

Broadband Infrastructure Programs in the American Recovery and Reinvestment Act

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Summary

The American Recovery and Reinvestment Act (ARRA, P.L. 111-5) provided $7.2 billion primarily for broadband grant programs to be administered by two separate agencies: the National Telecommunications and Information Administration (NTIA) of the Department of Commerce (DOC) and the Rural Utilities Service (RUS) of the U.S. Department of Agriculture (USDA). Of the $7.2 billion total, the ARRA provided $4.7 billion to establish a Broadband Technology Opportunities Program (BTOP) at NTIA, and $2.5 billion as additional funding for broadband grant, loan, and loan/grant combination programs at RUS. Broadband grants and loans funded by the ARRA are competitive and applicants must apply directly to NTIA and RUS. The NTIA appropriation also included $350 million for a national broadband inventory map, funding for the Broadband Data Improvement Act (P.L. 110-385), and funding to be transferred to the Federal Communications Commission (FCC) to develop a national broadband plan.

The unprecedented scale and scope of the ARRA broadband programs, coupled with the short time frame for awarding grants, presents daunting challenges with respect to program implementation as well as Congressional oversight. Congress is closely monitoring how equitably and effectively broadband grants are allocated among states and the various stakeholders, and to what extent the programs fulfill the goals of short term job creation and the longer term economic benefits anticipated from improved broadband availability, access, and adoption. A continuing issue is how to strike a balance between providing federal assistance for unserved and underserved areas where the private sector may not be providing acceptable levels of broadband service, while at the same time minimizing any deleterious effects that government intervention in the marketplace may have on competition and private sector investment.

The first round of funding for broadband grants, loans, and loan/grant combinations was announced with the release of a Notice of Funds Availability (NOFA) on July 1, 2009. The NOFA contains eligibility requirements, application rules and procedures, and evaluation criteria for BTOP at NTIA and for the Broadband Initiatives Program (BIP) at RUS. Program implementation decisions made by NTIA and RUS could have a significant impact on how the program is shaped and targeted, and the extent to which the program meets the goals and purposes set forth by the ARRA. Implementation issues include defining "underserved" and "unserved" areas with respect to broadband service, defining "nondiscrimination and network interconnection obligations," defining "broadband," the role of the states, broadband data collection, and evaluation and transparency.

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Introduction

Broadband infrastructure refers to networks of deployed telecommunications equipment and technologies necessary to provide high-speed Internet access and other advanced telecommunications services for private homes, businesses, commercial establishments, schools, and public institutions. In the United States, broadband infrastructure is constructed, operated, and maintained primarily by the private sector, including telephone, cable, satellite, wireless, and other information technology companies. Currently deployed broadband technologies include cable modem, DSL (copper wire), wireless systems (mobile and fixed), fiber, and satellite. Although broadband is deployed by private sector providers, federal and state regulation of the telecommunications industry as well as government financial assistance programs can have a significant impact on private sector decisions to invest in and deploy broadband infrastructure, particularly in underserved and unserved areas of the nation.

The American Recovery and Reinvestment Act (ARRA, P.L. 111-5) provided $7.2 billion primarily for broadband grant programs to be administered by two separate agencies: the National Telecommunications and Information Administration (NTIA) of the Department of Commerce (DOC) and the Rural Utilities Service (RUS) of the U.S. Department of Agriculture (USDA). Of the $7.2 billion total, the ARRA provided $4.7 billion to establish a Broadband Technology Opportunities Program (BTOP) at NTIA, and $2.5 billion for broadband grant, loan, and loan/grant combination programs at RUS. The ARRA also directed the Federal Communications Commission (FCC) to develop a national broadband strategy. In comparison with previously existing federal broadband programs in the United States,[1] the broadband grant and loan programs established and funded by P.L. 111-5 are unprecedented in scale and scope.

The impetus behind broadband provisions in the ARRA was two-fold: in the short term, to create jobs through the construction and deployment of broadband infrastructure, and in the long term, to address concerns over economic and societal impacts of inadequate broadband availability, access, and adoption, particularly in rural and lower-income areas of the nation.[2] The unprecedented scale and scope of the ARRA broadband programs, coupled with the short time frame for awarding grants, presents daunting challenges with respect to program implementation as well as Congressional oversight.

American Recovery and Reinvestment Act of 2009, P.L. 111-5

In December 2008, leadership in the House and Senate, as well as the Obama transition team, announced their intention to include a broadband component in the infrastructure portion of the economic stimulus package. At the same time, numerous interested parties, including broadband equipment manufacturers; large, mid-sized, and small wireline and wireless service providers; satellite operators; telecommunications unions; consumer groups; education groups; public safety

[1] See CRS Report RL30719, *Broadband Internet Access and the Digital Divide: Federal Assistance Programs*, by Lennard G. Kruger and Angele A. Gilroy.

