered. Finally, Ohio’s government has developed a single location for all stimulus package applications. See <http://www.recovery.ohio.gov/>. This website lists all Ohio stimulus proposals,⁶³ including a number of broadband deployment projects. See http://recovery.ohio.gov/docs/03_04_09_Submitted_Requests.pdf.

Another source of information regarding potential “shovel-ready” projects is maintained by the National Association of Telecommunications Officers and Advisors (“NATOA”). See <http://www.natoa.org/documents/NATOA%20CBB%20examples%20Most%20Recent.pdf>.

broadband stimulus funds would allow Plumas-Sierra to step up its efforts and provide service quickly to the entire area. The funds would support service to areas in addition to projects already being constructed.

Attachment 2. City of Philippi FTTH System Expansion (West Virginia)

A summary of the City of Philippi's existing FTTH system is provided above. The City's existing system could be expanded along U.S. Highway 250 to serve approximately 1,200 customers in southeastern Barbour County, including the unincorporated communities of Calhoun, Corley, Valley Bend and the town of Belington. Customers in this area currently have no access to broadband or cable service.

Attachment 3. City of Red Wing Municipal Broadband Network (Minnesota)

The city of Red Wing (population: 16,000) has been studying the feasibility of constructing a next-generation fiber-to-the premises ("FTTP")⁶⁴ system, in conjunction with a private partner, that would deliver high-speed broadband service (voice, video and data) on a municipally-owned network in order to connect remote municipal facilities to the fiber network serving the city's central offices. The proposed network would also provide next-generation broadband to city schools that are currently served by T-1s, and ultimately to city residents and businesses to promote economic development. A community-based group, Fiber Now, provides public input and assistance directly to the city government in moving forward with the project. Two existing providers of broadband – Qwest (telephone/DSL) and Charter (cable modem) – have declined invitations to partner in the project. According to news reports, Charter plans to file for Chapter 11 bankruptcy in April 2009.

Attachment 4. Coshocton County Wireless Broadband Network (Ohio)

This rural central Ohio county (population 37,000) seeks to extend broadband service, via a wireless broadband network, to extremely rural areas that constitute approximately 80% of the county, which currently have no access to any Internet service other than dial-up. The County has undertaken and completed extensive planning and engineering for the proposed network and lacks only funding to commence construction.

⁶⁴ FTTP and FTTH differ in that FTTP covers both residential and office buildings, while FTTH focuses on residential access.

Attachment 1

Plumas-Sierra Electric
Cooperative Broadband
Initiative (California)



February 20, 2009

Plumas-Sierra's Northeastern California Broadband Initiative

From: Plumas-Sierra Telecommunications and GotSKY Unlimited
Subsidiaries of Plumas-Sierra Rural Electric Cooperative

We are pleased to provide the following information as our "shovel ready" projects for 2009.

The Applicant:

The Plumas-Sierra Rural Electrical Co-operative is member-owned electric distribution utility, founded in 1937, providing electrical power and related services to over 7,500 member/owners in Plumas, Lassen, and Sierra counties in California and portions of Washoe County in Nevada. Plumas-Sierra Telecommunications is a subsidiary of Plumas-Sierra Rural Electrical Co-operative, and is a Wireless Internet Service Provider. As a non-profit association, Plumas-Sierra meets the criteria for broadband funding set forth in §6001(e)(1)(B)(iv)

Plumas-Sierra Electrical has received funding from the Rural Utilities Service for construction of electrical facilities; but Plumas-Sierra Telecommunications is not a telephone company and no Plumas-Sierra operations have been funded under Title II of the Rural Electrification Act of 1936 and thus would not be considered as a project to be given priority for the RUS broadband funding approved in H.R. 1.

Expertise and Description of Current Services:

The Northern Sierra Region of California is lacking in excellent coverage of Broadband service compared to other regions of California. Its lower population density and the challenges presented by steep terrain and heavy foliage are key factors in the slow progress of broadband growth. Saturation of Broadband in this region of California is absolutely necessary for future growth and economic development. Studies have shown a strong relationship between computer ownership and Internet access thus providing endless opportunities for higher education through on-line universities and continued education. Broadband provides exposure to the arts and countless resources otherwise not available to the residents of this region.

Foresters, farmers, ranchers, independent business men and woman, recreation, resorts, transportation, and resource management are only a few of the many services provided to California, and the Nation, in the Northern Sierras of California. Its contribution is a necessity and to ensure its continued growth and health it is imperative that this region have access to Broadband services.

Requirements Under §6001(d)(3)

Plumas-Sierra has a well documented track record of providing both electric and telecommunications services. Our co-operative can demonstrate that it has the technical and operational expertise to ensure that a project supported by broadband stimulus grant monies will be completed in accordance with project guidelines, within the two-year time period specified in H.R. 1.

