

**Before the  
DEPARTMENT OF COMMERCE  
NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION  
and the  
DEPARTMENT OF AGRICULTURE  
RURAL UTILITIES SERVICE  
Washington, DC**

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In the Matter of )  
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American Recovery and Reinvestment Act )  
of 2009 Broadband Initiatives )  
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) Docket No. 090309298-9299-01  
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)

**COMMENTS OF ALLIED FIBER, LLC**

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**COMMENTS OF ALLIED FIBER, LLC**

Allied Fiber, LLC (“Allied Fiber”) hereby submits its comments to the Notice (“Notice”)<sup>1/</sup> jointly issued by the Department of Commerce’s National Telecommunications and Information Administration (“NTIA”) and the Department of Agriculture’s Rural Utilities Service (“RUS”) regarding implementation of the broadband programs specified in the American Recovery and Reinvestment Act of 2009 (“Recovery Act”).<sup>2/</sup>

Allied Fiber, formed in June of 2008, plans to construct the most advanced national dark fiber network combining wireless towers and modern and abundant fiber with regeneration and colocation facilities that can be used to connect local, regional, national and international wireline and wireless networks to major telecommunications hubs and Internet backbones throughout the United States. The company’s business plan is based on open access and carrier neutral interconnection.

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<sup>1/</sup> Notice, *American Recovery and Reinvestment Act of 2009 Broadband Initiatives Joint Request for Information and Notice of Public Meetings*, Docket No. 090309298-9299-01 (rel. March 9, 2009).

<sup>2/</sup> American Recovery and Reinvestment Act of 2009, Pub. L. No. 111-5, 123 Stat. 115 (2009).

## SUMMARY

Allied Fiber will focus its comments on the critical importance of carrier agnostic, technologically neutral access to middle mile and backhaul facilities. These facilities tie local broadband networks to Internet backbones. The middle mile provides access from the last mile to the backhaul interconnection point and backhaul (a segment of a long haul network) provides access from that point to the Internet backbones and other networks in major interconnection points throughout the country. Without robust, affordable middle mile and backhaul facilities, the potential of last mile broadband networks will remain unfulfilled, and last mile investment may be lost. Accordingly, we urge NTIA and RUS to give funding priority to middle mile and backhaul projects, and to prioritize middle mile and backhaul projects on the basis of capacity and neutral connectivity. The access points to middle mile and backhaul facilities and the Internet backbone should be open to all carriers, regardless of technology. Neutral connectivity maximizes investment value by improving the broadband experience of every potential customer of every interconnected local network.

The middle mile problem is particularly acute in rural areas given the vast distances between the local community network and the Internet connection.<sup>3/</sup> For example, an estimated 55 percent of rural telephone company switches are more than 70 miles away from an Internet backbone connection point, and 10 percent are more than 200 miles away.<sup>4/</sup> Other studies indicate that the typical rural Internet Service Provider (“ISP”) is located 91 miles from its

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<sup>3/</sup> See, e.g., Comments of Verizon and Verizon Wireless on Report on Rural Broadband Strategy, FCC GN Docket No. 09-29, at 11 (filed March 25, 2009) (“Verizon Comments”) (“The inadequacy or high cost of the ‘middle mile’ has been highlighted as one of the significant barriers to greater broadband deployment in rural areas.”).

<sup>4/</sup> Comments of the National Exchange Carrier Association, Inc., FCC GN Docket No. 09-29, at 5-6 (filed March 25, 2009) (“NECA Comments”) (noting that “the high cost of middle mile backbone connections is an obstacle to providing broadband services in low-density rural markets” and that these costs must be addressed in any rural broadband strategy).

primary backbone Internet connection.<sup>5/</sup> The farther the distance of transport, the more costly the service is to provide -- a problem that is exacerbated rather than alleviated as broadband traffic increases. Consequently, the high costs of constructing and deploying middle mile facilities is a formidable barrier to the widespread availability of affordable broadband services.<sup>6/</sup> Without access to adequate middle mile facilities, sustainable broadband service to unserved and underserved areas, however defined, will not be possible.<sup>7/</sup>

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<sup>5/</sup> New America Foundation, Comments, FCC GN Docket No. 09-29, at 5 (filed March 25, 2009) (“New America Comments”); *see also* Comments of Sprint Nextel Corporation, FCC GN Docket No. 09-29, at 5 (filed March 25, 2009) (reporting that the typical rural local exchange carrier is 98 miles from its primary Internet backbone connection). In addition, the FCC’s definition of middle mile facilities as those that provide relatively fast, large-capacity connections between the Internet backbone and last mile means that middle mile facilities “can range from a few miles to a few hundred miles, especially in rural areas.” Comments of DigitalBridge Communications Corp., FCC GN Docket No. 09-29, at 8 (filed March 25, 2009) (“DigitalBridge Comments”); *Inquiry Concerning the Deployment of Advanced Telecommunications Capability to All Americans in a Reasonable and Timely Fashion, and Possible Steps to Accelerate Such Deployment Pursuant to Section 706 of the Telecommunications Act of 1996*, Third Notice of Inquiry, 16 FCC Rcd 15515 (2001).