[2] See ibid., pp. 1-4.

organizations; think tanks; and others unveiled a multitude of specific proposals for government support of broadband infrastructure.[3]

The House and Senate approved the Conference Report on H.R. 1 (H.Rept. 111-16) on February 13, 2009. On February 17, 2009, President Obama signed P.L. 111-5, the American Recovery and Reinvestment Act (ARRA). Broadband provisions of the ARRA provided a total of $7.2 billion, primarily for broadband grants. The total consists of $4.7 billion to NTIA/DOC for a newly established Broadband Technology Opportunities Program (BTOP) and $2.5 billion to RUS/USDA broadband grant, loan, and loan/grant combination programs.[4]

NTIA/DOC

Of the $4.7 billion appropriated to NTIA:

- $4.35 billion was directed to a competitive broadband grant program, of which not less than $200 million shall be available for competitive grants for expanding public computer center capacity (including at community colleges and public libraries); not less than $250 million to encourage sustainable adoption of broadband service; and $10 million transferred to the DOC Office of Inspector General for audits and oversight;
- $350 million was directed for funding the Broadband Data Improvement Act (P.L. 110-385) and for the purpose of developing and maintaining a broadband inventory map, which shall be made accessible to the public no later than two years after enactment; and
- Funds deemed necessary and appropriate by the Secretary of Commerce, in consultation with the FCC, may be transferred to the FCC for the purposes of developing a national broadband plan, which shall be completed one year after enactment.

The Broadband Technology Opportunities Program within NTIA is authorized by Division B, Title VI of the ARRA. Specific implementation requirements and guidelines for the new NTIA broadband grants are as follows:

- Established a "national broadband service development and expansion program" with purposes to include providing access to broadband service to consumers residing in unserved and underserved areas; providing broadband education, awareness, training, access, equipment and support to various institutions; improving access to, and use of, broadband service by public safety agencies; and stimulating demand for broadband, economic growth, and job creation.
- Directed NTIA to consult with each state to identify unserved and underserved areas (with respect to access to broadband service) as well as the appropriate allocation of grant funds within that state.

[3] See CRS Report R40149, *Infrastructure Programs: What's Different About Broadband?*, by Charles B. Goldfarb and Lennard G. Kruger.

[4] For information on stimulus funding directed to the existing broadband programs at RUS, see CRS Report RL33816, *Broadband Loan and Grant Programs in the USDA's Rural Utilities Service*, by Lennard G. Kruger.

- Directed NTIA, to the extent practical, to award not less than one grant in each state.
- Did not define "unserved area," "underserved area," and "broadband." The Conferees instructed NTIA to coordinate its understanding of these terms with the FCC, and in defining "broadband service" to take into consideration technical differences between wireless and wireline networks and to consider the actual speeds these networks are able to deliver to consumers under a variety of circumstances.
- Directed NTIA, in coordination with the FCC, to publish "non-discrimination and network interconnection obligations" that shall be contractual conditions of awarded grants, and specifies that these obligations should adhere, at a minimum, to the FCC's broadband principles to promote the openness and interconnected nature of the Internet (FCC 05-151, adopted August 5, 2005).[5]
- Directed NTIA, when considering applications for grants, to consider whether the project will provide the greatest broadband speed possible to the greatest population of users in the area. There are no specific speed thresholds that applicants must meet to be eligible for a grant. The Conferees acknowledged that while speed thresholds could have the unintended effect of thwarting broadband deployment in some areas, deploying next-generation speeds would likely result in greater job creation and job preservation. NTIA is instructed to "seek to fund, to the extent practicable, projects that provide the highest possible, next-generation broadband speeds to consumers."
- Defined entities eligible for grants as: a state or political division thereof; the District of Columbia; a territory or possession of the United States; an Indian tribe or native Hawaiian organization; a nonprofit foundation, corporation, institution or association; or any other entity, including a broadband service or infrastructure provider, that NTIA finds by rule to be in the public interest.
- Required NTIA to consider whether a grant applicant is a socially and economically disadvantaged small business as defined under the Small Business Act.
- Directed NTIA to ensure that all awards are made before the end of FY2010. Grantees will be required to substantially complete projects within two years after the grant is awarded.
- Directed that the federal share of any project cannot exceed 80% unless the applicant petitions NTIA and demonstrates financial need.
- Directed that grant applicants must demonstrate that the grant project would not have been implemented during the grant period without federal grant assistance.

[5] See CRS Report RS22444, *Net Neutrality: Background and Issues*, by Angele A. Gilroy.

RUS/USDA

The $2.5 billion appropriated to RUS was designated as additional amounts for RUS grant and loan programs. The ARRA did not specify how the $2.5 billion is to be divided between grants and loans. Regarding projects applying for ARRA funding, the law stated that:

- at least 75% of the area to be served by a project receiving these funds shall be in a rural area without sufficient access to high-speed broadband service to facilitate economic development, as determined by the Secretary of Agriculture;
- priority shall be given to projects that will deliver end users a choice of more than one broadband service provider;
- priority shall be given to projects that provide service to the highest proportion of rural residents that do not have access to broadband service;
- priority shall be given to borrowers and former borrowers of rural telephone loans;
- priority shall be given to projects demonstrating that all project elements will be fully funded, that can commence promptly, and that can be completed; and
- no area of a project may receive funding to provide broadband service under the Broadband Technology Opportunities Program at NTIA/DOC.