Plumas-Sierra's wireless network is a Wireless ISP (Internet Service Provider). Our network is designed to serve large coverage areas using a point-to-multipoint network topology and broadcasts wireless data up to 10-miles. We broadcast a signal from a base station and the signal is received by a fixed wireless antenna mounted on the customer's premises.

Plumas-Sierra plans to continue deployment of their wireless service in our electric service territory in eastern Plumas and Sierra Counties. A mixture of spectrums utilizing licensed and unlicensed frequencies will be used to best meet the needs of community and challenges of terrain. Areas served with a 900MHz frequency supports end user speeds from 384Kbits/s to 1.2Mbits/s. Areas served with the 3.65 GHz frequency, utilizing WiMax technology, supports the end user with speeds from 384Kbits/s to 2Mbits/s. We are also actively researching additional WiMax solutions through our national partner, the National Rural Telecommunications Cooperative. We also offer Wild Blue, broadband via satellite, but due to latency issues, this would be the technology of last resort.

Current Operations:

We operate six Points of Presence operating at 900 MHz in Plumas and eastern Sierra counties. We serve 320 customers, with very high customer satisfaction ratings. We have 10,200 customers in a different division served through Wild Blue, a satellite broadband provider. Our customers in this line of business are throughout the US, but focused primarily on the Pacific Time Zone.

Wireless Expansions already planned:

We are actively expanding 3 Points of Presence (POP), expanding service to the Mohawk Valley and southern Sierra Valley in Eastern Plumas and Eastern Sierra counties. These three POPs are funded through a joint project of our Electric and Telecommunications operations, improving both electric reliability and service and need no funding.

What would the grant support?

The funding would support provision of broadband service to four counties, covering approximately 12,500 square miles, in Northeastern California. Many communities have no broadband. Communities that are underserved have broadband speeds of less than 256Kbits/sec, with one provider,

Expansion in Plumas County

 Unserved Communities:

 Blairsdon

 Clio

 Cromberg

Feather River Inn
Lake Davis
Sloat
Two Rivers
Cromberg
Spring Garden
Maybe

Underserved:

Quincy
Meadow Valley
Greenville and American Valley
Chester/Lake Almanor
Graeagle
Mohawk Valley
Greater Portola
Whitehawk
Valley Ranch

The estimated household penetration for the above listed communities is 75% or greater, reaching over 8,000 homes and businesses. In addition to residential requirements for Broadband service, Plumas County is the home to many telecommuters and small cottage industry businesses. Plumas County depends upon its recreation and destination resort industry. These businesses must have the ability to offer Broadband services to guests and visitors in order to stay competitive with other areas of California or out of state destination choices. These communities are home for the following critical services; medical clinics, National Forest Service, CA Department of Forestry, Education and Union Pacific Railroad,

Expansion in Lassen County

Unserved:

Hallelujah Junction
Herlong and Herlong Junction
Johnstonville
Leavitt
Milford
Ravendale
Standish/Litchfield

Underserved:

Janesville
Doyle
Greater Susanville

The estimated household penetration for the above listed communities is 75% or greater, reaching over 3,000 homes and businesses. Lassen County and the above communities are home for the following critical services; medical clinics, National Forest Service, CA Department of Forestry and Schools.

Expansion in Sierra County

Unserved:

Sierraville
Sierra City

Downieville
Calpine
Sattley

Underserved:

Loyalton
Sierra Valley

The estimated household penetration for the above listed communities is 75% or greater, reaching over 750 homes and businesses. This portion of Sierra County is home to many California farming and ranching families who rely on Internet based services to conduct business. Beautiful yet isolated communities such as Sierra City and Downieville rely on their Recreation Industry and visitors. As noted above, to be considered as a destination community Broadband must be available and is critical to their continued existence and community development. Sierra County and the above communities are home for the following critical services; medical clinics, National Forest Service, CA Department of Forestry and Schools.

Expansion in Modoc County

Underserved:

Alturas
Canby
Adin
Likely
395 Corridor

The estimated household penetration for the above listed communities is 75% or greater, reaching over 500 homes and businesses. Modoc County is a significantly unserved and underserved region. Over 29% of the Modoc County labor force is involved in a management or professional related occupation requiring access to Broadband Internet. Primary industry in Modoc County is education, health, and social services. Modoc County and the above communities are home for the following critical services; medical clinics, National Forest Service, CA Department of Forestry and Schools

Budget:

Plumas-Sierra has dedicated \$200,000 to their 2009 Wireless Broadband Project, to fund the three points of presence planned for this year.

If the project does not receive a grant, we will continue to build out our system, but with an average expansion of \$250,000 per year, focused primarily on our electric system service territory.

