

Institute of Museum and Library Services

Institute of Museum and Library Services	Library Services and Technology Act Grants to States, Native American Tribes and Organizations that Primarily Serve and Represent Native Hawaiians	Provides funds for a wide range of library services including installation of fiber and wireless networks that provide access to library resources and services	Total program appropriation for FY 2008 \$164,365,000 Including approximately \$3 million spent on broadband deployment activities.
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National Council on Disability

None

Question 3: Do any of the programs in question (1) or (2) deal specifically with rural broadband? If so, please describe how these programs deal specifically with rural broadband.

Department of Health and Human Services

I. Agency for Healthcare Research and Quality (AHRQ)

No.

II. Indian Health Service (IHS)

Universal Service Administrative Company (USAC)

Federal Communications Commission (FCC) Rural Health Care (RHC) Pilot Program

III. Health Resources and Services Administration (HRSA)

A. Office of Health Information Technology/Office for the Advancement of Telehealth

The Telehealth Network Grant Program (TNGP) indirectly supports the build out of the nation's advanced/broad band infrastructure by providing grant funds to rural health care networks to develop Telehealth services that use the infrastructure, thereby helping to build the market in these communities. Although the program does not directly pay for the build-out of the advanced telecommunications infrastructure (e.g., laying cable, fiber optics, microwave towers, etc), it does pay for the purchase of advanced telecommunications services. Moreover, HRSA requires its TNGP grantees to apply for the FCC's Universal Service Funds to enable them to stretch their grant dollars to provide Telehealth services in more communities by obtaining more affordable telecommunications services. This policy represents a synergy in federal programs that allows both to be more efficient and the taxpayer to receive greater benefit from its tax dollars.

The Telehealth Resource Center Grant Program (TRCGP) indirectly supports the build out of the nation's advanced/broad band infrastructure by providing grant funds for regional centers of excellence to assist health care providers and decision makers in the development of their Telehealth programs, including decisions regarding the purchase of advanced telecommunications/broad band services. These centers have also assisted providers in applying for the Universal Service Program and/or the FCC's Pilot Grant Program.

The Licensure Portability Grant Program (LPGP) indirectly supports the build out of the nation's broadband infrastructure by addressing a critical impediment to the utilization of telehealth networks. It seeks to provide grant support for state professional licensing boards to carry out programs under which the boards of various states cooperate to develop and implement State policies to reduce the statutory and regulatory barriers to telemedicine. Often, the most cost-effective way to utilize telecommunications and information technologies is across a state boundary to provide care when distance separates the patient from the clinician with the needed expertise. In this context, more widespread development of interstate telemedicine networks will assist underserved communities in overcoming their workforce shortages.

B. Office of Rural Health Policy

The following programs within ORHP utilize broadband to connect varying forms of Health Information Technology: Network Development, Delta Rural Health Initiative, Small Hospital Improvement Program, Small Health Care Provider Quality Improvement, and Critical Access Hospital Health Information Technology (CAH HIT) This broadband usage is through Health Information Exchanges, e-prescribing, Telemedicine/Telestroke, and health disparity reporting.

IV. Centers for Disease Control

No response

Department of Agriculture

All of the programs listed in response to Question 2 deal specifically with rural broadband. These programs provide financing (loan or grant) for broadband infrastructure in rural communities.

Department of Housing And Urban Development – Contact: Laura Grossman, Laura.S.Grossman@hud.gov, (202) 402-5541

I. Public & Indian Housing/Office of Native American Programs (ONAP)

No.

II. Office of Universities Partnerships

No.

III. Office of Rural Housing and Economic Development

Under the Rural Housing and Economic Development Program, a focus on broadband infrastructure projects for economic development is a possible eligible activity.

One of the menu of services under the Rural Gateway Clearinghouse is Quarterly Peer-to-Peer Conference Calls. For example, one of the past peer-to-peer conference calls focused on “*Telecommunications in Rural America.*” The guest speaker for the session was the USDA Telecommunications director. There was discussion about broadband in rural communities.

Small Business Administration/Office of Advocacy

Not Applicable.

Department of Education

Office of Special Education and Rehabilitative Services

I. Office of Special Education Programs (OSEP)

See answers to Questions 1 and 2.

II. Rehabilitation Services Administration (RSA)

The AT Act prohibits spending funds directly on individuals.

III. National Institute on Disability and Rehabilitation Research (NIDRR)

Not applicable.

DoEd, Office of Elementary and Secondary Education

The programs listed in response to Question 1 do not deal specifically with rural broadband.

Department of the Interior

No. The Agency’s programs are strictly limited to internal agency operations although ENAN-II supports some community learning centers.

Department of Commerce

I. EDA

There is very little need for urban broadband networks, so in general all EDA broadband projects are predominantly rural.

II. NTIA

No.

Appalachian Regional Commission

Many of our projects involve rural broadband applications. One of our early successes involved partnering with Motorola and Microsoft to expand a wireless broadband system in Delhi, New York. Our local partner was SUNY-Delhi. The Delhi campus sat on a hill overlooking the business district. Using a tower on the campus, broadband access via point-to-point wireless was transmitted into the business district. Early recipients were the Delhi Police Department, the State Dept. of Transportation garage facilities, the Community Center in Delhi and the public schools. ARC used this model to establish additional wireless systems in Glenville, West Virginia and Perryopolis, Pennsylvania. ARC has also been involved with establishing Wi-Fi systems in rural communities for use in tourism, expanding broadband into community centers and downtown business districts to provide wireless access for students that do not have broadband connections at home. ARC has helped to expand wireline broadband into remote industrial parks to assist with business attraction. We have also conducted numerous training courses throughout our region on demand aggregation, E-commerce applications and basic education on what is broadband and why does a rural community need it.