July 1, 2009 NOFA: Implementation of ARRA Broadband Programs

ARRA broadband programs encompass three distinct programs or activities: (1) grants, loans, and loan/grant combinations to expand broadband services and infrastructure (NTIA and RUS); (2) the State Broadband Data and Development Grant Program (NTIA); and (3) development of a national broadband plan (FCC). "Broadband USA," the official web portal to apply for ARRA broadband funding, is located at http://broadbandusa.sc.egov.usda.gov/. Agency websites tracking the latest ARRA broadband program developments are located at NTIA,[6] RUS,[7] and the FCC.[8]

Grants, Loans, and Loan/Grant Combinations for Broadband Expansion

On July 1, 2009, NTIA and RUS jointly released the first Notice of Funds Availability (NOFA) detailing requirements, rules, and procedures for applying for ARRA grants, loans, and loan grant combinations.[9] The total amount available in this first funding round is $4 billion. This total consists of $2.4 billion (program level) under the RUS Broadband Initiatives Program (BIP), which will extend loans, grants, and loan/grant combinations to facilitate broadband deployment

[6] http://www.ntia.doc.gov/broadbandgrants.

[7] http://www.usda.gov/rus/telecom/index.htm.

[8] http://www.fcc.gov/recovery/broadband/.

[9] Available at http://www.ntia.doc.gov/frnotices/2009/FR_BBNOFA_090702.pdf.

in rural areas; and $1.6 billion (budget authority) under the NTIA Broadband Technology Opportunities Program (BTOP), which will make available grants for deploying broadband infrastructure in unserved and underserved areas, enhance broadband capacity at public computer centers, and promote sustainable broadband adoption projects. **Table 1** compares the NOFA provisions for BTOP and BIP with respect to funding; definitions of "unserved," "underserved," and "broadband;" definitions of "rural area;" and financial obligations of applicants.

Table 1. Selected Comparison of BIP and BTOP Provisions in NOFA

Broadband Initiatives Program (BIP), Rural Utilities Service	Broadband Technology Opportunities Program (BTOP), National Telecommunications and Information Administration
Funding	
$2.4 billion total for first round (program level), includes up to: —$1.2 billion for Last Mile projects ($400 million in grants for Remote Area projects, $800 million in loans and loan/grant combinations for Non-Remote projects); —$800 million in loans and loan/grant combinations for Middle Mile projects; and —$325 million for reserve fund.	$1.6 billion for first round (budget authority), includes up to: —$1.2 billion for broadband infrastructure grants (Last Mile and Middle Mile projects); —$50 million for Public Computer Center grants; —$150 million for Sustainable Broadband Adoption grants; and —$200 million for reserve fund.
Definition of "Unserved" and "Underserved"	
Same as NTIA/BTOP definition. Additionally defines "Remote Area" as an unserved, rural area 50 miles from the limits of a non-rural area.	Eligible "unserved areas" defined as where at least 90% of households lack access to terrestrial broadband service. Eligible "underserved areas" for last mile projects if at least one of the following factors is met: (1) no more than 50% of the households in the proposed funded service area have access to facilities-based, terrestrial broadband service at greater than the minimum broadband transmission speed; (2) no broadband service provider advertises broadband transmission speeds of at least 3 megabits per second (Mbps) downstream; or (3) the rate of broadband subscribership for the proposed funded service area is 40% of households or less. A proposed funded service area may qualify as underserved for middle mile projects if one interconnection point terminates in a proposed funded service area that qualifies as unserved or underserved for last mile projects.
Definition of "Broadband"	
Same as NTIA/BTOP definition.	Two-way data transmission with advertised speeds of at least 768 kbps downstream and at least 200 kbps upstream to end users, or providing sufficient capacity in a middle mile project to support the provision of broadband service to end users.

Broadband Initiatives Program (BIP), Rural Utilities Service	Broadband Technology Opportunities Program (BTOP), National Telecommunications and Information Administration
Definition of "Rural Area"	
Any area, as confirmed by the latest decennial census of the Bureau of the Census, which is not located within: (1) a city, town, or incorporated area that has a population of greater than 20,000 inhabitants or (2) an urbanized area contiguous and adjacent to a city or town that has a population of greater than 50,000 inhabitants. For purposes of the definition of rural area, an urbanized area means a densely populated territory as defined in the latest decennial census of the U.S. Census Bureau.	Same definition as used by BIP/RUS. Applications to fund broadband infrastructure projects in areas which are at least 75% rural are required to be submitted to BIP. BTOP may make awards to such applications NTIA determines to be meritorious after RUS has reviewed the application and determined not to fund it. All other applications for Broadband Infrastructure projects, as well as applications for Public Computer Centers or Sustainable Broadband Adoption projects, must be submitted to BTOP.
Financial Obligation of Applicant	
For grants (Last Mile Remote Area projects): funding up to 100%. For grants receiving greater than 80% of eligible costs, the Administrator must determine that the awardee has a specific financial need that justifies funding greater than 80%; all applicants must be able to generate a minimum current ratio[a] of one by the end of the forecast period and demonstrate a positive cash balance for each year of the forecast period. For loans: the applicant must be able to generate sufficient revenues to cover expenses, have sufficient cash flow to service debts and obligations as they come due, and meet the minimum Times Interest Earned Ratio (TIER)[b] requirement of one by the end of the forecast period, as determined by RUS.	Required to provide matching funds of at least 20% toward the total eligible project cost. Applicants must document their capacity to provide matching funds. NTIA will provide up to 80% of total eligible project costs, unless the applicant petitions the Assistant Secretary for a waiver of the matching requirement and that waiver is granted by the Assistant Secretary based on the applicant's demonstration of financial need. In-kind contributions, including third party in-kind contributions, are non-cash donations to a project that may count toward satisfying the non-federal matching requirement of a project's total budget. In-kind contributions must be allowable project expenses.