This would result in a penetration of approximately 300 homes per year and a total of 600 to 800 homes and businesses in the Northern Sierra Region by the end of 2010.

With grant funding there is an opportunity of penetrating 12,000 homes by the end of 2010, an increase of 1500%.

Plumas-Sierra would be very interested in receiving funds to increase the budget to at least \$2,400,000 so that we may be successful in deploying complete coverage and a faster implementation.

Percent Contribution by Grant

Grant funds would be less than 80% of the total capitalized project. If we get the grant, the Board of Directors of our Telecommunications business will be in a position to invest further funds to the project. Our Board of Directors would invest \$500,000 additional funds. The grant funds would reduce the business risk enough to make additional investments feasible.

Affordability, Reliability, and Speed Improvement

The service offerings that would be available should improve the affordability and reliability of broadband in this region with very few exceptions. In addition, this will also improve speed of service throughout the region, with few exceptions.

Work Plan:

Plumas-Sierra has begun construction on the above project list. Roughly each community takes approximately 5 months to deploy. Factors that may delay progress are typically related to easements. As an Electric Utility company we have staff dedicated to easements and right-of-way, which places us in a good position to overcome most delays.

Rather than building one community at a time our projects will run concurrently to optimize growth of broadband services to the above listed areas.

Workforce and Job potential:

Plumas-Sierra Rural Electric Cooperative was established in 1937 and serves Plumas, Lassen and Sierra Counties. A total of 74 employees with 25 of those employees dedicated full-time to the Telecommunications subsidiary. The Telecom staff is a mixture of employees dedicated to network construction as well as the maintenance of our system and customer care. Occasionally local Contractors are hired to perform construction related work during the construction phase. Continued growth of the Plumas-Sierra WISP and it's coverage area will create jobs for residents in our local communities.

There would be instant job creation as we would hire additional staff for system design and construction. As customers subscribe to the broadband service additional staff for maintenance and customer care is required. This generates positions for Customer Service Representatives, Installers, Technicians, and System Engineers.

Plumas-Sierra Contact Information:

Plumas-Sierra Telecommunications and GotSKY Unlimited
73233 State Route 70
Portola, CA 96122

Lori Rice
Chief Operations Officer
530-832-6055

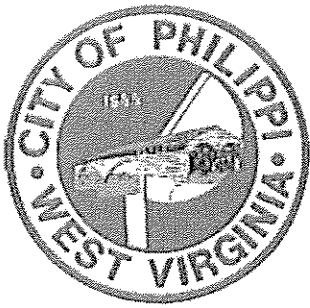
Charles Bridgeman
System Engineer
530-832-6043

Darrel Housel
General Foreman
530-832-6078

Joe Okoneski
Sales and Marketing Manager
530-832-6007

Attachment 2

City of Philippi FTTH
System Expansion
(West Virginia)



City of Philippi

108 North Main Street
P.O. Box 460
Philippi, WV 26416
(304) 457-3700
Fax: (304) 457-2703



Karen N Weaver, *City Manager*
David C. Mulneix, *Mayor*

Expansion of City of Philippi's current system, in order to serve the most customers and expand to an area needing our services, would be following US Route 250 towards Belington, West Virginia. Under this expansion plan, there would be a small distribution facility built that would be needed to house the fiber distribution equipment and some of the electronics. The approximate cost of the prefab building would be around \$120,000, which would include the building and necessary backup power for the system.

There would be opto-electronic equipment located in this facility as well. There would need to be fiber amplifiers for the video distribution network and the blades and necessary equipment for the ONT management and data network. The cost of the equipment and electronics for the customers is approximately \$470,000, which would include the ONTs for these subscribers. The video lasers and transmitters would be an additional \$100,000.

There would need to be approximately \$340,000 for splitters, \$20,000 for fusion splices, and \$200,000 for fiber and strand. Design work is estimated at \$30,000.

The project will take approximately 4 to 6 months in the design and mapping stage and approximately 18 months for construction. The project budget would be roughly \$2 Million for expansion to the Belington area and homes around US Route 250. The entire project from start to finish should take just under two years once funding has been received. This project would serve approximately 1200 customers with broadband and cable services.

Philippi Fiber-to-the-Home (FTTH) Project

Project Overview:

The City of Philippi (Philippi Communications System) has completed construction of a Fiber-to-the-Home cable system. The system spans over 48 miles of the current cable system. The new fiber system utilizes the B-PON architecture which allows voice, data, and video services to be provided to system subscribers. The B-PON system that was chosen by Philippi was the Motorola AXS2200 series platform which is the same standard that was chosen by Verizon for other large scale deployments. The FTTH system in Philippi is fully operational and supports over 1400 optical network terminal (ONTs) devices. Each residence with an ONT is capable of receiving high quality digital and High-Definition Television (HDTV) as well as broadband Internet services. The current architecture of the system in Philippi allows for data transfer speeds of 20Mbps downstream and 5Mbps upstream. Philippi Communications System has over 240 channels and currently provides data speeds up to 2Mbps of symmetrical bandwidth. Subscribers needing higher transfer speeds can contact the office so that custom data packages can be created.