<sup>6/</sup> *See, e.g.*, New America Comments at 5 (“No community or network is an island; and increasingly access to the high-speed middle mile links that carry Internet traffic to the backbone, and the escalating costs associated with transporting traffic among networks, have become fundamental barriers to spreading connectivity, promoting broadband competition, improving speeds and lowering prices.”); Comments of the Organization for the Promotion and Advancement of Small Telecommunications Companies, FCC GN Docket No. 09-29, at 8 (filed March 25, 2009) (“OPASTCO Comments”) (“Another significant obstacle that rural ILECs face in deploying broadband to additional rural consumers and increasing the broadband speeds that they offer is the high price of access to the Internet backbone. The price of backbone access is based upon mileage, among other factors, and the further removed a carrier is from a backbone facility, the higher the price they must pay.”)

<sup>7/</sup> *See, e.g.*, FiberTower Corporation, the Rural Telecommunications Group, Inc., COMPTTEL, and Sprint Nextel Corporation, Letter and Petition for Reconsideration, FCC GN Docket No. 09-29, at 2 (filed March 25, 2009) (“FiberTower *et al.* Submission”) (“[Middle mile] infrastructure is necessary for broadband mobile wireless networks, first responder networks, and broadband connectivity to municipal buildings, including medical facilities, schools, and libraries. Absent this infrastructure, broadband networks . . . cannot operate.”) (emphasis in original); New America Comments at 5 (“Without a substantial investment to bring adequate middle mile fiber connectivity to rural communities, an increase in the number of interconnection points and routes, and improved competition in the middle mile and backbone, rural networks will hit a wall in terms of speed and pricing as the capacity costs associated with increased traffic to the backbone will grow faster than profits.”); Verizon Comments at 11 (noting that in rural areas, “the cost of the additional transport mileage is high enough to impinge on a rural broadband provider’s ability to offer services in those areas” and suggesting that the FCC create a universal service program to subsidize some of the transport mileage costs in these areas); Comments of the Consumer Federation of America and Consumers Union, FCC GN Docket No. 09-29, at 4 (filed March 25, 2009) (“Consumers Union Comments”) (“Without middle mile fiber there can be no

Addressing the middle mile is not merely a question of deploying additional capacity to local networks. The middle mile provider also needs affordable access to backbone fiber in order to provide backhaul to Internet connection and peering points. While NTIA and RUS must digest and consider many diverse and often competing viewpoints with respect to implementation of the broadband provisions of the Recovery Act, one thing is certain: all entities agree that the middle mile and backhaul access problems must be resolved. In fact, the record in these proceedings and related proceedings are replete with comments urging NTIA, RUS and the Federal Communications Commission (“FCC” or “Commission”) to address this critical piece of our nation’s broadband strategy.<sup>8/</sup> While commentators differ in their views as to how the agencies should approach this issue, several entities, like the National Rural Telecommunications Cooperative (“NRTC”), have “urged NTIA and RUS to implement rules that support the deployment of middle mile fiber in rural markets along right-of-ways to provide interconnection with the last-mile.”<sup>9/</sup>

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broadband service, no matter which first mile technology is used. Middle mile is a necessary component of solving the problem of un- and under-served.”); NECA Comments at 6 n.14 (reporting the conclusions of NECA’s study “that high-speed Internet service is uneconomic in many rural areas” and further finding “that increased IP traffic will exacerbate, rather than ameliorate, the problem as existing revenue shortfalls are multiplied as the scale of operations increases.”); DigitalBridge Comments at 8 (“The lack of middle-mile infrastructure is one of the greatest obstacles to building sustainable rural broadband networks.”).

<sup>8/</sup> See, e.g., FiberTower *et al.* Submission at 2 (urging the Commission to “address the critical shortage of ‘middle mile’ broadband -- particularly in unserved and underserved areas, including rural areas”); NECA Comments at 5 (“There is, however, little or no up-front or continuing support for the high cost of transporting broadband traffic from rural customers to an Internet Backbone Provider’s (IBP) interconnection point -- the ‘middle mile.’”); National Rural Telecommunications Cooperative, Comments, FCC GN Docket No. 09-29 (filed March 25, 2009) (“NRTC Comments”) (stating that, in addition to last mile service, “there must be ready access to the ‘middle mile’ in order to connect with the Internet on a national level”); Consumers Union Comments at 3-4 (advocating for the agencies to support “no regrets” projects, or “projects that provide basic functionalities that are certain to be used and useful in the 21<sup>st</sup> century communications ecology,” and noting that “two types of projects fit the bill”: first mile wireless and middle mile fiber).

<sup>9/</sup> NRTC Comments at 10; *see also* New America Comments at 5-6 (proposing a plan “mandating the installation of high-capacity, dark fiber bundles” along federal highway rights of way).

## RESPONSES TO NTIA QUESTIONS

### QUESTION 3

**Eligible Grant Recipients: The Recovery Act establishes entities that are eligible for grants under the program. The Recovery Act requires NTIA to determine by rule whether it is in the public interest that entities other than those listed in Section 6001 (e)( 1 )(A) and (B) should be eligible for grant awards. What standard should NTIA apply to determine whether it is in the public interest that entities other than those described in Section 6001 (e)( 1 )(A) and (B) should be eligible for grant awards?**

**Response to Question 3: Defining eligibility broadly will allow NTIA to attract a wide range of applicants and will ensure that new technologies are not precluded from receiving funding.**

NTIA should establish a broad definition of eligibility that will allow all entities, whether public or private, to propose and receive funding for projects that will make broadband technology available to all corners of the nation. The agency should refrain from imposing limitations on eligibility relating to specific licensing requirements or mandating public/private partnerships. Such restrictions would impede the goals of the Broadband Technology Opportunities Program (“BTOP”), would prevent innovative new broadband companies from receiving funding, and would be inconsistent with the statute and Congressional intent.

