



# LANDS OF OPPORTUNITY: BRINGING TELECOMMUNICATIONS SERVICES TO RURAL COMMUNITIES

**FCC** Federal Communications Commission  
Consumer & Governmental Affairs Bureau  
445 12th Street, SW, Washington, DC 20554

This publication is intended to serve as a resource for local, state, and tribal government leaders, community planners, educators and health care professionals on:

- Programs and incentives available to assist in the development of telecommunications services;
- Assistance in developing infrastructure or basic and advanced telecommunications services; and
- Potential for advanced telecommunications services to promote economic growth in rural communities.

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# LANDS OF OPPORTUNITY: Building Rural Connectivity

## INTRODUCTION

The Federal Communications Commission (FCC) is an independent federal government agency directly responsible to Congress. The FCC was established by the Communications Act of 1934 to regulate interstate communications by radio, television, wire, satellite, and cable.

The core mission of the FCC, as established by Congress, is to make available, to the greatest extent possible, to all the people of the United States, without discrimination on the basis of race, color, religion, national origin, or sex, nationwide and worldwide quality communications services at reasonable charges and to promote safety of life and property through the use of communications services.

Through its Bureaus and Offices, the FCC:

- educates and informs consumers about telecommunications goods and services and engages their input to help guide the work of the Commission;
- enforces the Communications Act, as well as the Commission's rules, orders, and authorizations;
- represents the Commission in satellite and international matters;
- regulates AM radio, FM radio, and television broadcast stations;
- regulates the use of radio spectrum to fulfill the communications needs of individuals, businesses, governments, public safety service providers, aircraft, and ship operators; and
- develops rules and policies concerning telephone companies that provide international, interstate, and, under certain circumstances, intrastate wireline and wireless telecommunications services to the public.

**THE FCC'S LANDS OF OPPORTUNITY:  
BUILDING RURAL CONNECTIVITY OUTREACH PROGRAM**

The FCC created the Lands of Opportunity: Building Rural Connectivity Outreach Program to help educate rural communities about the benefits afforded by basic and advanced telecommunications services, including their potential for fostering distance learning, e-commerce, e-government, telemedicine, and overall economic development. Through this outreach program, the FCC seeks to further its goal of helping rural America reap the benefits that telecommunications services offer.

Recognizing the scale of the goal of reaching all rural communities, the FCC targeted three key regions where the needs are particularly acute: the Appalachian Region; the Delta Region; and Alaska Native Villages. In addition, the FCC continues its ongoing outreach efforts in Indian Country.



## BASIC AND ADVANCED COMMUNICATIONS SERVICES

Discussions about telecommunications issues often differentiate between basic and advanced services. **Basic telecommunications services** include “plain old telephone service” (POTS), which supplies standard telephone service to residential and business customers. **Advanced telecommunications services** include higher capacity and faster transmission services, including broadband services such as digital subscriber line (DSL), cable modem, fiber, wireless, satellite, and broadband over powerline (BPL).



For more information about broadband visit: <http://www.fcc.gov/cgb/broadband.html> and <http://www.fcc.gov/cgb/consumerfacts/highspeedinternet.html>.

## BROADBAND IN RURAL AREAS

Because of relatively low population density, topographical barriers, and greater geographical distances, broadband service may be more difficult to obtain in some rural areas. In attempting to address these challenges, some rural communities have found it helpful to develop a strategic plan for broadband deployment that includes creating a comprehensive business proposal to broadband providers. Such a plan, for example, could demonstrate to broadband providers that deployment is a sound business decision that would benefit both the providers and the community. This strategic planning process may include, but is not limited to, the following elements and strategies:



- Educating the community about the potential benefits of broadband service.
- Creating partnerships among community organizations and institutions that might benefit from broadband deployment.
- Systematic assessment and prioritization of the community’s needs for broadband service.
- Aggregating (consolidating) demand within the community to make service profitable for broadband providers. Participants may include, but are not limited to, individual consumers, businesses, educational institutions, health care facilities, and government agencies.
- Identifying an anchor tenant with adequate demand to spur infrastructure investment in broadband.

## HOW IS BROADBAND DIFFERENT FROM DIAL-UP SERVICE?

- Broadband service provides higher speed of data transmission — it allows more content to be carried through the transmission “pipeline.”
- Broadband provides access to the highest quality Internet services — streaming media, VoIP (Internet phone), gaming, and interactive services. Many of these current and newly developing services require the transfer of large amounts of data which may not be technically feasible with dial-up service. Therefore, broadband service may be increasingly necessary to access the full range of services and opportunities that the Internet can offer.
- Broadband is always on — it does not block phone lines and there is no need to reconnect to the network after logging off.

## WHY IS BROADBAND IMPORTANT?

Broadband can provide you with the technical capability to access a wide range of resources, services, and products that can enhance your life in a variety of ways. These resources, services, and products include, but are not limited to:

- **Education, Culture, and Entertainment**

Broadband can overcome geographical and financial barriers to provide access to a wide range of educational, cultural, and recreational opportunities and resources.

- **Telehealth and Telemedicine**

Broadband can facilitate provision of medical care to unserved and underserved populations through remote diagnosis, treatment, monitoring, and consultations with specialists.

- **Economic Development/E-Commerce**

Broadband can promote economic development and revitalization through electronic commerce (e-commerce) by:

- Creating new jobs and attracting new industries.
- Providing access to regional, national, and worldwide markets.

- **Electronic Government (E-Government)**

Electronic government can help streamline people's interaction with government agencies, and provide information about government policies, procedures, benefits, and programs.