a. "Current ratio" is defined as the applicant's current assets divided by the current liabilities.

b. TIER is defined as the ratio of an applicant's net income (after taxes) plus (adding back) interest expense, all divided by interest expense (existing and any new interest expense including the interest expense associated with the proposed loan).

BIP Grants, Loans, and Grant/Loan Combinations

The ARRA requires that areas served by BIP-funded projects be at least 75% rural. Predominantly non-rural areas are therefore *not* eligible for BIP funding. A rural area is defined as any area not located within a city, town, or incorporated area that has a population of greater than 20,000 inhabitants; or not located within an urbanized area contiguous and adjacent to a city or town that has a population of greater than 50,000 inhabitants.

Grants under BIP can only be used to fund applications proposing to exclusively serve remote, unserved, rural areas. Terms are defined as follows:

- "Remote area" is a rural unserved area at least 50 miles from a non-rural area;
- "Unserved area" is an area where at least 90% percent of households lack access to terrestrial (non-satellite) broadband service; and
- "Broadband" means two-way data transmission with advertised speeds of at least 768 kbps downstream and at least 200 kbps upstream to end users. According to the NOFA, this speed encompasses all current major wired and wireless

technologies and is sufficient for applications such as voice service over the Internet (VOIP), web browsing, and one way video.

Loans and loan/grant combinations are available for applications proposing to serve non-remote and underserved rural areas. For an area to be considered "underserved," at least one of the following three statements must be true:

- 50% or more of households don't have any terrestrial broadband access;
- No provider in the area is advertising broadband speeds of at least 3 or more megabits per second (Mbps); or
- Broadband subscribership is 40% or less.

Available first round funding for BIP grants, loans, and loan/grant combinations is $2.5 billion.[10] Funding is available for Last Mile Projects[11] and Middle Mile Projects.[12] Last Mile Projects ($1.2 billion available) include:

- Up to $400 million in grants for projects exclusively serving remote unserved rural areas.
- Up to $800 million in loans and loan/grant combinations for projects serving non-remote rural areas (both unserved and underserved).

Up to $800 million in loans and loan/grant combinations are available for Middle Mile Projects. Additionally, $325 million is directed to a reserve fund, which may be used to either augment the above categories or be carried over to the next funding round.

BTOP Grants

BTOP grant funds are available through three categories of eligible projects:

- Broadband Infrastructure ($1.2 billion available);
- Public Computer Centers ($50 million available); and
- Sustainable Broadband Adoption ($150 million available).

Additionally, $200 million is directed to a reserve fund, which may be used to either augment the above categories or be carried over to the next funding round.

Broadband Infrastructure grants are available for both Last Mile and Middle Mile projects, and must support projects that serve either unserved or underserved areas (see above definitions). The Public Computer Center category funds projects that expand public access to broadband service and enhance broadband capacity at entities, such as community colleges and public libraries, that

[10] The $2.5 billion represents program level. Corresponding budget authority is $1.3 billion. Program level exceeds budget authority because a portion of budget authority goes towards subsidizing loans.

[11] Last Mile project means any infrastructure project the predominant purpose of which is to provide broadband service to end users or end-user devices.

[12] Middle Mile project means a broadband infrastructure project that does not predominantly provide broadband service to end users or to end-user devices, and may include interoffice transport, backhaul, Internet connectivity, or special access.

permit the public to use these computing centers. The Sustainable Broadband Adoption category funds innovative projects that promote broadband demand, including projects focused on providing broadband education, awareness, training, access, equipment or support, particularly among vulnerable population groups where broadband technology has traditionally been underutilized.

BIP and BTOP Application Process

All applications for projects serving areas that are at least 75% rural are *required* to be submitted to the Broadband Initiatives Program at RUS. Those applications may subsequently be passed on to NTIA if RUS decides not to fund them. All other applications – broadband infrastructure for non-rural areas, public computer centers, and sustainable broadband adoption projects – should be submitted directly to the Broadband Technology Opportunities Program at NTIA.

Both NTIA and RUS will evaluate and score each application based on the proposed project's purpose, benefits, viability, and budget and sustainability. Both agencies will employ a two-stage application evaluation process in which lower scoring applications will be eliminated after stage one, and further documentation will be required from applications reaching the second stage.

Applications are accepted between July 14 and August 14, 2009. Award decisions will be announced on or about November 7, 2009. A second and third funding round will open after the first round is concluded; all awards must be made by September 30, 2010.