The Recovery Act broadly defines the types of entities eligible for BTOP funding to include not only states and non-profit organizations but also “any other entity, including a broadband service or infrastructure provider, that the Assistant Secretary finds by rule to be in the public interest.”<sup>10/</sup> The House-Senate conferees stated that the intent of this provision is to create a “broad definition of entities that are eligible to receive grants,” so that “as many entities as possible [will] be eligible to apply for a competitive grant, including wireless carriers, wireline carriers, backhaul providers, satellite carriers, public-private partnerships, and tower

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<sup>10/</sup> Recovery Act 6001(e)(1)(C).

companies.”<sup>11/</sup> The House-Senate conferees also intended for “NTIA [to] select grant recipients that it judges will best meet the broadband access needs of the areas 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.”<sup>12/</sup> Given the legislative history of the statute, it is clear that it specifically contemplates funding a wide variety of projects, including the construction of middle mile and backhaul facilities, from a wide variety of entities.

During the roundtables held as part of these proceedings, some panelists suggested that eligibility be defined by whether the applicant holds an existing FCC license, state certificate of public convenience and necessity, cable franchise, or similar governmental authorization. Other panelists stated that only private companies that are partnered with a public entity should be considered eligible to receive funding from BTOP.<sup>13/</sup> Defining eligibility in such narrow terms may serve to favor existing incumbent providers while precluding innovative companies with superior technology from receiving funding. Many middle mile and long haul providers are private carriers or otherwise unregulated and not required to obtain state licenses. Such providers should not be barred from the program assuming that they otherwise demonstrate a capability of providing the requisite broadband infrastructure that is in the public interest.

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<sup>11/</sup> H.R. REP. NO. 111-16, at 775 (2009) (“Conference Report”).

<sup>12/</sup> Conference Report at 774.

<sup>13/</sup> See, e.g., Curt Stamp, President, Independent Telephone and Telecommunications Alliance, Comments at the Broadband Technology Opportunities Program Public Meeting on Private Sector Eligibility (March 16, 2009), transcript *available at* <http://www.ntia.doc.gov/broadbandgrants/meetings.html> (stating that eligibility should be defined based on governmental authorizations); Betty Ann Kane, Chairwoman, District of Columbia Public Service Commission, Comments at the Broadband Technology Opportunities Program Public Meeting on Private Sector Eligibility (March 16, 2009), transcript *available at* <http://www.ntia.doc.gov/broadbandgrants/meetings.html> (recommending that private entities be eligible only if they partner with public entities).

## QUESTION 4

**Establishing Selection Criteria for Grant Awards: The Recovery Act establishes several considerations for awarding grants under the BTOP. In addition to these considerations, NTIA may consider other priorities in selecting competitive grants.**

- a. What factors should NTIA consider in establishing selection criteria for grant awards? How can NTIA determine that a Federal funding need exists and that private investment is not displaced? How should the long-term feasibility of the investment be judged?**
- f. What factors should be given priority in determining whether proposals will encourage sustainable adoption of broadband service?**
- g. Should the fact that different technologies can provide different service characteristics, such as speed and use of dedicated or shared links, be considered given the statute's direction that, to the extent practicable, the purposes of the statute should be promoted in a technologically neutral fashion?**
- h. What role, if any, should retail price play in the grant program?**

**Response to Question 4a, 4f, 4g, and 4h: NTIA should consider capacity, technological neutrality, maximizing investment value, job creating potential, and affordability in awarding BTOP grants for middle mile and backhaul (long haul) projects.**

In assessing middle mile projects, NTIA should consider the broadband capacity that would be made available and the cost to the user as well as the extent to which that bandwidth will be made available to all local access providers in the footprint, regardless of last mile technology deployed. NTIA should further consider the extent to which the middle mile capacity will enhance the broadband experience of the ultimate end user, both with respect to the number of users potentially affected and the incremental improvement in speed and availability. In short, these factors assess the “bang-for-the-buck” of the middle mile investment. Of course, NTIA must also evaluate the job creating potential of the project.

Today, middle mile connections are often limited to the special access services available from incumbent carriers. These services typically offer the worst of all worlds, limited capacity

coupled with high costs.<sup>14/</sup> NTIA should consider the extent to which proposed middle mile projects offer or facilitate cost effective alternatives. This necessarily involves an assessment of potential added capacity, but should also consider how this capacity will be made available. For example, dark fiber projects maximize flexibility for local and middle mile network providers as they choose the network equipment to “light” the fiber. Once lit, the fiber can accommodate any high-speed transport protocol.