Delta Regional Authority

The majority of the communities in the DRA region are categorized as rural. As stated above, GAO affirmed that DRA's federal grant program led the nation with its "Rural Investment" intensity, as 77 percent of its investments went into rural areas.

Institute of Museum and Library Services

Not applicable

National Council on Disability

Not applicable

Question 4: Are there any impediments, either specific to your agency's existing programs or more generally, that you believe hinder rural broadband rollout? If so, please list and describe those impediments. Also, please propose any possible solutions.

Department of Health and Human Services

I. Agency for Healthcare Research and Quality (AHRQ)

Not Applicable

II. Indian Health Service (IHS)

If rural areas could be informed of the rural broadband initiative to install in their areas, they could also benefit from the funding available through the FCC RHC program to meet the monthly payments for the service.

Currently the IHS Areas and some Tribal communities are participating in the FCC RHC. The IHS Office of Information Technology (OIT) files on behalf of 6 IHS Areas for funding especially on the FTS telecom circuits. The remaining IHS Areas and Alaska conduct their own RHC filing. Participating Indian health care providers have benefited from RHC with regard to reduced telecom costs.

While the reduction of overall IHS FTS telecommunication costs can be measured considerably due to the amount of credits posted onto the FTS accounts, there are several issues that make the program tedious. The following notes assume a rural health care site can take advantage of both the rural broadband installation and funding from the FCC RHC program to alleviate some of their high-cost rural telecom expenses:

1. Required bidding process. In order to receive funding, the RHC program bidding requires that the application post for 28 days regardless of having a selected vendor in place. This is an unnecessary delay if sites want to keep their current carrier.

Solution: Waive the 28-day bidding process for rural sites if they have already selected a carrier. If the Areas and sites want to look at more provider options, they can post for bids at that time.

2. The RHC program requires that the applicant use the service provider with the lowest cost bid that can give the essential services to the site. Most applicants or HCP under the FTS contract services cannot change providers. This is an IHS Area decision, so once rural broadband is made available, the sites have to pay for the service. In order for the health care sites to receive RHC funding in the form of a credit on their eligible circuits invoice or a refund check, the sites would have to take bids and be forced to make a choice of changing carriers every year.

Solution: Once the rural broadband is in place, sites should be able to select the carrier of their choice to either keep the continuity, or select local providers that benefit the community economics even if the local provider charges a higher rate.

3. The FTS2001 program is a government designed plan to provide "government users with up-to-date, cost-effective, and easy to utilize telecommunications services," but at the same time another government agency, the FCC, states the site must change carriers in order to receive RHC funding.

Solution: FTS2001 users applying for RHC funding should be allowed a waiver of the bid process.

4. RHC funding or credits on FTS accounts are tedious to reconcile and nearly impossible to post further down from an IHS Area Agency Hierarchy Code (AHC) account. This is the point where failed FCC/USAC audits have occurred.

Solution: Send funding checks directly to the sites. The sites can use the RHC funds to help pay for some of their broadband costs to ensure continuity of the service.

5. The USDA RUS Distance Learning and Telemedicine Program does not permit federal sites to be applicants. Also, the match required (and the scoring mechanism for it) really discourage Tribal sites from applying.

Solution: Include IHS Federal sites as eligible sites for this program reducing or eliminating the match requirement. The IHS also recommends a tribal set aside, if possible, for this program. It would really stimulate telehealth service development, when funded.

III. Health Resources and Services Administration (HRSA)

The primary impediment to the deployment of broadband facilities with respect to HRSA's telehealth and HIT programs is the ability of the networks to financially sustain the networks and to gain clinical acceptance of remotely provided services, given initial costs of developing these services. This includes the costs associated with depreciation and maintenance of the physical facilities and the telecommunications costs as well as the human resources. Some of the impediments include:

- Clinical Acceptance (Integrating telemedicine into clinical practice: many applications improve access but not provider productivity)
- Financial Sustainability
- Telecommunications Infrastructure: High cost and/or limited availability of high speed telecommunications lines
- People Infrastructure: Lack of trained individuals with experience
- Organizational/Systems Infrastructure: Telehealth technologies are enabling technologies – The key is to have an efficient system
- Volume low for some applications, thus per unit costs remain high
- State Licensure laws restricting electronic practice across state lines (see the Licensure Portability Grant Program, above)
- Evaluation – Measuring outcomes/benefits of employing telehealth technology
- Standards Development Lag– Lag between the development of technology and our ability to develop appropriate technical and clinical standards (both private and public) to ensure quality of service.

With respect to the costs of the broadband deployment OHIT, working through its sister divisions, OAT and DSCA, make it a priority to provide technical assistance to its funded networks to address the critical issues of financial sustainability. Those activities include:

- **Monitoring of Grants.** Consistent with HRSA policies, OAT maintains a formal structure to monitor the performance of its grants and provide technical assistance. More specifically, each grantee is assigned a project officer and a grants management specialist, who are responsible for monitoring the grantees performance. Grantees are required to submit 6-month reports on their progress, as well as a final report summarizing the accomplishments under the grant. To facilitate monitoring of its grants, OAT has developed a web-based performance measurement system that is serving as a model for other federal agencies. Most recently, OAT has expanded the system to include some limited outcome measures.
- **Technical Assistance Initiatives.** OAT as a part of OHIT pursues a variety of strategies to facilitate technical assistance, in addition to the development of the Telehealth Resource Center Grant Program. Our experience suggests that although the use of electronic dissemination tools, such as listservs and web-sites are helpful in disseminating information to grantees, periodic face to face meetings are critical to building trust and a sense of sharing that facilitates peer-to-peer technical assistance, the most effective form of technical assistance we have found. The following are common TA strategies that we have employed:
 - Development of telehealth guidelines for establishing programs: OHIT has developed a HIT web portal on AHRQ's website to provide a variety of technical assistance tools, including those being developed by OAT and its grantees for Telehealth. Previously, OAT supported publication of a guide to getting started in telemedicine that provides guidelines in 11 application areas, including clinical specialties and home health, which were developed by our grantees and others based on their experiences (<http://telehealth.muhealth.org/geninfo/TAD.html>).
 - Annual grantee meetings
 - Listserv for all current and former grantees to share problems and solutions.
 - OHIT Web-cast monthly conference calls with grantees to share lessons learned, update grantees on activities at the federal and state level of interest, and to develop joint projects to leverage limited resources, with an emphasis on joint evaluation strategies and performance measurement.
 - Web-site (<http://telehealth.hrsa.gov>)
 - Performance measurement feedback: Each grantee is provided a periodic report of their performance against the performance of all the grantees under the same grant program.
 - Grantee Directory/Profiles: An annual compendium of all grants funded in the reporting period (usually 2 years) that describes the projects and provides detailed charts on key characteristics, e.g., reimbursement, services offered, sites of service (hospitals, nursing homes, etc), transmission and selected technology information, demographics of populations served. The Directory is posted on the web-site annually. It is a very useful device for informing grantees and the public about telehealth programs in their communities funded by OAT.

SOLUTIONS:

The key to the development of sustainable telehealth/HIT networks and, thus, the ability of those networks to support the ongoing costs of broadband deployment is dependent on those networks to address the following issues:

Needs/Demand/Market Assessment - The extent to which the network:

- Meets the health care needs of the community and, critically, matches the demand for the services to be provided. Who else is providing the service? How do people in the area currently receive the service? Does specific and current data support the need/demand assessment? Has the local community provided input into the market assessment, and if so, are these users, decision-makers, etc?
- Develops a telehealth/HIT technological application that meet the need/demand.
- Telehealth technologies are the most effective alternative to provide the services.
- Is compatible with the health care resources/expertise/telehealth resources that are available. Does the proposal build on those resources or duplicate them?
- Will be utilized and supported by the local citizens.

Purchasing Equipment/Software/Telecom Services - A Thorough Assessment - The extent to which the network:

- Deploys equipment/software that will meet all current and emerging standards for interoperability/data exchange
- Provides for a network design that most effectively utilizes the available and projected telecommunications infrastructure.
- Is designed taking into consideration all technological options, and deploys the most cost-effective option to provide the healthcare services. (e.g. costs versus benefits)
- Allows for upgrades and can communicate with other networks. (e.g., avoiding proprietary hardware and software, i.e., "open systems")
- Can be operated and maintained with available resources. (In house versus outside technical support)
- Can easily be used and will be used by clinicians and patients.

Sustainability – the extent to which the network:

- Can aggregate telecommunications demand and economies of scale. Networks must strive to serve various venues or provide for multiple uses and obtain revenue for ancillary uses. (e.g., hospitals, schools, community facilities, business, local government)
- Will generate sufficient revenue or achieve sufficient cost savings to cover telecommunications charges, equipment depreciation, maintenance and other system-related costs.
- Can develop an effective long term strategic plan. (e.g., Does that plan consider the telehealth/HIT program as a revenue or a cost center?)
- Provides for a mechanism to monitor and evaluate performance and provide any "mid-course corrections" or changes as conditions warrant.
- Provides for a plan for loss of key employees, a plan for sustaining and increasing clinical champions.
- Evidences leadership that understands reimbursement and funding opportunities, as well as sources of revenue for multiple users.
- Provides for a plan for ongoing local community support and collaboration with other entities? (healthcare providers, businesses, educational institutions, individual users, political leaders, community advisory groups, etc.).
- Facilitates an ongoing public relations and marketing effort.

IV. Centers for Disease Control

No Response

Department of Agriculture

The Agency improves the quality of life in rural America by providing investment capital for deployment of rural telecommunications infrastructure. In order to achieve the goal of increasing economic opportunity in rural America, the Agency finances infrastructure that enables access to a seamless, nationwide telecommunications network. With access to the same advanced telecommunications networks as its urban counterparts, especially broadband networks designed to accommodate distance learning, telework, and telemedicine, rural America will eventually see improving educational opportunities, health care, economies, safety and security, and ultimately higher employment. The Agency shares the assessment of Congress, State and local officials, industry representatives, and rural residents that broadband service is a critical component to the future of rural America. The Agency is committed to ensuring that rural America will have access to affordable, reliable, broadband services and to provide a healthy, safe, and prosperous place to live and work.

One of the main impediments to the full deployment of broadband infrastructure in rural areas is the fact that deployment to rural areas is often more costly than in non-rural areas, usually due to lower density and geographic considerations. The technological complexity and the large amount of capital required to deploy widely have also been impediments. Many projects are not profitable for several years after implementation. Some areas of the country are very competitive, with numerous broadband providers, while other areas are totally unserved. Although a priority is given under RUS financing for unserved areas, it has been difficult for applicants to make a solid business case for just unserved areas. Many rural communities are eager to have access to broadband but are unable to attract service providers.

Department of Housing And Urban Development

I. Public & Indian Housing/Office of Native American Programs (ONAP)

In general the impediments are the remoteness of the areas where broadband is needed, as well as the low density of population.

II. Office of Universities Partnerships

No.

III. Office of Rural Housing and Economic Development

Not applicable

Small Business Administration/Office of Advocacy

Advocacy does believe that there are impediments to rural broadband rollout and filed comment with the FCC on Rural Broadband Issues. These comments will be attached.

Department of Education

Office of Special Education and Rehabilitative Services

I. Office of Special Education Programs (OSEP)

Cost is a major impediment. As described above, funding under IDEA might make a small contribution to developing rural broadband infrastructure, but the policies must be explored to determine the circumstances, if any, under which IDEA funding can contribute. Explorations of cost must consider not only the initial installation of broadband, but also the training, maintenance and support required for continued functionality.