State Broadband Data and Development Grant Program

On July 2, 2009, NTIA released a NOFA and solicitation of applications for the State Broadband Data and Development Grant Program.[13] The program will provide approximately $240 million in grants to assist states or their designees to develop state-specific data on the deployment levels and adoption rates of broadband services. These data, including publicly available state-wide broadband maps, will also be used to develop the comprehensive, interactive national broadband map that NTIA is required by the ARRA to create and make publicly available by February 17, 2011.

Grant awards will also include funding for state broadband planning. Up to $500,000 may be awarded for the planning portion of each project. Planning projects may include, for example, efforts to identify barriers to broadband adoption in a state and creation of local technology planning teams. Awardees will be required to provide at least 20% non-federal matching funds toward project costs, either cash or in-kind contributions. Applications are accepted from July 14 through August 14, 2009.

Development of National Broadband Plan

On April 8, 2009, the FCC adopted and released a Notice of Inquiry[14] to gather data, expertise, and public input in preparation for its effort to develop a national broadband plan by February 17,

[13] Department of Commerce, National Telecommunications and Information Administration, "State Broadband Data and Development Grant Program," 74 *Federal Register* 32545-32565, July 8, 2009.

[14] Available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-09-31A1.pdf.

2010, as mandated by the ARRA. As part of this process, the FCC is collecting comments on a wide range of issues including:

- the most effective and efficient ways to ensure broadband access for all Americans;
- strategies for achieving affordability and maximum utilization of broadband infrastructure and services;
- evaluation of the status of broadband deployment, including the progress of related grant programs; and
- how to use broadband to advance consumer welfare, civic participation, public safety and homeland security, community development, health care delivery, energy independence and efficiency, education, worker training, private sector investment, entrepreneurial activity, job creation, and economic growth, and other national purposes.[15]

Issues Related to Implementation

The Broadband Technology Opportunities Program (BTOP) is newly authorized and established at NTIA, while the Broadband Initiatives Program (BIP) significantly expands the scope and size of RUS broadband loan and grant programs. The ARRA gives NTIA and RUS considerable flexibility to implement the BTOP and BIP. According to the Conference Report:

> The Conferees intend that the NTIA has discretion in selecting the grant recipients that will best achieve the broad objectives of the program. The Conferees also intend that the NTIA select grant recipients that it judges will best meet the broadband access needs of the area to be served, whether by a wireless provider, a wireline provider, or any provider offering to construct last-mile, middle-mile, or long haul facilities.

Implementation decisions made by NTIA and RUS have a significant impact on how the program is shaped and targeted, and the extent to which the program meets the goals and purposes set forth by the ARRA. On March 12, 2009, NTIA and RUS released a joint request for information (RFI) and notice of public meetings designed to gather public input into many of the implementation decisions which the agencies make as they develop rules and regulations for the program.[16] A series of public meetings were held in March 2009. The RFI solicited public comments from all interested parties on the following topics:

- the purposes of the BTOP program;
- the role of the states;
- eligible grant recipients;

[15] FCC, News Release, "FCC Launches Development of National Broadband Plan," April 8, 2009, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/DOC-289900A1.pdf.

[16] Department of Commerce, National Telecommunications and Information Administration, and Department of Agriculture, Rural Utilities Service "American Recovery and Reinvestment Act of 2009 Broadband Initiatives," 74 *Federal Register* 10716-10721, March 12, 2009.

- the establishment of selection criteria for grant awards;
- grant mechanics;
- grants for expanding public computer center capacity;
- grants for innovative programs to encourage sustainable adoption of broadband service;
- broadband mapping;
- financial contributions by grant applicants;
- timely completion of proposals;
- coordination between BTOP and the RUS grant program;
- how terms set out in relevant sections of the ARRA should be defined;
- how the success of the BTOP program should be measured;
- any other issues NTIA should consider in creating the BTOP;
- the most effective ways RUS could offer broadband funds;
- how RUS and NTIA can best align their activities;
- how RUS can evaluate whether a particular level of broadband access and service is needed to facilitate economic development;
- how RUS should consider priorities set out in the ARRA in selecting applications; and
- what benchmarks should be used to determine the success of RUS ARRA broadband activities.

Below is a discussion of selected issues that were ultimately addressed in the NOFA that was released on July 1, 2009.

Defining "Underserved" and "Unserved"

As specified in the ARRA, the purpose of BTOP is to provide broadband service to consumers residing in unserved and underserved areas of the United States. The issue of which areas should be defined as "underserved" with respect to broadband service has long been controversial. There is no generally accepted definition of "underserved." Factors such as a minimal number of existing providers, a lack of adequate market competition, unaffordable consumer prices for existing broadband service, or substandard download and upload available speeds may singularly or in combination lead some to define an area as "underserved." The definition of "unserved" is also not uniformly accepted. For example, should unserved be defined only as an area with no terrestrial (nonsatellite) broadband service, or should areas with some terrestrial but no mobile wireless service also be considered "unserved?"

The ARRA does not define either "unserved" or "underserved." The law directs NTIA to consider whether a grant application would increase broadband affordability and subscribership, and provide the greatest broadband speeds possible to the greatest population of users in the area served. The ARRA directs NTIA to consult with the states (plus the District of Columbia and the territories) to identify unserved and underserved areas within that state. The Conferees instructed NTIA to coordinate its understanding of the terms "unserved area" and "underserved area" with the FCC.