An effective backhaul project will provide not only the fiber in the ground, but should also offer, on a neutral basis, the necessary related infrastructure for colocation, power, and cross connections required to light the fiber. In addition, providing wireless towers and colocation facilities along the backhaul fiber route adds the much needed dimensions of point to point microwave access to other towers unserved by fiber as well as greater bandwidth speeds for the mobile service providers on those towers. Neutral towers, neutral fiber and neutral colocation further the statute’s instruction to NTIA to administer the BTOP program “in a technologically neutral manner.”<sup>15/</sup> Given this mandate, NTIA should seek to award funds to projects that promote neutral connectivity through carrier agnostic colocation and related infrastructure.

In addition, NTIA must consider the job creating impact of BTOP proposals. The construction, deployment, and maintenance of middle mile and backhaul facilities not only would create jobs directly in the short term, but also would facilitate the provision of high speed

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<sup>14/</sup> See, e.g., OPASTCO Comments at 9 (“[T]he majority of rural ILECs have only one choice of provider for connecting to the Internet backbone. While a number of rural carriers have formed consortiums to construct their own state or regional Internet backbone networks, these arrangements are not yet feasible everywhere. Also, the merger of larger carriers in recent years has further diminished rural ILECs’ options for access to the Internet backbone.”); New America Comments at 5 (“[T]otal [broadband] capacity costs are increasing much faster than the razor thin profit margins of many rural ILECs and WISPs.”).

<sup>15/</sup> Recovery Act § 6001(e)(1)(C).

broadband to small businesses and consumers, providing them with improved connectivity, increased productivity, and access to job and business opportunities.

Lastly, NTIA must channel funds toward projects that provide affordable, sustainable service to consumers. Because middle mile and backhaul facilities are critical components of our nation's broadband strategy and the costs of constructing such facilities may be prohibitively high in some rural areas,<sup>16/</sup> such projects should be given funding priority. Failure to invest in middle mile facilities would make it virtually impossible for carriers to provide end users with viable, affordable broadband services. Moreover, the effectiveness of other demand-side and infrastructure projects funded under BTOP could be severely diminished without adequate investment in middle mile facilities. In fact, some BTOP roundtable participants have suggested that if the issues of financing middle mile and backhaul projects were solved first, last mile solutions would come much more easily.<sup>17/</sup>

On the other hand, if BTOP successfully supports the deployment of middle mile infrastructure, the cost of providing backhaul for rural providers will be decreased, thus

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<sup>16/</sup> See, e.g., Comments of Fibertech Networks, LLC and Kentucky Data Link, Inc., FCC GN Docket No. 09-29, at 9 (filed March 25, 2009) (“Backhaul represents an enormous cost to wireless providers and can be prohibitively expensive in rural areas. . . . [BTOP] roundtable participants discussed the importance of middle and last mile backhaul in reaching rural, under- and unserved areas, and explained that in some areas, backhaul costs were a reason communities were unserved.”); NTCA Comprehensive Rural Broadband Strategy Comments, GN Docket No. 09-29, at 26-27 (filed March 25, 2009) (“NTCA Comments”) (“When [small or rural] carriers must purchase special access services at above cost rates, customers eventually will see these higher costs included in their broadband rates.”).

<sup>17/</sup> See, e.g., Comments at the Broadband Technology Opportunities Program Public Meeting on the Definitions of Rural and Unserved Areas (March 19, 2009), transcript *available at* <http://www.ntia.doc.gov/broadbandgrants/meetings.html> (stating panelists' responses in the affirmative to the question that “if the middle mile back haul issue and cost of availability was solved, does the last mile just come along much more automatically?”); see also Jonathan Banks, Senior Vice President, Law and Policy, United States Telecom Association, Comments at the Broadband Technology Opportunities Program Public Meeting on Selection Criteria (March 23, 2009), transcript *available at* <http://www.ntia.doc.gov/broadbandgrants/meetings.html> (mentioning that “[s]ome of the best applicants may be back haul providers to provide transport from rural areas to the internet” and suggesting that NTIA needs the flexibility to review these applications quickly and “be able to choose which provide the most value to people.”).

increasing the ability for competition to flourish in these areas, resulting in affordable, sustainable broadband service for customers nationwide. Accordingly, channeling stimulus funds to promote the construction of middle mile facilities, by facilitating the deployment of broadband by multiple carriers in multiple locations to each and every one of their end users, will achieve the greatest possible impact per federal dollar spent.<sup>18/</sup>

## QUESTION 8

**Broadband Mapping: The Recovery Act directs NTIA to establish 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.**

a. What uses should such a map be capable of serving?

**Response to Question 8a: Broadband mapping should include the bandwidth available for backhaul.**

Accurate broadband maps will assist policymakers and broadband providers in executing and monitoring all broadband programs. Such maps, however, should show the bandwidth available for backhaul, or the capacity of middle mile facilities to reach Internet connection points, as well as the reach and capacity of local broadband networks. Broadband maps that fail to track this critical component of the nation's broadband infrastructure will provide a distorted picture of broadband availability.

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<sup>18/</sup> See Letter from Joe Barton and Cliff Stearns, Ranking Members, Subcommittee on Communications, Technology, and the Internet, Committee on Energy and Commerce, U.S. House of Representatives, to Bernadette McGuire-Rivera, Associate Administrator, National Telecommunications and Information Administration, U.S. Department of Commerce, James R. Newby, Acting Administrator, Rural Development, U.S. Department of Agriculture, and The Honorable Michael J. Copps, Acting Chairman, Federal Communications Commission (March 25, 2009) (stating that the allocation of Recovery Act funds should be "based on competitive criteria, so that projects that have the most impact for the least amount of taxpayer dollars are funded before less efficient projects.").