Access is another impediment, and all aspects of access must be monitored. For example, broadband access devices such as computers or televisions must provide accessibility features such as text-to-speech, captioning, enlargement, adapted keyboards, etc. However, hidden features of the broadband transmission network must also be monitored for access. For example, a certain portion of the bandwidth needs to be preserved for video description and captioning. Modern compression technologies have reduced the amount of bandwidth needed for these services, but have not eliminated the requirement completely. Another example involves the use of streaming video to deliver signing for the deaf, in which case sufficient speed and resolution must be provided to ensure that signs are interpretable. Factors of cost and competing uses may tend to limit the accessibility capacity of the network, and should thus be monitored and controlled.

II. Rehabilitation Services Administration (RSA)

As broadband technology is provided to more rural communities, the AT programs can address the accessibility part of the equation for persons with disabilities. AT programs should be involved in the planning stages so all can benefit from the implementation. Representatives of the AT Act programs can/should serve on technology-related advisory committees in their states or on any state-level bodies that are planning for improving access to IT for the general population. The AT program representative's role on such a body would be to ensure that the plans incorporate the needs of individuals with disabilities to access IT and meet requirements such as section 508 and section 504 of the Rehabilitation Act. For example, if a rural community gets broadband access in their local library building or community center, that building needs to be accessible to people with disabilities. The computer station also needs to be accessible and the computer needs to be compatible with software that makes the internet and other programs accessible to people with disabilities. The AT programs can provide this expertise and technology.

Broadband wireless has particular benefit for people with disabilities in rural areas. Wireless access allows transmission to homes without running wires or cables to each and every house allowing more homes to receive broadband signals in less time for less money. Broadband wireless allows emergency transmission (including video) for people with deafness or hearing loss, GPS for people with blindness or vision loss, reaching help for people with mobility impairments, communication in case of disasters or emergencies. It allows people with limited function to use technology in any room, even any house/home without rerouting cables and relocating hardwired devices. The potential for emergency preparedness and disaster recovery cannot be overstated. Overall, the future assistive technology potential for people with disabilities is endless if they are not tied to wires.

III. National Institute on Disability and Rehabilitation Research (NIDRR)

The Digital Divide still exists for rural residents with disabilities. The latest available data show that only about a quarter of the population of people with disabilities living in non-metropolitan counties use the computer at any location (<http://rtc.ruralinstitute.umd.edu/TelCom/Divide.htm>).

NIDRR programs are not creating impediments to broadband access, but they are suffering from them. When grant project activities are designed to incorporate online tools which require high broadband, people without these connections are being left out. For example, people with disabilities can be categorically excluded from online surveys and once that happens, it is as if their needs and issues cease to exist. They become invisible in an increasingly online world. Similarly, NIDRR researchers are employing state-of-the-art applications that require large capacity transmissions that are not universally available. For example, one project is using Web 2.0 application of Second Life to conduct training workshops, and to compare this delivery platform with similar content delivered in other formats. Such exciting applications are unlikely to reach many rural residents with disabilities any time soon because they lack high speed home connections.

The 1995 NTIA/ESA digital divide report showed the rural poor (income less than \$10,000) having the lowest rates of computer ownership. Americans with disabilities are often among the poorest and least-employed and they do not have workplace Internet access may be unavailable because people with disabilities are less likely to be employed.

Locations for Internet access may be limited. Users of assistive technology and/or customized configurations can only access the Internet where these accommodations are available, which limits their access at public libraries, community centers, or in the homes of friends. Public locations may not be physically accessible to people using mobility devices. 24% of people with disabilities use the Internet at home and about 30% report using it from any location. Half of people with no disability use the Internet at home and more than 60% use it from any location.

Internet content may be frustrating – many web sites are not accessible to people using assistive technology such as screen readers. Federal government web site accessibility is mandatory, but court rulings on Americans with Disabilities Act applicability to non-government web sites have been inconsistent and contradictory.

People who are deaf have used TTYs for years. However, with many people switching to IP communication, those who do not have broadband connections are stuck using the older and incompatible TTY technologies. They use dial-up for Internet but cannot use that for incoming text calls. Rolling broadband out to rural communities would surmount this problem and allow rural users to be compatible with others and take advantage of the added capabilities of IP communication as well (i.e. IP relay). Almost all communication by phone by deaf individuals is conducted through Video Relay Service (VRS), in which deaf individuals can see an interpreter at a remote location signing a call to a hearing person, and through point-to-point video connection to other deaf individuals (instead of TTYs) to chat via signs and/or lip-reading with voice. The video technologies require broadband to allow for video streaming. For those who can not afford the cable or DSL monthly charges and for those in rural areas without such access to these types of services, communication continues with the traditional TTY-to-TTY calls and TTY relay calls, supplemented or mostly replaced by dial-up access to IM chats/relay service and e-mails.

Regarding telerehabilitation and its potential for rural residents with disabilities – The Internet has become suitable as a platform for demanding interactive services, such as videoconferencing, due to the advancements in broadband speed and access. The drawbacks of the Internet in the past (e.g. potentially higher packet loss and low quality of service) has become less of a factor as the speed and quality of the Internet increase. The Internet has tremendous potential as the standard platform for future multimodal telecommunications. An integrated telerehabilitation service that includes teleconsultation, e-health, and teletherapy can be delivered using multimodal applications (videoconferencing, personal health record access, personalized consumer health information, remote monitoring, etc.) over a single communication channel. A related obstacle is the issue of reimbursement.

DoEd, Office of Elementary and Secondary Education

There are no impediments, either specific to the U. S. Department of Education's existing programs within the Office of Elementary and Secondary Education that hinder rural broadband rollout since none of the programs fund the deployment of broadband activities.