In approaching an understanding of these terms, the NTIA (and the states with which the NTIA will consult on this issue) must balance competing policy concerns, particularly when developing or embracing a definition of "underserved." For example, too narrow a definition may make it more difficult for rural areas in need of adequate broadband service to receive grants. On the other hand, too broad a definition of "underserved" may inappropriately confront existing broadband providers with government-funded competitors and may divert funding from projects in unserved areas with no broadband service whatsoever.

In the NOFA, both BTOP and BIP use identical definitions of "unserved" and "underserved." "Unserved" includes areas with a very small number of households served by terrestrial (non-satellite) broadband (10% or less). RUS and NTIA stated their belief that "a definition requiring that 100 percent of households lack access to broadband service could prove overly restrictive and risk inadvertently excluding populations," and that "establishing a 90 percent threshold acknowledges that a *de minimis* level of broadband service may exist in portions of the area, while also seeking to minimize the risk of unintentionally excluding an entire area from funding."[17]

RUS also designated separate categories of "remote" and "non-remote" areas. A remote area is defined as an unserved rural area at least 50 miles from the limits of a non-rural area. For Last Mile projects, only remote unserved rural areas are eligible for BIP grants.

The NOFA's definition of "underserved" encompasses not only relatively low broadband availability (no more than 50%), but also low adoption (40% or less) and the lack of available higher-end advertised broadband speeds (3 Mbps or more). NTIA and RUS pointed out that the underserved definition "includes a broadband speed criterion to recognize that a proposed funded service area can have the minimum level of broadband service available (defined as 768 kbps downstream and 200 kbps upstream), but still be considered 'underserved.'"[18] NTIA and RUS declined to define "underserved" in terms of pricing, median income, or demographic characteristics, arguing that the broadband adoption threshold would encompass those factors.

Defining Broadband

The term "broadband" is typically characterized or defined by minimum download and upload speeds, specific technologies (i.e., cable modem, fiber-to-the-home, wifi), or specific applications (e.g., telemedicine, distance learning). The ARRA broadband provisions do not specify minimum download/upload speed thresholds, are technology neutral, and cite a wide variety of applications eligible for funding.

[17] Rural Utilities Service and National Telecommunications and Information Administration, Notice of Funds Availability (NOFA) and Solicitation of Applications, Online Version, July 1, 2009, p. 106.

[18] Ibid., p. 109.

The issue of speed thresholds is particularly controversial. While a high speed threshold has the benefit of encouraging the construction of next generation networks (such as fiber or next generation cable systems), it also runs the risk of excluding current generation technologies that may be uniquely suitable for some unserved or underserved areas. The Conferees acknowledged this dilemma, stating in the Conference Report that while speed thresholds could have the unintended effect of thwarting broadband deployment in some areas, deploying next-generation speeds would likely result in greater job creation and job preservation. The Conferees instructed NTIA to "seek to fund, to the extent practicable, projects that provide the highest possible, next-generation broadband speeds to consumers."[19] Thus, NTIA has the flexibility to balance the sometimes competing goals of constructing next generation networks with providing broadband to unserved and underserved areas.

In the NOFA, RUS and NTIA concluded that "broadband service" should be defined as the provision of two-way data transmission with advertised speeds of at least 768 kbps downstream and 200 kbps upstream to end users, or providing sufficient capacity in a Middle Mile project to support the provision of broadband service to end users. RUS and NTIA favor this broadband speed threshold because it conforms with the established FCC standard for minimum broadband speed, allows the use of currently common broadband applications, allows for consideration of cost-effective solutions for difficult-to-serve areas, and is the most technology-neutral option because it encompasses all major wired and wireless technologies. In evaluating applications, RUS and NTIA intend to provide additional consideration to applications exceeding the minimum speed threshold or offering superior upgradeability.

Defining "Non-Discrimination and Network Interconnection Obligations"

Congressional policymakers continue to debate and consider whether laws or regulations are needed to ensure the "openness" of the Internet with respect to both content and access.[20] The debate over nondiscrimination (also commonly referred to as "net neutrality," "open access," and "network management") has shifted to a debate over the extent to which nondiscrimination requirements or standards should be imposed on broadband networks funded by BTOP and BIP. The ARRA directed NTIA, in coordination with the FCC, to publish "non-discrimination and network interconnection obligations that shall be contractual conditions of grants awarded." The ARRA says that these obligations, at a minimum, should adhere to the principles contained in the FCC's broadband policy statement (FCC 05-15, adopted August 5, 2005) as follows:

> To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to access the lawful Internet content of their choice.
>
> To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to run applications and use services of their choice, subject to the needs of law enforcement.

[19] U.S. Congress, Conference Report to Accompany H.R. 1, 111th Cong., 1st sess., February 12, 2009, H.Rept. 111-16 (Washington: GPO, 2009), p. 775.

[20] See CRS Report RS22444, *Net Neutrality: Background and Issues*, by Angele A. Gilroy.