## QUESTION 9

**Financial Contributions by Grant Applicants:** The Recovery Act requires that the Federal share of funding for any proposal may not exceed 80 percent of the total grant. The Recovery Act also requires that applicants demonstrate that their proposals would not have been implemented during the grant period without Federal assistance. The Recovery Act allows for an increase in the Federal share beyond 80 percent if the applicant petitions NTIA and demonstrates financial need.

- c. What showing should be necessary to demonstrate that the proposal would not have been implemented without Federal assistance?

**Response to Question 9c:** Applicants should demonstrate that they are capable of initiating and completing the project within the necessary time frame, but have not yet secured sufficient funding to accomplish that result.

The Recovery Act mandates that funded projects are those that “would not have been implemented during the grant period without Federal grant assistance.”<sup>19/</sup> These projects are sometimes called “shovel-ready” because many of the necessary steps to begin construction have already been accomplished. There are several factors NTIA can assess in the difficult process of identifying projects that are “shovel-ready” yet would not have otherwise been funded in the near term. NTIA can assess the near term viability of the project by assessing whether obstacles, such as ascertaining rights-of-way, have already been addressed and largely, if not fully, overcome. The existence, or ongoing negotiations of contracts for as well as availability of critical inputs may be assessed such as fiber, towers, antennas and related components. The fulsomeness of project planning, the hiring of key project managers, and other indicia of readiness may also be considered. These indicia of readiness should be contrasted with the concreteness of funding obligations. A project already budgeted for in the near term may not qualify, whereas an ongoing, but not yet fully successful effort at attracting capital would likely indicate that the funding for the project, otherwise ready to go, is uncertain particularly during the existing

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<sup>19/</sup> Recovery Act § 6001(e)(3).

difficult credit environment. Funding from the broadband stimulus program would create the necessary certainty that the project can be completed within the statutory timeframe.

## QUESTION 12

**Coordination with USDA's Broadband Grant Program: The Recovery Act directs USDA's Rural Development Office to distribute \$2.5 billion dollars in loans, loan guarantees, and grants for broadband deployment. The stated focus of the USDA's program is economic development in rural areas. NTIA has broad authority in its grant program to award grants throughout the United States. Although the two programs have different statutory structures, the programs have many similar purposes, namely the promotion of economic development based on deployment of broadband service and technologies.**

- a. What specific programmatic elements should both agencies adopt to ensure that grant funds are utilized in the most effective and efficient manner?
- b. In cases where proposals encompass both rural and non-rural areas, what programmatic elements should the agencies establish to ensure that worthy projects are funded by one or both programs in the most cost effective manner without unjustly enriching the applicant(s)?

**Response to Question 12: NTIA should maximize the impact of stimulus projects by allowing applicants to receive funding from both programs while ensuring that applicants do not receive funding from both programs for the same geographic area.**

The availability of RUS loans, grants, or loan guarantees coupled with NTIA grants could maximize the value of the broadband stimulus program. The availability of both funding sources, as long as not used for the same area, can substantially enhance the ability to leverage these public funds with private capital. NTIA and RUS should thus confirm that applications can be made to both agencies, even for project funding for the same area, with the understanding that actual funding for an area cannot come from both sources.<sup>20/</sup> As the agencies have indicated, they will carefully coordinate to avoid “double-dipping” and the applicant should clearly indicate where its applications overlap without bias.

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<sup>20/</sup> Agency officials have suggested during public meetings that this will be the case. *See, e.g.,* Bernadette McGuire-Rivera, Associate Administrator, NTIA, Comments at the Broadband Technology Opportunities Program Public Meeting on Broadband Initiatives: Statutory Requirements and Timelines (March 10, 2009), transcript *available at* <http://www.ntia.doc.gov/broadbandgrants/meetings.html>

The agencies should also confirm that “double-dipping” applies to areas, not applicants or projects.<sup>21/</sup> The NTIA and RUS should also make clear that middle mile and backhaul projects are eligible for funding even if funding is also made available for the local network project to which the middle mile facilities will interconnect. In other words, entity A may wire the local community for broadband using stimulus funding and entity B should have access to stimulus funding to provide middle mile connections from the same community to the Internet backbone.

Additionally, middle mile projects may span both “rural” areas as well as more urban or suburban areas. Funding should be made available for such projects from both NTIA grants and RUS loans, for example, by utilizing the former in areas where RUS loans are barred.

### QUESTION 13

**Definitions:** The Conference Report on the Recovery Act states that NTIA should consult with the FCC on defining the terms “unserved area,” “underserved area,” and “broadband.” The Recovery Act also requires that NTIA shall, in coordination with the FCC, publish nondiscrimination and network interconnection obligations that shall be contractual conditions of grant awards, including, at a minimum, adherence to the principles contained in the FCC’s broadband policy statement (FCC 05-15, adopted August 5, 2005).