Department of the Interior

Repurposing of the Universal Service Fund, especially the eRate program to enable service provider driven deployment of services without the extreme level of effort required to acquire funding from the applicant's side.

Broadband over powerline should be avoided due to the documented interference with first responder's radio communication systems (electromagnetic propagation).

Department of Commerce

I. EDA

To answer this question, EDA spoke to two of our field representatives, each of whom had very different experiences due to the nature of the projects involved. Anne Cavelier, our WV/MD Economic Development Representative, has been working with the State of Maryland and other entities to create a broadband network that links the Eastern Shore to rural western Maryland, crossing the Chesapeake Bay in the process. This project has had lengthy delays for two primary reasons:

- 1) The project plan calls for tunneling under the Chesapeake Bay, which will require permits from the EPA, the Army Corps of Engineers, and state environmental regulators. Many environmental issues remain to be resolved, which is slowing the process.
- 2) The project plan initially called for the broadband fiber to be laid underground, crossing private land. This entailed negotiations with hundreds of private land owners, many of whom were not amenable to granting rights-of-way on their land. As a result, the recipients eventually switched strategies, deciding to bury cables beneath road shoulders, as these are on existing public rights-of-way.

EDA's Economic Development Representative for VT and NY, John Marshall, has worked on a few smaller projects in Northern Vermont and New York (the smallest involving three counties and the largest involving six). In all of these projects, above-ground public rights-of-way (generally telephone lines) have been utilized. EDA builds a ring of fiber (ensuring redundancy, unlike a line of fiber, which can be cut like a power line) and private providers build the "last mile" to extend the fiber connection to individual institutions or households. The fiber rings are owned by the counties but leased to private companies. In order to limit environmental issues, fiber is laid along above-ground river crossings, such as bridges or telephone lines.

Based on these experiences, EDA recommends the following best practices:

- 1) Ensure that recipients have a strong project plan that involved the relevant stakeholders in mapping the network and determining the project scope from the beginning. At the outset, the state department of transportation and electric cooperatives and other publicly-owned utilities should provide maps of existing public rights-of-way. The state environmental protection agency should provide information on required permits, as well as which routes would minimize crossing environmentally-sensitive areas. State emergency management agencies, state law enforcement agencies, and even (on the border) the Immigration and Naturalization Service (INS) should be involved in specifying any requirements they have, such as communications encryption requirements. In addition, these agencies often have detailed maps and plans for networks to link first responders ready to go, which may shorten the project planning process. Finally, they may be able to contribute project funds; EDA did one project along the northern border in which INS contributed funds.
- 2) Ensure that recipients have adequately demonstrated demand to attract private providers to construct the "last mile" to individual institutions and households.

- 3) For projects that are not “shovel ready,” consider awarding two grants—one grant for a design and feasibility study to map the route, estimate demand, identify any required permits and the effort involved in obtaining those permits, and identify any rights-of-way issues and ways to mitigate rights-of-way issues. The second grant would be for actual construction. The benefit of such a strategy is that it increases the likelihood that adequate attention and resources will be focused on the critical project planning phase. It also reduces risk to the federal government, since the government is not obligated to fund construction if the design and feasibility study identifies serious legal or environmental impediments.
- 4) If the project crosses state lines, ensure that all parties involved have a clear understanding of any differences in state regulations that will affect the project.
- 5) Prioritize projects that are able to utilize above-ground, publicly-owned rights-of-way; that have detailed project plans available that were developed in concert with all counties involved, as well as the state departments of transportation, environmental protection, emergency management, and other relevant entities; that will have staff with a mix of project management, civil engineering, electrical engineering, and mechanical engineering skills; that have strong support from stakeholders; and that have estimated demand sufficient to make the project successful.

II. NTIA

The principal impediment appears to be the high cost of deploying broadband infrastructure in remote and sparsely populated rural areas. In many circumstances, the business case is not strong enough to justify the investment. Over the years, Federal and State governments have developed subsidy programs to reduce the costs of serving rural areas, such as the FCC’s Universal Service high-cost fund and USDA’s telecommunications loan and grant program. BTOP is the most recent example of those government subsidy programs.

Appalachian Regional Commission

Attracting service providers to serve rural areas has been a major impediment. The more rural the area, the more difficult the task is to accomplish. It is simply a matter of business case economics. There is also the issue of using federal funding sources to provide a system that will ultimately end up in competition for customers with privately financed systems. For example, DSL may be available in a portion of a county – but the service is not available throughout the county. The county would like funding assistance in constructing a county wide wireless system. The wireless system will cover the same area where the DSL service is already available – and since the wireless system is subsidized by grant funding, the price for the broadband service could be less than the DSL service. Customers may drop the DSL service to take the lower priced wireless service.

Solutions to these problems include, in the first case, providing a subsidy that will reduce the cost of deployment thereby changing the breakeven points in the business case analysis and finding lower cost solutions to rural wireline broadband service. Our solution to the second case has been trying to create public-private partnership arrangements to reduce the likelihood of legal

challenges. We try to let the service providers who operate in the areas know when we are looking at expanding broadband and try and find ways to work together whenever possible.

Delta Regional Authority

- Local entities' inability to match federal dollars – so, either waive match requirements or allow appropriate agencies to serve as that state or local match.
- Local leadership too often do not understand the grant-procurement process – create teams to work with local entities to develop that capacity, to empower localities to succeed with grant-procurement processes.
- Insufficient supply-side information available to exploit by local entities and the private-sector.
- Insufficient understanding by local leadership – formal and informal – as to benefits of IT assets – create teams to increase that local understanding, increase local demand to help satisfy private-sector business requirements.
- E-Government – each public/education entity should have a working, citizen-serving webpage
- A regional approach to IT deployment to achieve greater synergies rather than the typical piecemeal approach to specific localized development – make greater use of regional development commissions.