System Infrastructure:

The current system consists of one Optical Line Terminal (OLT). A single OLT can support up to 2048 ONT devices, which means it can support just over 2000 subscribers. The OLT has a maximum 622Mbps downstream bandwidth per port and a 155Mbps upstream bandwidth per port. Additionally, the OLT has a 155Mbps link to the Internet router. OLTs can be linked together providing the ability to span the system locally or setup a remote OLT with a fiber connection back to the controlling OLT. Currently Philippi Communications System has two DS-3 connections which supply bandwidth to the Internet customers. The bandwidth into the system is 90Mbps with room for expansion as this bandwidth is being supplied through a direct fiber connection to the upstream provider. The current system is divided into several nodes or PONs with each PON having 24 transport fibers. The system has been designed to have twelve spare fibers at each PON location so that once funding is available to expand the system further; fiber would only need to go to the closest PON location. There are four PON cabinets located at the extremities of the system which would allow for easy expansion in all four directions. Each PON cabinet can support up to 192 connections using six transport fibers.

The data and network backbone is controlled by over twenty-five servers. Each server is dedicated to a specific task and each server has built-in redundancy for backup. Each of the JSP servers has over 300GB of storage for a collective active storage system of 6TB of data. The systems are connected to a tape backup unit and are scheduled for routine backups. The entire data center including the cable system runs off of a building-wide UPS which will provide up to thirty minutes of power to the connected equipment. The building is also connected to a diesel-powered generator which will provide power up to ten days on a full tank of fuel. The generator will start within 10 seconds in the event of power.

Attachment 3

City of Red Wing Municipal
Broadband Network
(Minnesota)



**City of Red Wing, Minnesota
Fiber Optic Project**

Friday, March 13, 2009

Senator Amy Klobuchar
Washington Office
302 Hart Senate Office Building
Washington, DC 20510

Dear Senator Klobuchar,

This letter seeks your support for a fiber optic build in Red Wing, Minnesota which is currently underserved by incumbent service providers limiting economic development and hampering our community's ability to compete in a national and international economy.

Because the condition of our current infrastructure is unable to meet our community's needs, the City of Red Wing is exploring a Fiber-to-the-Premise project with a goal of improved connectivity for our schools and government facilities along with enhanced economic development capabilities and services to all businesses and homes in Red Wing. Fiber Optics will complement our existing state-of-the-art health care facility; help our business community to compete nationally and internationally, and provide more choices for our citizens, especially those in unserved or underserved areas of the community.

The City of Red Wing has been involved with fiber optic connectivity at some level for the past decade. In the late 1990's, the City partnered with Goodhue County to interconnect City Hall, County Offices, the Red Wing Library, the Housing and Redevelopment Authority, the Port Authority, and eventually Red Wing Public Works with fiber optics. In 2004 the City and the Red Wing School District began discussions on how remote Public Works facilities and neighborhood schools might benefit from a robust fiber connection. The Red Wing School District was unable to meet a state mandate for online testing due to our inadequate system. After a set of preliminary plans for those connections were unveiled in 2006, it became evident the group was proposing to establish a critical "fiber loop" that could reasonably be extended to a Fiber-to-the-Premise initiative. With the help of a Blandin "Get Broadband" Grant, the City initiated a series of meetings with citizens and community leaders and began to gauge community interest. The City heard from educators, public officials, businesses, health care providers, and homeowners, "we need ultra high-speed broadband, improved connectivity, and service to all areas of the community in order to stay competitive in a global marketplace."

Citizens, business owners, health care professionals, educators, representatives from our Senior community, and government officials created a fiber taskforce and met over a two year period to educate themselves and others on how fiber optics enhance and grow a community. This fiber taskforce has now evolved into a grass roots advocacy group called "Fiber Now". Presentations by city staff and the advocacy group to boards, commissions, service clubs, and

civic organizations took place. Many local residents had questions about why certain areas of our city remain unserved and if improved services and pricing would soon be available. Education has been the primary focus of the advocacy group while city staff continues to explore viable business model options.

On November 23, 2008, the Red Wing City Council accepted and approved a Fiber to the Premise Feasibility Study that researched high level architecture design, legal, financing, marketing, and governance. The study proved that there are a range of business models that Red Wing could utilize in a city network and as such, the city began to pursue a public/private partnership whereas the city would build the fiber optic infrastructure and partner with a private company to offer services.