> To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to connect their choice of legal devices that do not harm the network.
>
> To encourage broadband deployment and preserve and promote the open and interconnected nature of the public Internet, consumers are entitled to competition among network providers, application and service providers, and content providers.[21]

In developing nondiscrimination and interconnection obligations for funded projects, NTIA, RUS, and the FCC face the challenge of ensuring the "openness" of federally funded broadband networks, while at the same time minimizing regulatory burdens on prospective grantees that, some say,[22] may constitute a disincentive for some entities to apply.

According to the NOFA, both BTOP and BIP require all applicants to commit to nondiscrimination and interconnection obligations. BTOP applications are scored on the extent to which the applicant exceeds the minimum requirements for interconnection and nondiscrimination. At a minimum all applicants (both BTOP and BIP) are required to adhere to the principles contained in the FCC's Internet Policy Statement; not favor any lawful Internet applications and content over others; display any network management policies in a prominent location on the service provider's web page and provide notice to customers of changes to these policies; connect to the public Internet directly or indirectly, such that the project is not an entirely private closed network; and offer interconnection, where technically feasible without exceeding current or reasonably anticipated capacity limitations, on reasonable rates and terms to be negotiated with requesting parties (this includes both the ability to connect to the public Internet and physical interconnection for the exchange of traffic).

Role of the States

While the BTOP grants are competitive and will be awarded directly by NTIA, the states are expected to play a significant role. The ARRA directs NTIA to consult with each state to identify unserved and underserved areas (with respect to access to broadband service) as well as the appropriate allocation of grant funds within that state. States themselves (as well as municipalities) are eligible to apply for broadband grants, and the ARRA specifies that NTIA, to the extent practical, shall award not less than one grant to an entity within each state.

Regarding NTIA consultation with the states, the Conferees expressed the following:

> The Conferees recognize that States have resources and a familiarity with local economic, demographic, and market conditions that could contribute to the success of the broadband grant program. States are encouraged to coalesce stakeholders and partners, assess community needs, aggregate demand for services, and evaluate demand for technical assistance. The Conferees therefore expect and intend that the NTIA, at its discretion, will seek advice and assistance from the States in reviewing grant applications, as long as the NTIA retains the sole authority to approve the awards. The Conferees further intend that the

[21] FCC, Policy Statement on Broadband Internet Access, FCC 05-151, adopted August 5, 2005, available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-05-151A1.pdf. The FCC principles are not rules – rather they are intended as general principles to be incorporated in FCC's ongoing policymaking activities.

[22] Stephanie Condon, "Telecoms Oppose Tighter Net Neutrality Rules for Stimulus Funds," *CNET News*, February 26, 2009.

> NTIA will, in its discretion, assist the States in post-grant monitoring to ensure that recipients comply fully with the terms and conditions of their grants.[23]

An issue will likely be to what extent the NTIA follows the recommendations of the states with respect to award decisions.[24] States vary widely with respect to their own broadband programs and initiatives. Some states have embarked on state-wide broadband strategies and have been extremely active in mapping broadband availability and identifying unserved and underserved areas, while other states have not yet begun such an effort.[25]

According to the NOFA, for BTOP only, the states will receive a list of applications under consideration during the second stage of the application evaluation process. States may provide NTIA with a list and prioritization of recommended projects, along with an explanation of why the selected proposals meet the greatest needs of the state. The final decision on whether the application will or will not be funded rests with NTIA.

Eligible Entities

The ARRA defines eligible entities for BTOP grants as a state or political division thereof; the District of Columbia; a territory or possession of the United States; an Indian tribe or native Hawaiian organization; a nonprofit foundation, corporation, institution or association; or any other entity, including a broadband service or infrastructure provider, that NTIA finds by rule (required to be technologically neutral) to be in the public interest.

NTIA was thus directed to set the parameters of eligibility beyond states, political subdivisions, and nonprofit organizations. The issue was the extent to which eligibility would be extended to private sector for-profit broadband providers, be they large or small, incumbents or new entrants. According to the ARRA Conference Report, it was the intent of the Conferees that as many entities as possible be eligible to apply for a grant, including wireless carriers, wireline carriers, backhaul providers, satellite carriers, public-private partnerships, and tower companies.

Through the NOFA, NTIA found it to be in the public interest to permit for-profit corporations and non-profit entities (not otherwise encompassed by the ARRA statute) to be eligible for BTOP grants. According to NTIA, "many for-profit corporations have expertise in deployment and sustainable operation of telecommunications facilities, which may lead to the creation of more efficient and sophisticated broadband networks that consumers will be able to access in a shorter period of time. In some cases, for-profit corporations also may have the resources to deploy new infrastructure more quickly or efficiently than other types of entities."[26] For-profit corporations are also eligible for RUS grants, loans and loan/grant combinations.

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[23] Ibid.

[24] Some states have already set up their own ARRA websites and have begun soliciting proposals for grant funding, including broadband projects. See http://www.recovery.gov/?q=content/state-recovery-page.

[25] For more information, see *State Broadband Initiatives: A Summary of State Programs Designed to Stimulate Broadband Deployment and Adoption*, A Joint Report of the Alliance for Public Technology and the Communications Workers of America, July 2008, 54 pages. State program database available at http://www.speedmatters.org/statepolicy.

[26] NOFA, p. 121.