Institute of Museum and Library Services

Not applicable

National Council on Disability

Impediments

- Gap funding for carriers who want to make an initial investment in developing critical infrastructure, to jumpstart a sector.
- Affordable lease rates for new carriers' use of existing infrastructure.
- Affordable and accessible wireless reception and assistive technology devices for people with disabilities.
- Rural communities generally often have insufficient or only enough capacity to conduct the administrative and regulatory requirements of their own affairs at current property tax levels.
- Delivery of wireless Internet services requires technical expertise that is rarely, if ever, among the qualifications of town clerks, administrators or managers.
- Officers of rural communities likely do not understand basic telecommunications issues.

Possible solutions

- Develop and expand public and private funding sources to assist with initial capital costs to develop high speed internet capacity in rural areas that will extend service beyond existing infrastructure constraints.

- Explore subsidies for bulk purchase of wireless reception devices on individual residences and businesses.
- Facilitate shared infrastructure to spread capital costs across public and private sectors and across telecommunications service needs (broadband, cellular, radio).
- Consider use of universal service E-Rate – and other public subsidies -funds for equipment costs, infrastructure development, assistive technology purchases.

Question 5: It could be beneficial to have a unified map to support a broad range of governmental and private sector activities. Please describe any data regarding broadband service that your agency collects in administering its programs, such as known locations of public or private facilities with broadband service. Please also list and describe your agency's mapping or "geolocation" information sets (e.g., broadband, highways, hospitals).

Department of Health and Human Services

I. Agency for Healthcare Research and Quality (AHRQ)

Not Applicable

II. Indian Health Service (IHS)

See attached spreadsheet for sites and addresses.

III. Health Resources and Services Administration (HRSA)

[To be supplied]

IV. Centers for Disease Control

Provides a number of maps depicting broadband availability at health institutions in various States and other locations.

Department of Agriculture

RUS Broadband III GIS Mapping Solution

Broadband III – GIS Mapping Requirements

The 2008 Farm Bill requires that a mechanism be in place, enabling the Agency to publish a Public Notice Filing (PNF) for each prospective applicant seeking funding. It also required that the PNF provide information on the prospective applicant's proposed Service Area (i.e. maps of the proposed Service area) along with the number of households that the applicant intends to serve and that the applicant contends are without access to broadband service (within their proposed Service Area).

Incumbent Service Providers (ISP) must also have the capability to submit a Public Notice Response (PNR) to the PNF. This must also include a map of the areas within the applicant's proposed Service Area(s) that have access to broadband data service, provided through the respondent.

Broadband III – GIS Mapping System Life Cycle

The following provides a sequencing of how the Broadband Program envisions the use of the GIS Mapping solution:

- 1) An applicant applies under the Broadband Program. As part of their application they are required by the Broadband Program to provide maps which show their proposed Service Area(s) that will be covered by their project.
- 2) The Broadband Program requires that a web based solution for creating shape or .sde files be accessible to potential Broadband Program applicants so that they can create their Service Area maps through the system.
- 3) Broadband Program staff will review the proposed maps to determine whether the proposed Service Area(s) fail some basic eligibility requirements stipulated by the Farm Bill, including population/urban area characteristics or infringement upon an existing Rural Development borrower's service territory. This will be completed by overlaying existing maps of ineligible areas onto the proposed service area maps. This will be completed on RD staff desktops.
- 4) For Service Areas that have been found to not obviously fail the basic eligibility requirements, Broadband Program staff will create a PNF based upon the information contained in the application. The LFN must have links that the public will use to access the service area maps.
- 5) There will be a subscription system to alert interested parties via email whenever PNFs are posted on the website.
- 6) Should a party view an PNF and realize that a proposed Service Area or Service Areas infringe upon their existing broadband service territory, they will have the ability to create a Legal Notice Response (PNR) to each Service Area under the PNF by accessing the service area maps created by using the web based tool referenced above. The Farm Bill stipulates that the Broadband Program may not lend into a Service Area with three or more existing Incumbent Service Providers, which are defined as providers who serve at least 5% of the households within any contiguous Service Area. The Farm Bill also stipulates that the Broadband Program may not lend into a Service Area where less than 25% of the households in the proposed Service Area is offered broadband service by more than 1 Incumbent Service Provider.
- 7) A respondent will create an PNR for each Service Area map in the PNF which infringes upon their existing broadband service territory.

- 8) The Broadband Program must have the ability to overlay the PNR maps onto the PNF maps to determine the unserved areas and the areas with three or more service providers.

Department of Housing And Urban Development

I. Public & Indian Housing/Office of Native American Programs (ONAP)

ONAP does not have any mapping tools.

II. Office of Universities Partnerships

No, we do not gather information on broadband.

III. Office of Rural Housing and Economic Development

Not applicable.

Small Business Administration/Office of Advocacy

Advocacy was tasked by Congress to conduct a forthcoming study on small businesses and broadband which may incorporate mapping information to a certain extent.

Department of Education

Office of Special Education and Rehabilitative Services

I. Office of Special Education Programs (OSEP)

Not applicable

II. Rehabilitation Services Administration (RSA)

Not applicable.

III. National Institute on Disability and Rehabilitation Research (NIDRR)

While it is essential to understand the distribution and locations of public or private facilities with broadband service, it is equally important to understand the spatial distribution of people who need access to broadband services. Rural America is particularly challenging for many reasons, including the multiple definitions used to define where “rural” is. Baseline measures used to show changes in distribution need to include not only the spatial distribution of broadband resources but also how many people actually have access to and are using broadband resources when available.