The City of Red Wing will formally explore a private partner to provide core services: Voice, Video, and Data on a municipally owned fiber optic network.

The current state of our fiber optic network is inadequate to support our community. We must consider where we want to be in the next five to ten years and how we, as leaders of the community, are going to get Red Wing there. Rural communities like Red Wing cannot wait for incumbent service providers who don't support building out the necessary fiber optic infrastructure we need to remain competitive in a national and international economy. Red Wing citizens, business leaders, and government officials have taken an active role in pursuing solutions to provide an infrastructure that passes every home and every business, putting the groundwork in place for an ultra high-speed broadband network for everyone. Please contact Ms. Laura Blair, Red Wing Information Technology Director at (651) 385-3699, if you have any questions or need additional information.

We appreciate your support.

Sincerely,

Michael Schultz
Council President, Red Wing, Minnesota

cc: Mayor John Howe
City Council Members of Red Wing
Kay Kuhlmann, Council Administrator
Laura Blair, Information Technology Director

RED WING FIBER OPTICS TASK FORCE
FINAL REPORT
November 12, 2007

PART ONE:

Background to the Red Wing Fiber Optic Task Force

The City Council provided the key directives for the work on the Fiber Optic Task Force. In September, 2005, the Red Wing City Council formed the Municipal Broadband Task Force mandating it to study the feasibility of a community broadband network, among other tasks. As a further step in January, 2007, the City Council requested that Myron White, Red Wing Port Authority Director, take leadership of the broadband study. In May of 2007, Myron White, Port Authority Director created a Fiber Optic Task Force to evaluate whether the City of Red Wing should engage in a feasibility study to evaluate establishing a community fiber optic network in order to provide big broadband services to all Red Wing homes and businesses. This big broadband network would provide Red Wing residents with a new choice for telephone, video and Internet services.

Two things are important about providing big broadband over fiber optic networks. The first is the importance of having a fiber optic network itself; the second is the importance of “big broadband” for long term benefits.

In regard to the fiber optic network it is accepted in the telecommunications industry that wherever possible it will become necessary to have fiber optic networks to the home for delivery of increasing quantities of content for all sorts of uses. The desirability is not in dispute. The challenge is in meeting the cost to install such networks to the home and business premise. Verizon is the only major national company building fiber optic networks to the home for voice, video and data services and they are doing that primarily in newer and wealthy areas in their main service territory which does not include Minnesota. Other companies including the current providers in Red Wing--Charter and Qwest—use some fiber but to get to the house or business their standard connection is copper and at this point they do not currently offer a plan to invest in fiber to the home. Therefore, at present if Red Wing concludes its future should include a fiber optic network sooner rather than later, it needs to explore its options.

Second, in regard to obtaining “big broadband” it is important to explain what is meant by “big broadband”. Several features identify big broadband. One feature is speed or size of the broadband connection the user has to the Internet. Common speeds delivered today from current broadband providers by telephone DSL connection or by cable modem connection range from 1 to 5 megabits though upgrades are promising speeds of 5 to 20 megabits. New fiber optic networks today commonly provide 20 to 50 megabits in speed with higher speeds easily achievable. The most advanced networks in competitor countries are being built to provide a gigabit of speed to the home. Another feature of fiber optic networks is that the speed should be the same or nearly the same both for receiving information from the Internet as well as for sending information to the Internet. This means the size of the bandwidth is the same or nearly the same for both directions of Internet traffic, i.e. symmetrical. Furthermore, it is relatively easy for fiber optic networks to continually increase the speed of their services by swapping new electronics into the network. The fiber is capable of carrying an infinite amount of traffic so the optical fiber can easily expand for any amount of use or services. In practice this means that users who want to do business, get health care or attend education at home can easily do so.

The Fiber Optic Task Force has met regularly since June, 2007, and herewith makes its report to the City Council.

Prior Broadband Developments in Red Wing

Since 2005, the City has been in pursuit of a better broadband future, a goal which was formalized in the formation of the Municipal Broadband Taskforce created and endorsed by Red Wing City Council in September of that year. Other steps quickly followed including the receipt of a "Get Broadband" grant from the Blandin Foundation, the formation of a community Broadband Leadership Committee (Jan. 06), hiring of Broadband Wizards (March 06) by the City and the school district to conduct an engineering study on a public services fiber optic network, creation of a name, logo and website about Red Wing broadband goals (April 06).

In April of 2007 the City Council received the engineering report from Broadband Wizards and subsequently authorized (May 07) the formation of the Red Wing Fiber Optic Task Force. Dr. Milda Hedblom was hired as a consultant to facilitate the task force meetings. The work of the Task Force included regular monthly meetings to discuss Red Wing's needs and options, weekly community discussion meetings open to the public, and the creation of a communication plan. The Task Force has now completed its deliberations.