- a. For purposes of the BTOP, how should NTIA, in consultation with the FCC, define the terms “unserved area” and “underserved area?”
- b. How should the BTOP define “broadband service?”
  - (1) Should the BTOP establish threshold transmission speeds for purposes of analyzing whether an area is “unserved” or “underserved” and prioritizing grant awards? Should thresholds be rigid or flexible?
  - (2) Should the BTOP establish different threshold speeds for different technology platforms?
  - (3) What should any such threshold speed(s) be, and how should they be measured and evaluated (e.g., advertised speed, average speed, typical speed, maximum speed)?
  - (4) Should the threshold speeds be symmetrical or asymmetrical?

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<sup>21/</sup> The Recovery Act language regarding RUS funding provides that “no *area* of a project funded with amounts made available [from the RUS] may receive funding to provide broadband service under the [BTOP].” Recovery Act, tit. I, Distance Learning, Telemedicine, and Broadband Program (emphasis added).

- (5) How should the BTOP consider the impacts of the use of shared facilities by service providers and of network congestion?
- c. How should the BTOP define the nondiscrimination and network interconnection obligations that will be contractual conditions of grants awarded under Section 6001?
- (1) In defining nondiscrimination obligations, what elements of network management techniques to be used by grantees, if any, should be described and permitted as a condition of any grant?
  - (2) Should the network interconnection obligation be based on existing statutory schemes? If not, what should the interconnection obligation be?
  - (3) Should there be different nondiscrimination and network interconnection standards for different technology platforms?
  - (4) Should failure to abide by whatever obligations are established result in de-obligation of fund awards?
  - (5) In the case of infrastructure paid for in whole or part by grant funds, should the obligations extend beyond the life of the grant and attach for the useable life of the infrastructure?

**Response to Question 13a: Definitions of “unserved area” and “underserved area” must reflect not only last mile but also middle mile facilities.**

The definitions for “unserved area,” and “underserved area,” should take into account the available middle mile capacity. In other words, the availability, at reasonable rates, and capacity of middle mile and interconnection facilities should be indicative of whether an area is unserved or underserved, regardless of the existence, scope, or nature of the last mile broadband access platform. Defining these terms as they pertain solely to last mile infrastructure without adequate consideration of the “middle mile” could facilitate the deployment of last mile infrastructure without any adequate access to the Internet backbone, resulting in virtual roads to nowhere and wasting precious stimulus funds.

Parties have already begun to make suggestions for these terms. Some, for example, suggest that an unserved area should be one with no broadband access at all, only dial-up access

at most,<sup>22/</sup> and that underserved areas could be assessed by number of providers, penetration and uptake rates, as well as other factors. The tenor of these proposals suggest a single-minded focus on the last mile. An area's status as unserved or underserved should also take into account the middle mile facilities available to that area. Even an area with some broadband deployment, whether through a wireless carrier, an ISP, a LEC, or a cable company, should be considered underserved if the lack of middle mile connectivity constrains or limits Internet access or makes it prohibitively expensive.

**Response to Question 13b: "Broadband service" should reflect true next generation broadband speeds. In addition, projects proposing the use of shared facilities should receive priority for funding.**

NTIA needs to ensure that the BTOP grant program provides true high speed broadband to consumers within the constraints of its mandate of technology neutrality. NTIA should acknowledge that different speed thresholds must apply to different types of technologies and should not adopt speed thresholds that arbitrarily exclude technologies. That said, the government should take this opportunity to begin achieving the type of bandwidth commonly available in many other countries. This means not just a focus on last mile bandwidth, but middle mile and backhaul as well. Multi-megabit last mile service can be constrained by middle mile copper facilities operating at DS-1 levels or DS-3 levels. The Organization for the Promotion and Advancement of Small Telecommunications Companies ("OPASTCO"), a national trade association that represents over 520 small ILECs serving rural areas of the United States, states that nearly 90 percent of OPASTCO members are able to deliver data speeds of at

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<sup>22/</sup> See, e.g., Eric Peterson, Executive Director, Rural Cellular Association, Comments at the Broadband Technology Opportunities Program Public Meeting on Defining Rural and Unserved Areas (March 19, 2009), transcript *available at* <http://www.ntia.doc.gov/broadbandgrants/meetings.html>.

least one megabit per second in one direction to residential consumers.<sup>23/</sup> As last mile capacity increases, middle mile facilities must also become sufficiently robust so as to avoid creating a bottleneck that hinders the effectiveness of the local network.

Additionally, because middle mile facilities are expensive, especially in light of the vast distances between many rural communities and Internet backbones, the NTIA should target projects that are “future proof.” In other words, a definition of broadband should consider not only the near term broadband demands, but also the capacity requirements a decade from now. One way to maximize the long term viability of middle mile projects and prepare for this future growth is to fund backhaul projects that provide access from the middle mile to the Internet backbone that are contractually obligated to be neutral, open networks and that also incorporate the critical, physical elements of a highly accessible architecture for both wireline and wireless networks. For example, a dark fiber network with integrated wireless towers and regeneration/colocation huts that provides access to all three elements on a neutral basis enables connected middle mile network operators to readily upgrade equipment to increase capacity over the leased fiber back to the Internet with relative ease.

**Response to Question 13c: The agencies should assess nondiscrimination and network interconnection obligations specifically for middle mile projects.**

Network neutrality in the context of broadband services has largely focused on access to applications. A somewhat different focus should be applied to middle mile and backhaul projects, a focus more reminiscent of the 1996 Act’s physical non-discriminatory interconnection obligations. In the middle mile and backhaul context, the key interconnection obligations should be carrier neutral access to the network and the establishment of open colocation for interconnection facilities.