Having already established that rural residents with disabilities still face a digital divide, it is particularly important to include them in unified mapping projects. At least one NIDRR sponsored project has included Geo-coded datasets for people with disabilities nationally. Rural RRTC's website: DisabilityCounts.org is based on US disability demographic data from the 2000 Census. Datasets are geo-coded at the county level. Disability mapping is done using ESRI ArcGIS software so these county level datasets can be linked to other geo-coded datasets. Other RRTC datasets are geo-coded at the ZIP-code level. These include: US Centers for Independent Living (700 locations) and the nearly 5000 sub-recipients of the Federal Transit Administration's section 5310 transportation program for elderly and disabled individuals.

This type of data should be included in broadband mapping activities, both through NIDRR sponsored projects and through whatever unified mapping efforts are supported by the rural broadband initiatives. Unless people with disabilities and accessibility of facilities and broadband services are specifically included for both urban and rural areas, they are very likely to be overlooked – and treated as if they did not exist.

DoEd, Office of Elementary and Secondary Education

Not applicable

Department of the Interior

The Department maintains an accurate inventory of its deployed broadband inventory and related assets. Due to the nature of this information, it is available upon request provided the requester adheres to certain non-disclosure limitations. Please contact the Office of the Chief Information Officer's Enterprise Infrastructure Division at 703-648-5555 for more information.

The Department's US Geological Survey (USGS) is the primary provider of geolocation mapping services across the federal government. Specific USGS map servers can be found at <http://www.usgs.gov/science/science.php?term=1234>. The USGS also provides for a user configurable mapping tool that can overlay various datasets for a customized view. This can be accessed at <http://www.nationalatlas.gov/>.

Department of Commerce

I. EDA

EDA does not have any comprehensive geolocation information sets. Some applicants choose to submit a map showing existing broadband networks in their proposed project area as part of their application, but it is not required.

II. NTIA

NTIA does not conduct any mapping activities at this time. However, the Recovery Act requires NTIA to “develop and maintain a comprehensive nationwide inventory map of existing broadband service capability and availability in the United States.” (Section 6001(l)).

Appalachian Regional Commission

ARC has not been directly involved with broadband mapping activities throughout our region. We have funded some state efforts and broadband mapping – such as the Connect Kentucky mapping project – but we have not undertaken mapping of broadband availability within the region.

Delta Regional Authority

The iDelta report provided sets of data of accessibility and utilization for its DRA eight states: <http://www.dra.gov/pdfs/iDelta%20report%20032207.pdf>.

Institute of Museum and Library Services

IMLS has geographic information on each of the country’s branch libraries that allow the agency to map all branch locations as point files. We also have data on the number of internet access terminals available, at the library system level. We are currently in talks with the Bill and Melinda Gates foundation to obtain data on broadband internet connection speeds and costs in all the country’s public library branches. Our agency also regularly uses the results of the American Library Association’s 2007-2008 Libraries Connect Communities study, which collected data on broadband and wireless speed and connectivity from a sample of the nation’s public libraries.

Agency analysts are capable of running statistical and geo-spatial analysis on library and other data files and are able to provide support in identifying program targets if needed. Staff also have experience using USDA data to identify metro/non-metro and rural areas. We have also merged Public Library Survey data with OMB and USDA county status codes to identify library resources that fall within defined rural areas.

National Council on Disability

Not applicable

Question 6: Please suggest ideas to promote interagency coordination for policies, programs, and services for a comprehensive rural broadband strategy.

Department of Health and Human Services

I. Agency for Healthcare Research and Quality (AHRQ)

The best way to coordinate rural broadband efforts taking place within the federal Department of Health and Human Services would be through the newly authorized Office of the National Coordinator for Health IT.

II. Indian Health Service (IHS)

Leveraging the buying power of the government with telecommunications vendors can persuade them to build out better broadband services for rural areas with limited services. By purchasing services off the new Networx contract, the government is requiring certain build outs in rural areas. The contract is large enough for the prime vendor to single price a circuit whether rural or metro.

If government agencies would increase their bandwidth from T1's to broadband in rural areas, this would require vendors to build out fiber in rural areas. They could then offer the fiber to other agencies, tribal governments and organizations, as well as the public. By buying more services, the government agencies would help build out areas that have little broadband services.

The government agencies should continue to drive application adoption that drives broadband to rural sites. Applications like telehealth and video teleconferencing drive the adoption of broadband, and thus increase the rural broadband rollout.

III. Health Resources and Services Administration (HRSA)

ORHP has done and continues to do extensive work in the area of the definition of "rural." This is critical area for collaboration.

The Federal Joint Working Group on Telehealth (JWGT) provides another avenue for collaboration at a staff level. It should be noted that the JWGT has facilitated a long time established working relationship among representatives of Rural Utilities Service, The Department of Commerce, Department of Health and Human Services, and other federal agencies throughout the federal government, all which are involved in finding the most effective way to deploy technology to provide healthcare to underserved populations. This working group provides the most effective mechanism for USDA, Commerce, and DHHS to build on any already established working relationship.

IV. Centers for Disease Control

No response

Department of Agriculture

The Federal government could assist rural communities and service providers with information on successful models of broadband deployment, case studies of economic development efforts related to broadband, and so on. Assistance should be provided to rural communities to help them with identifying the broadband opportunity in their community and attracting broadband service providers.

Department of Housing And Urban Development

I. Public & Indian Housing/Office of Native American Programs (ONAP)

Work with established organizations like the Denali Commission to organize and coordinate the smaller organizations with limited resources.

II. Office of Universities Partnerships

To include the American Indian Higher Education Consortium (AIHEC) in discussions on broadband needs for Tribal Colleges and Universities as they have already done significant work in this area.