Recommendation:

The Task Force recommends that the City of Red Wing conduct a feasibility study to evaluate establishing a community fiber optic network in order to provide big broadband services to all Red Wing homes and businesses. The study should provide a comprehensive report on the goals and benefits of a city wide fiber optic network, assessment of relevant technology options, evaluation of relevant community uses of the network, options for ownership and services provision, a community market study, a business operations plan, options for financing, and assessment of legal requirements and regulations relevant to the building or operation of a network.

The Task Force makes the recommendation to proceed with a feasibility study with the awareness that its deliberations have only set the stage for a fuller investigation of the importance of a fiber optic network to the City of Red Wing.

Goals and Benefits

For cities to remain economically competitive in the 21st century, they need to be connected to a 21st century infrastructure—affordable, high-capacity broadband telecommunications. Broadband is increasingly seen as an essential utility which provides the essential connection to employment, educational opportunities, accessible healthcare, public safety, retail, commerce and the world's information. The availability of affordable, high-capacity broadband is becoming an important factor in where businesses and people choose to locate.

The nation that once led the Internet revolution is now falling further and further behind in terms of broadband speed, cost, innovation and penetration rates. The U. S. has fallen to 15th place among industrialized nations for broadband penetration and U.S. consumers pay more for slower bandwidth speeds than in many other countries.

Lack of overall state and federal broadband policy leadership calls for broadband leadership from cities. The City of Red Wing is responding to that call.

Public Sector Benefits:

The City staff, the School District and the Port Authority have engaged in extensive evaluation of the role of fiber optic networks in meeting current and future needs for connectivity.

Forward planning of several kinds was carried out by the City and School District to be ready for further development of the fiber optic future in Red Wing. There are several aspects to fiber readiness in the city. First, the city engineering program has since the late 1980's regularly placed conduit at street crossings and other locations to minimize future construction costs. Those conduits are capable of holding fiber beneath the city streets. With these varied locations throughout the City, strategic conduit accessibility already exists which would reduce deployment costs.

Second, in the late 1990's a fiber optic infrastructure was engineered and installed to interconnect downtown government buildings. This optical fiber installation connects City Hall, Community Development, Fire Department, HRA, Law Enforcement Center, County Court House, Public Health facilities, Sheldon Theatre, the Public Library and the Public Works Building. However, staff working in remote facilities (i.e. City water facilities, Resource Recovery Center, marinas, cemeteries) must purchase T1, Cable Modem or DSL services to connect and access resources back at City Hall through a virtual private network or tunnel created through the internet. If the remaining City were to be interconnected, immediate expense reductions and service enhancements could be realized by cancellation of leased individual lines and replacement with fiber. Additionally, staff time driving from site to site would be reduced and maintenance and technical support would be significantly reduced. These savings are not hypothetical—they are readily seen.

Turning to the school district side of the equation, we see that the Red Wing school district uses a number of T-1 connections for student/teacher/internet access, as well as to access school scheduling, financial and student management systems hosted by the state. The school management systems are showing signs of heavy congestions and degrading functionality. A fiber optics infrastructure is necessary to alleviate the congestion. Additional factors include conducting state mandated online testing at our schools, sending large electronic data files between sites, security. A vital consideration is that a fiber network interconnecting government and school district buildings would relieve both city and school district of the ever growing burden of monthly fees paid to service providers.

Economic Development Benefits:

As an economic development tool, a fiber infrastructure is important to our community for a large number of reasons. Community Task Force members considered the question of economic development benefits and their perceptions are summarized in the points below.

- Fiber optics networks will give Red Wing businesses a competitive edge
- Fiber optics can provide a stronger foundation for growth
- How far will we be left behind if we do not invest in fiber optics today?
- Robust telecommuting and home business growth will require a big broadband network
- Fiber optic networks in Red Wing will make us competitive for sharing in the growth of the Bio-Tech corridor stretching from the Twin Cities to Rochester
- Red Wing with fiber optics can be a magnet for businesses who need world class digital facilities rather than big spaces

- Red Wing with fiber optics will be as strong a business destination as a tourist destination.
- Red Wing with fiber optics can provide a magnet for the next generation.
- Red Wing businesses have needs for bandwidth and redundancy
- Red Wing needs to set its own goals in order to catch up to international standards of big broadband
- Red Wing with fiber optics will enhance its ability to attract a younger work force and their families to Red Wing.

Health/Public Service/Education Benefits:

City wide fiber optics in Red Wing is as important to the health, public service and educational sectors as to the economic development sector. Community Task Force members considered the benefits to overall quality of life in Red Wing and their perceptions are reflected in the following points.