Broadband Data Gathering

There is widespread agreement that data regarding broadband deployment in the United States are inadequate and that policymakers have an incomplete picture of where broadband service is available (and at what speeds and prices). Broadband data are important, because the more detailed and granular broadband data are, the more effectively government can direct broadband assistance to areas with the greatest need.

The ARRA addressed broadband data by designating $350 million for funding the Broadband Data Improvement Act (P.L. 110-385) and for the purpose of developing and maintaining a national broadband inventory map. The Broadband Data Improvement Act (P.L. 110-385) was signed into law on October 10, 2008, and requires the FCC to collect demographic information on unserved areas, data comparing broadband service with 75 communities in at least 25 nations abroad, and data on consumer use of broadband. The act also directs the Census Bureau to collect broadband data, the Government Accountability Office to study broadband data metrics and standards, and the Department of Commerce to provide grants supporting state broadband data, mapping, and planning initiatives.

Regarding the inventory map, the ARRA directed NTIA to develop and maintain a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States that depicts the geographic extent to which broadband service capability is deployed and available from a commercial provider or public provider throughout each state. Not later than two years after enactment of the ARRA, the NTIA is directed to make the national inventory map available online to the public in a form that is interactive and searchable.

A continuing and controversial issue related to broadband data is striking a balance between making available broadband deployment data to the public that is sufficiently detailed to be useful, without revealing what some providers may consider to be proprietary information.

According to the State Broadband Data and Development Grant program NOFA, entities receiving grants must agree to protect sensitive commercial and financial information from public disclosure except as otherwise mutually agreed to by the entity and the broadband service provider. Grant recipients may execute nondisclosure agreements to ensure confidentiality, but such agreements may not restrict a grant recipient from providing collected data to NTIA.

Evaluation and Transparency

Given the large amounts of grant money to be awarded within tight deadlines (by September 30, 2010, for the BTOP grants), there is considerable interest in the issue of transparency and how the programs will be evaluated and monitored in order to avoid waste, fraud, and abuse. To address this issue, the ARRA:

- required the Secretary of Agriculture to submit a report to the House and Senate Appropriations Committees on planned spending and actual obligations describing the use of ARRA funds ($2.5 billion) for the RUS broadband programs not later than 90 days after enactment, and quarterly thereafter until all funds are obligated;

- transferred $10 million to the Department of Commerce Office of Inspector General for audits and oversight of funds provided for the Broadband Technology Opportunities Program;
- directed NTIA to report every 90 days on the status of BTOP to the House and Senate Appropriations Committees, the House Committee on Energy and Commerce, and the Senate Committee on Commerce, Science and Transportation;
- directed NTIA to require grant recipients to file quarterly reports (which will be publicly available) on the grantee's use of the grant money and progress on fulfilling the objectives for which the funds were granted;
- authorized NTIA, if it chooses, to establish additional reporting and information requirements for any grant recipient;
- authorized NTIA, in addition to other authority under applicable law, to deobligate awards to grantees that demonstrate an insufficient level of performance, or wasteful or fraudulent spending, as defined in advance by NTIA, and award these funds competitively to new or existing applicants; and
- directed NTIA to create and maintain a fully searchable database, accessible on the Internet at no cost to the public, that contains at least a list of each entity that has applied for a grant, a description of each application, the status of each application, the name of each entity receiving funds, the purpose for which the entity is receiving funds, each quarterly report submitted by the entity, and other information sufficient to allow the public to understand and monitor grants awarded under the program.

The NOFA implements the ARRA requirements with respect to transparency and program evaluation. According to the NOFA, while RUS and NTIA will protect confidential and proprietary information from public disclosure to the fullest extent authorized by applicable law, the ARRA requires RUS and NTIA to make publicly available on the Internet a list of each entity that has applied for a grant, a description of each application, the status of each application, the name of each entity receiving funds, the purpose for which the entity is receiving the funds, each quarterly report, and other information.

Concluding Observations

The broadband programs in the ARRA, funded at $7.2 billion, are unprecedented in scope and scale compared with previously existing federal broadband assistance programs. Policy decisions made by NTIA, RUS, and the FCC could have major impacts on the implementation of the program and the extent to which it meets the goals set by Congress for short-term job creation and long-term improvement of the nation's broadband infrastructure.

The NOFA released on July 1, 2009, sets forth eligibility requirements, application rules and procedures, and evaluation criteria for broadband grants, loans, and loan/grant combinations offered by NTIA and RUS. Depending on the agencies' experience in the first funding round, rules, regulations, and funding allocations developed for the second and third rounds could be modified as long as they remain consistent with the statutory requirements in the ARRA.

The ARRA broadband provisions are only one component in the nation's overall broadband strategy. Among other issues which may be addressed as part of a national broadband policy (likely to be formulated by the Administration and the FCC) are universal service reform, tax incentives to encourage private sector broadband rollout, and spectrum policy to spur roll-out of wireless broadband services. As Congress continues to monitor broadband stimulus programs, while considering various additional options for encouraging broadband deployment and adoption, a key issue is how to strike a balance between providing federal assistance for unserved and underserved areas where the private sector may not be providing acceptable levels of broadband service, while at the same time minimizing any deleterious effects that government intervention in the marketplace may have on competition and private sector investment.

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