III. Office of Rural Housing and Economic Development

Through HUD's Office of Rural Housing and Economic Development Rural Gateway Clearinghouse, information can be disseminated by telephone inquiries, the listservs or at the website about funding opportunities or general information regarding HUD and other federal partners.

Small Business Administration/Office of Advocacy

Regular interagency meetings, shared data among the agencies, and shared policy input would help interagency coordination on rural broadband.

Department of Education

Office of Special Education and Rehabilitative Services

I. Office of Special Education Programs (OSEP)

Agencies should geographically map the projects and service providers they fund in rural areas to identify locations that need improved broadband coverage and the possible points for shared access development.

Agencies should analyze their laws, regulations, and policies to determine how they can contribute to interagency rural broadband efforts.

Public-private partnerships should be explored. Ultimately, a market model in which rural broadband becomes a profitable enterprise may hold the most promise. Small businesses may play a large role here.

Agencies should fund (independently or collaboratively) projects to develop and demonstrate the use of broadband to meet agency missions in rural areas. These demonstrations will stimulate rural use of broadband technology and increase its economic viability.

II. Rehabilitation Services Administration (RSA)

RSA Centers for Independent Living (CILS) could be used as hubs for accessible community broadband access for many rural residents with disabilities. RSA administers the CIL program and there are close to 400, funded in part by RSA, and close to 300 others located in the US. CILs are consumer-controlled, community-based, cross-disability, nonresidential, private, nonprofit agencies that are designed and operated within local communities by individuals with disabilities. CILs provide an array of independent living services, including the core services of information and referral, independent living skills training, peer counseling, and individual and systems advocacy.

III. National Institute on Disability and Rehabilitation Research (NIDRR)

There is a great need for a public accessibility infrastructure to make access affordable by all Americans as well as to make cross-disability access possible and affordable in libraries, schools, and public access locations (community centers etc.) Interagency coordination and collaboration on this will be necessary if the new broadband initiatives and the Internet in general are to be accessible to people with disabilities, literacy barriers, and those who are older. The ICDR and the Access Board may be a good place to start.

Data collection on broadband penetration should include disability questions which have already been cognitively tested. NTIA has already included these questions in previous telecom surveys. Since the NTIA telecom surveys are done as supplements to the DOL/BLS CPS (Dept of Labor, Bureau of Labor Statistics, Current Population Survey) surveys, the new disability questions recently added in the CPS might be able to be used, instead of having NTIA include specific questions in their telecom Supplement.

Recommended interagency vehicles to address rural broadband access for people with disabilities are the Access Board and Interagency Committee on Disability Research.

DoEd, Office of Elementary and Secondary Education

- Continued interagency meetings

- Inventory of programs and services across agencies that provide and deliver digital content and professional development using broadband and/or have applications requiring broadband access.

Department of the Interior

Repurpose the Universal Service Fund to enable the service providers to provide low cost access.

Permit each Agency to leverage its Spectrum Allotments in providing wireless broadband access

Assemble an interagency team to develop overarching strategy and demonstration pilots.

Leverage DOI's relationship with rural communities, especially tribal communities, the Indian Education Network, and experience with provisioning services in rural areas to assist with coordinating the furtherance of broadband access.

Department of Commerce

I. EDA

Coordinate all agencies that have jurisdiction over public rights-of-way to document and map these rights-of-way. Create an MOU with EPA, the Army Corps of Engineers, and any other agencies that may be involved in issuing permits related to the construction of broadband networks to streamline and centralize the permitting process. Involve the Immigration and Naturalization Service in projects along the northern and southern borders.

II. NTIA

NTIA is currently coordinating with USDA in the implementation of BTOP. NTIA is also working closely with the FCC on broadband mapping issues.

Appalachian Regional Commission

I believe there has been recent effort to create an interagency broadband task force to discuss specific program activity and to share best practices. I think this is a great first step in sharing information.

Delta Regional Authority

- The continuation of the National Economic Council's interagency meetings is a great beginning.
- DRA is working with the 44 "local development districts" within its footprint in a similar manner.

Institute of Museum and Library Services

To avoid duplicative efforts and increase efficiency, include library service public agencies at the federal, state and local level in interagency efforts.

National Council on Disability

Develop and interagency working group whose membership is staggered or layered and cumulative, based on critical community functions. For example, start the interagency group to focus on emergency service functions. Interagency coordination works best, and is most effective, when there is a shared mission and set of goals to work from. Add in new common core functions deliberately and successively.

Question 7: Please make any other suggestions that you believe should be a part of the nation's comprehensive rural broadband strategy.

Department of Health and Human Services

I. Agency for Healthcare Research and Quality (AHRQ)

None

II. Indian Health Service (IHS)

Very few funds have been released through the RHC Pilot Program. They have requested sustainability plans that really aren't practical and are burdensome. No such requirement is in place for the longstanding USAC program where urban-rural difference is how things are determined. If the main USAC program was not in place, many sites could not afford the bandwidth; the RHC Pilot program has significant unspent funds every year due to this requirement. Full sustainability plans seem impractical and are obstacles to extending broadband reach.

Solution: The IHS recommends that greater emphasis be placed on sustainability in context. Some sustainability plans need the USAC funds.

III. Health Resources and Services Administration (HRSA)

According to the Federal Register Notice on page 10717, It is noted that ARRA, section 6001(b), outlines five (5) purposes for the Broadband technology Opportunities Program (BTOP) relating to the National Telecommunications and Information Administration's (NTIA) activities under ARRA. In the context of the first two purposes, which include providing access or improved access to broadband service to unserved and underserved areas, respectively, from our perspectives, the salient provision is purpose (3) (A): to "..... provide education, awareness, training, access, equipment and support to schools, libraries, medical and healthcare providers, community colleges, and other institutions of higher education, and other community support organizations and entities to facilitate greater use of broadband service by or through these organizations.