- Enhanced online education
- Enriched school curriculum
- Access availability – testing requirements mandated by State
- Distance learning
- Enhanced government meetings – Interactive meetings/voting
- Online delivery of services – mobile workforce with wireless
- Better tools – better services
- Cost effective service delivery
- Transmittal monitoring
- Emergency services
- Online criminal records – CrimeNet
- Interactive home monitoring – Home based doctor calls
- Digital Management of Records – E-Charting – Point of Care Touch Screen
- Pandemic planning
- Access specialized medical care

Home Benefits:

One of the most important benefits of a city wide fiber optics network that goes to all homes and businesses is that all people in the community stand to benefit from increased choice, anticipated lower prices for services, and locally based support services. Community Task Force members considered the benefits to home users from a city wide fiber optic system and their perceptions are reflected in the following points.

- Dial-up services could be replaced by true broadband
- Prevent the digital divide from growing further between the information haves and have nots
- A fiber optic network would provide the backbone for mobile wireless access
- Media on demand
- Provide new choice for telephone, video and Internet services
- More affordable equal access
- Enable redundant connections where needed
- Integrated home monitoring systems
- Access to home health care services online
- Access to educational programs online

- Provide basis for home based businesses and telecommuting

Part Two:

Current Providers

The Task Force was asked to clarify whether a feasibility study for a city wide fiber optics network in Red Wing should be recommended. At the outset of any discussion about a possible new network it is important to offer to meet with representatives of the current chief service providers in Red Wing to explore their possible interest in partnering with the City to build a fiber optic network in Red Wing. These two services are Qwest for telephone and DSL service and Charter Communications for television and cable modem service. An offer was made to both Qwest and Charter to meet to discuss the fiber optic goals of the City and to ask whether they have an interest to partner in building a new network. Charter has categorically declined to meet with the Task Force. Qwest was unable to identify a date for a meeting during the months the Task Force met. Both providers have taken a public position in other arenas that they are not interested in providing services over a network they do not own and manage.

Broadband Technology Options for the Long Term

In the area of telecommunications infrastructure the best long term economic development investment for a community is to plan to install a fiber to the home (FTTH) network that brings fiber connectivity to every or virtually every home and business premise in the community. The fiber to the home network is commonly understood to be the infrastructure best equipped to meet long term future needs due to its nearly unlimited capacity to expand uses without having to replace the fibers, its ability to provide big bandwidth both to and from the Internet, its stability, its privacy and safety, its ability to accept new uses or applications such as the growing use of home health care and its ability to easily carry all three of the major home and business uses of telephone, television and Internet services. Just as the City is responsible to make long term twenty to thirty year infrastructure investments in sewer and water services, it also has a responsibility to insure that the long term future investment needs of the community in telecommunications infrastructure are met.

Wireless technologies are another type of newer broadband service. The two currently being developed are WiFi and WiMAX. WiFi is offered on free spectrum and is relatively less expensive to implement in comparison to fiber. Its service is different in that it primarily offers Internet access, it is subject to more interference than fiber and its bandwidth is similar to DSL and cable modem services though its service costs less. It has the great appeal of being unwired. (Chaska, Minnesota, is a well known example of a wireless network,) WiMAX Internet service is run over spectrum that must be paid for (similar to the cost of the spectrum over which the cell phone network operates) and as a result its service is more similar in price to DSL and cable modem. WiMAX offers bigger speeds over longer distances than does WiFi and it tends to focus on areas or in corridors where the pocket books are larger. It is not a service that intends to cover the whole community or offer all three major services. Both types of wireless services offer an alternative to DSL and cable modem service but do not offer an economic development approach to long term bandwidth needs of the Red Wing community. Most communities that build a fiber system anticipate eventually also offering wireless service to meet the growing demand for wireless access in varied locations.

The current primary providers in Red Wing are Charter and Qwest. Charter Communications describes its Red Wing offerings as including cable TV, cable modem and Internet service while Qwest Communications describes its Red Wing offerings as voice and Internet service. But both of these providers have system network limitations and do not provide

all their services throughout the entire community. For example, Charter limits its television service based on extensions of service from existing operations and density of population in a prospective service area. As a result areas of Red Wing do not have access to Charter services. Similarly Qwest delivers phone service in Red Wing but its higher speed Internet service (DSL service) is not available to residents in several areas of Red Wing. In the remaining areas only dial up Internet access is available from Qwest. The current primary providers have not indicated they are ready to make an investment in fiber optics to the home in Red Wing.

The Task Force believes there is a need to carefully explore the possibility of a community investment in fiber to the home technology in Red Wing. The Task Force believes that price and service can be improved significantly with the presence of new fiber optic network based services. All sectors represented on the Task Force including the business community representatives have indicated that the time to explore building a fiber optic network is now, and that such a network is best likely to secure the long term interests of the community of Red Wing.