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<sup>23/</sup> OPASTCO Comments at 2.

Vertically integrated providers certainly can and do offer middle mile facilities, but often with strings attached. For such carriers, rational profit maximizing behavior often dictates restrictions on competitive access. This dynamic creates a bottleneck, firmly planting a wedge in the contiguous order of all things networked, and serves to entrench the digital divide and further perpetuate loss of time, value, and intelligence. These are our nation's most precious resources and they are wasted every day that this situation is left unresolved.

The government should expect a different business model when middle mile and backhaul facilities are paid for largely through federal dollars. In that case, the business model must be one of a truly neutral carrier, one that makes its facilities available to all takers on non-discriminatory terms. It should be a business model that succeeds by developing and offering neutral backhaul fiber and neutral colocation at the critical interconnection points. For example, the backhaul provider should offer neutral colocation at the wireless towers and huts along the fiber route, creating a common, shared facility for interconnection. Providing open access to wireless technologies along the fiber route could greatly reduce the cost of middle mile wireless technologies by siting the tower adjacent to the fiber. One agreement from a single backhaul operator that provides turn-key colocation and power, tower space and fiber would be very convenient and efficient, allowing the middle mile and last mile providers to focus on what they do best: servicing their customers. This type of business model is technologically and competitively neutral, consistent with the Recovery Act's mandates,<sup>24/</sup> and provides for a highly efficient expenditure of BTOP funds.<sup>25/</sup>

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<sup>24/</sup> Letter from Joe Barton and Cliff Stearns, Ranking Members, Subcommittee on Communications, Technology, and the Internet, Committee on Energy and Commerce, U.S. House of Representatives, to Bernadette McGuire-Rivera, Associate Administrator, National Telecommunications and Information Administration, U.S. Department of Commerce, James R. Newby, Acting Administrator, Rural Development, U.S. Department of Agriculture, and The Honorable Michael J. Copps, Acting Chairman, Federal Communications Commission (March 25, 2009) (suggesting that the allocation of Recovery Act

## QUESTION 15

**Please provide comment on any other issues that NTIA should consider in creating BTOP within the confines of the statutory structure established by the Recovery Act.**

**Response to Question 15: For BTOP to achieve success, NTIA must invest in the projects that maximize networking power.**

Over the past ten years, we have learned that knowledge is power. Broadband networks deliver knowledge. With power comes money. With money comes growth. It is a simple equation. It is a machine. If its pieces are assembled properly and it is well-oiled with no false restrictions, it works. It has a direct positive multiplier effect on the productivity of individuals and has been and will continue to be a major driver of the new economy. This can be nothing but good for the economy.

The potential of broadband networks has been stymied, however, by vested interests concerned that new technologies and facilities will cannibalize existing services or embedded copper infrastructure. As a result, regional networks and people remain isolated and their potential to organize, unify, collaborate, and succeed independently and as a group remains unfulfilled. Open access to middle mile and backhaul facilities is an important step in breaking the logjam. For this reason, it is imperative that NTIA fund the construction and deployment of open middle mile and backhaul facilities as part of its BTOP grant program.

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funds be “technologically and competitively neutral” and stating that “[i]t is not the role of government to put a finger on the scale or pick winners and losers.”).

<sup>25/</sup> See generally NTCA Comments at 26-27 (stating that all large, vertically-integrated communications carriers should be required to provide non-discriminatory, cost-based special access transport services to enable other carriers to reach the Internet backbone); DigitalBridge Comments at 9 (“Additionally, if funds are made available so that more fiber huts that *travel* through these smaller communities are opened for interconnection, DBC would have even more opportunity to extend broadband services to more underserved towns.”).

## RESPONSES TO RUS QUESTIONS

### QUESTION 1

**What are the most effective ways RUS could offer broadband funds to ensure that rural residents that lack access to broadband will receive it?**

**For a number of years, RUS has struggled to find an effective way to use the Agency's current broadband loan program to provide broadband access to rural residents that lack such access. RUS believes that the authority to provide grants as well as loans will give it the tools necessary to achieve that goal. RUS is looking for suggestions as to the best ways to:**

- a. bundle loan and grant funding options to ensure such access is provided in the projects funded under the Recovery Act to areas that could not traditionally afford the investment;**
- b. promote leveraging of Recovery Act funding with private investment that ensures project viability and future sustainability; and**
- c. ensure that Recovery Funding is targeted to unserved areas that stand to benefit the most from this funding opportunity.**

**Response to Question 1: Funding middle mile facilities is necessary to ensure that rural customers have access to broadband services.**

RUS loans provide an excellent opportunity to leverage private investment for rural broadband infrastructure. Such leverage is particularly appropriate for expensive middle mile projects. These projects can provide the vital links between isolated rural areas and the giant pipes that span the country carrying Internet traffic. As noted above, a number of parties have identified the lack of affordable, high capacity middle mile facilities as one of the primary obstacles to rural broadband deployment.<sup>26/</sup> The investment in these facilities creates a multiplier effect as they can serve a number of communities.

### QUESTION 2

**In what ways can RUS and NTIA best align their Recovery Act broadband activities to make the most efficient and effective use of the Recovery Act broadband funds?**

**In the Recovery Act, Congress provided funding and authorities to both RUS and the NTIA to expand the development of broadband throughout the country. Taking into account the authorities and limitations provided in the Recovery Act, RUS is looking for suggestions as to how both agencies can conduct their Recovery Act broadband activities so as to foster effective broadband development. For instance:**

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<sup>26/</sup> See *supra* nn.1-7.

- a. **RUS is charged with ensuring that 75 percent of the area is rural and without sufficient access needed for economic development. How should this definition be reconciled with the NTIA definitions of “unserved” and “underserved?”**
- b. **How should the agencies structure their eligibility requirements and other programmatic elements to ensure that applicants that desire to seek funding from both agencies (i) do not receive duplicate resources and (ii) are not hampered in their ability to apply for funds from both agencies?**

**Response to Question 2: RUS and NTIA should coordinate to ensure that program requirements encourage rather than deter funding of middle mile projects.**

Middle mile and backhaul projects are ideally suited for joint RUS/NTIA funding. These projects can span a number of areas and states, with some areas qualifying as rural under the RUS program and other areas qualifying as unserved or underserved areas under the NTIA program. A single project could thus qualify for RUS and NTIA funds without violating prohibitions against the same area receiving funding from both agencies. As discussed in response to NTIA question 12 above, RUS should also confirm that a middle mile facility that connects a community served by a funded broadband provider with the Internet should not be considered “double-dipping.” Similarly when assessing whether a middle mile or backhaul facility serves an area that is 75 percent rural and without sufficient access for economic development, the focus should be on the characteristics of the area served by the last mile broadband provider, not on the area(s) through which the middle mile or backhaul facility connecting that provider to the Internet may travel or where the interconnection points are located. To avoid double-dipping, middle mile and backhaul applications should clearly identify the funding sought for different areas, thus aiding agency review and Recovery Act compliance.

**QUESTION 3**

**How should RUS evaluate whether a particular level of broadband access and service is needed to facilitate economic development?**

**Seventy-five percent of an area to be funded under the Recovery Act must be in an area that USDA determines lacks sufficient “high speed broadband service to**

facilitate rural economic development.” RUS is seeking suggestions as to the factors it should use to make such determinations.

- a. How should RUS define “rural economic development?” What factors should be considered, in terms of job growth, sustainability, and other economic and socio-economic benefits?
- b. What speeds are needed to facilitate “economic development?” What does “high speed broadband service” mean?
- c. What factors should be considered, when creating economic development incentives, in constructing facilities in areas outside the seventy-five percent area that is rural (i.e., within an area that is less than 25 percent rural)?

**Response to Question 3: NTIA must evaluate the capacity and availability of middle mile facilities in determining the level of broadband access and service needed to facilitate economic development.**

For all of the reasons discussed in these comments, RUS should consider the capacity and availability of middle mile and backhaul facilities in deciding whether a project will bring sufficient broadband to facilitate rural economic development.

#### **QUESTION 4**

**In further evaluating projects, RUS must consider the priorities listed below. What value should be assigned to those factors in selecting applications? What additional priorities should be considered by RUS?**

**Priorities have been assigned to projects that will: 1) give end-users a choice of Internet service providers, 2) serve the highest proportion of rural residents that lack access to broadband service, 3) be projects of current and former RUS borrowers, and 4) be fully funded and ready to start once they receive funding under the Recovery Act.**

**Response to Question 4: The evaluation of RUS applications must take into account the inherent differences between middle mile and last mile facilities.**

RUS should consider whether the priorities used to identify worthy last mile facilities apply equally to middle mile or backhaul facilities. For example, rather than assessing whether the last mile provider will give end users a choice of Internet service providers, the issue for middle mile facilities is whether any and all providers can obtain access to fiber and interconnection points. And in assessing which projects serve the highest portion of residents,

the question may be framed as which middle mile or backhaul project provides open, affordable, high-speed connections to the greatest potential number of last mile networks.

## **QUESTION 5**

**What benchmarks should RUS use to determine the success of its Recovery Act broadband activities?**

**The Recovery Act gives RUS new tools to expand the availability of broadband in rural America. RUS is seeking suggestions regarding how it can measure the effectiveness of its funding programs under the Recovery Act. Factors to consider include, but are not limited to:**

- a. Businesses and residences with “first-time” access**
- b. Critical facilities provided new and/or improved service:**
  - i. Educational institutions**
  - ii. Healthcare Providers**
  - iii. Public service/safety**
- c. Businesses created or saved**
- d. Job retention and/or creation**
- e. Decline in unemployment rates**
- f. State, local, community support**

**Response to Question 5: Interconnectivity should be used as a benchmark in determining the success of the RUS program.**

Interconnectivity is of the utmost importance. There is no doubt that the control over Internet transport access by a few major network operators is the gating factor in tapping the riches of content in the world and everything that content could possibly represent to the users. Vertically integrated companies that control the access of networks want to set the cost of transport. Without contemplating access to crucial middle mile and backhaul facilities, the local network’s purpose and utility is significantly undermined. It would be built to be an island unto itself and left to be connected by one or two carrier service providers, thus creating an uncompetitive environment. Accordingly, it is imperative that RUS consider interconnectivity in assessing the RUS program.

Respectfully submitted,

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