Options for Services & Ownership

The Task Force has reviewed several major options for ownership and services over a fiber optic network and met with some potential providers of services. The Task Force believes that it would be premature to make a recommendation on those questions without the full benefit of a feasibility study. However, it can offer some brief comments about the logical options.

The first question about a fiber optic network that is asked in every community is whether any current providers in Red Wing are interested in an approach whereby the City would act as a financing partner for a fiber optic network but the current provider would provide services. That did not appear to be an option in Red Wing but other options include the following:

- (1) One option is for the City to finance and build the fiber optic lines to each home and business premise, install electronics and service equipment but invite other service providers to deliver services over the network. This is referred to as an open platform system.
- (2) A second option is for the City to finance and build the network but then develop a partnership contract for services with an already established provider of telephone, television and Internet services. There are a few companies who might be appropriate so this is not a hypothetical option.
- (3) A option is that the City could choose to finance, build and operate the network as a municipal enterprise which places both the business risk and the eventual excess earnings into the hands of the community.

These options would need to be examined carefully in connection with a technology study, market study, and business plan, financing options, legal conditions and political climate for services. Similarly several options for management of a network would need to be analyzed in the feasibility study including options such as management of a network as a city enterprise, formation of a non-profit entity for network ownership or formation of a public utility.

Options for Financing

In most communities that build a fiber to the home network, the goal is to build it in both old and newer parts alike. The commitment to build fiber to the whole community is characteristic of City projects. The cost is sizeable and some or all would need to be met with some kind of bond issue. Cities have usually chosen to issue either general obligation bonds backed by the full faith and credit of the city and its taxpayers or revenue bonds where the risk lies with the private investors.

There are other financing instruments but those have generally been more appropriate for smaller size projects such as a Wifi network. The Task Force would like to stress that only a proper feasibility study can provide a cost estimate on which a judgment should be made about the desirability of the city financing part or all of a fiber optic network. However, a very general estimate is that installation of the fiber optic lines (without the electronics or service equipment) that would reach every home and business location in Red Wing would be in the range of \$8 million dollars.

Legal Approval of the Bond Issue:

There is also a legal hurdle municipalities need to consider when they contemplate walking the city-wide fiber optic network path to every home and business. This is the fact that regardless of the type of bonds issued, it is necessary to obtain an opinion from Bond Counsel that the bonds are legally issued and likely to withstand a relevant legal challenges.

One legal requirement that can give rise to legal challenges and that acts as a barrier to entry is a requirement that a community hold a special election to decide whether it should build a local exchange for local telephone service and that it pass by 65%. (Minn. 237.19). If telephone service is to be part of a fiber optics network based business plan in a community (and it often is) then it may be necessary to hold a special election. That becomes not a legal challenge but a political challenge each community needs to assess.

Apart from the telephone special election issue, a City that builds a fiber optic network to provide Internet service needs to be prepared to show that it is highly unlikely a private provider will over-build with a FTTH project and that the FTTH system will be different than the system and services of the current providers. This will mainly turn on the facts that the City will deploy fiber to all premises rather than fiber to the neighborhood or curb and that the City will intend to provide symmetrical very high speed Internet services to all premises.

Attachment 4

Coshocton County Wireless
Broadband Network
(Ohio)

Coshocton County, Ohio Broadband Fiber and Wireless Infrastructure Project

Coshocton County, Ohio (population 37,000) is seeking broadband infrastructure funding to accomplish several of its crucial broadband development goals. Through One Community, a fiber connection is proposed to run near the city of Coshocton. In addition, the County has undertaken extensive planning and engineering for a wireless network to serve the rural 80% of the county currently unserved by any Internet service other than dial-up. All planning is complete but no funding is available.

As stated by the County, “We have an opportunity to accomplish several critical community and county broadband accessibility goals by connecting to the fiber service. The need for broadband services is a crucial element for successful business operations in our county and we have been unsuccessful in attracting small to medium businesses to outlying areas of the county. Additionally, our hospital, school system buildings, and a potential key Economic Development business park do not have access to high-quality fiber resources.”

Besides the 10-15 engineers, technicians, and construction workers who will be employed to design and build the network, broadband access throughout Coshocton County is estimated to attract at least 10-15 new employers per year, averaging 3-10 employees each, for a total of 30 – 150 new jobs per year. Additionally, high-quality broadband access will allow home-based businesses to operate that would allow 50-75 new workers in the county. The new technology park will create 20-25 new businesses.

Coshocton County is prepared to proceed to construction expeditiously if funding is available. Funding request is for **\$966,000**.

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