- **Public Safety and Homeland Security**

Broadband can help protect the public by facilitating and promoting public safety information and procedures, including, but not limited to:

- Early warning/public alert systems and disaster preparation programs.
- Remote security monitoring and real time security background checks.
- Backup systems for public safety communications networks.

- **Innovative Applications**

Broadband provides easier access to newer telecommunications technologies such as Voice Over Internet Protocol (VoIP), which allows voice communication using the Internet.

VoIP may be a useful and lower cost telecommunications alternative in rural areas. Some VoIP services require a special VoIP phone, while other services allow consumers to use a traditional phone with an adaptor. For general information about VoIP, or information about emergency 911 access while using VoIP, see [www.fcc.gov/voip](http://www.fcc.gov/voip).

Broadband also permits people with hearing or speech disabilities whose primary language is American Sign Language to use Video Relay Service (VRS) to communicate more easily, quickly, and expressively.

## WHAT ARE THE DIFFERENT TYPES OF BROADBAND TECHNOLOGIES?

Broadband includes several high-speed transmission technologies, such as:

- Digital Subscriber Line (DSL)
- Cable Modem
- Fiber
- Wireless
- Satellite
- Broadband over Powerlines (BPL)



The broadband technology you choose will depend on a number of factors. These factors may include whether you are located in an urban or rural area, how broadband Internet access is packaged with other services (like voice telephone and home entertainment), price, and availability.

### Digital Subscriber Line (DSL)

DSL is a wireline transmission technology that transmits data faster over traditional copper telephone lines already installed to homes and businesses. DSL-based broadband provides transmission speeds ranging from several hundred Kbps to millions of bits per second (Mbps). The availability and speed of your DSL service may depend on the distance from your home or business to the closest telephone company facility.

The following are types of DSL transmission technologies:

- **Asymmetrical Digital Subscriber Line (ADSL)** – used primarily by residential customers, such as Internet surfers, who receive a lot of data but do not send much. ADSL typically provides faster speed in the downstream direction than the upstream direction. ADSL allows faster downstream data transmission over the same line used to provide voice service, without disrupting regular telephone calls on that line.
- **Symmetrical Digital Subscriber Line (SDSL)** – used typically by businesses for services such as video conferencing, which need significant bandwidth both upstream and downstream.

Faster forms of DSL typically available to businesses include:

- **High-data-rate Digital Subscriber Line (HDSL)**; and
- **Very High-data-rate Digital Subscriber Line (VDSL)**.

### Cable Modem

- Cable modem service enables cable operators to provide broadband using the same coaxial cables that deliver pictures and sound to your TV set.
- Most cable modems are external devices that have two connections, one to the cable wall outlet and the other to a computer. They provide transmission speeds of 1.5 Mbps or more.
- Subscribers can access their cable modem service simply by turning on their computers without dialing-up an ISP. You can still watch cable TV while using it. Transmission speeds vary depending on the type of cable modem, cable network, and traffic load. Speeds are comparable to DSL.

## **Fiber**

- Fiber, or fiber optic, is a newer technology available for providing broadband. Fiber optic technology converts electrical signals carrying data to light and sends the light through transparent glass fibers about the diameter of a human hair. Fiber transmits data at speeds far exceeding current DSL or cable modem speeds, typically by tens or even hundreds of Mbps.
- The actual speed you experience will vary depending upon a variety of factors, such as how close to your computer the service provider brings the fiber, and how the service provider configures the service, including the amount of bandwidth used. The same fiber providing your broadband can also simultaneously deliver voice (VoIP) and video services, including video-on-demand.
- Telecommunications providers (mostly telephone companies) are offering fiber broadband in limited areas and have announced plans to expand their fiber networks and offer bundled voice, Internet access, and video services.
- Variations of the technology run the fiber all the way to the customer's home or business, to the curb outside, or to a location somewhere between the provider's facilities and the customer.

## **Wireless**

- Wireless broadband connects a home or business to the Internet using a radio link between the customer's location and the service provider's facility. Wireless broadband can be mobile or fixed.
- Wireless technologies using longer range directional equipment provide broadband service in remote or sparsely populated areas where DSL or cable modem service would be costly to provide. Speeds are generally comparable to DSL and cable modem. An external antenna is usually required.
- Fixed wireless broadband service is becoming more and more widely available at airports, city parks, bookstores, and other public locations called "hotspots." Hotspots generally use a short-range technology that provides speeds up to 54 Mbps. Wireless fidelity (Wi-Fi) technology is also often used in conjunction with DSL or cable modem service to connect devices within a home or business to the Internet via a broadband connection.
- Mobile wireless broadband services are also becoming available from mobile telephone service providers and others. These services are generally appropriate for highly-mobile customers and require a special PC card with a built in antenna that plugs into a user's laptop computer. Generally, they provide lower speeds, in the range of several hundred Kbps.

## **Satellite**

- Just as satellites orbiting the earth provide necessary links for telephone and television service, they can also provide links for broadband. Satellite broadband is another form of wireless broadband, also useful for serving remote or sparsely populated areas.
- Downstream and upstream speeds for satellite broadband depend on several factors, including the provider and service package purchased, the consumer's line of sight to the orbiting satellite, and the weather. Typically a consumer can expect to receive (download) at a speed of about 500 Kbps and send (upload) at a speed of about 80 Kbps. These speeds may be slower than DSL and cable modem, but download speed is about 10 times faster than download speed with dial-up Internet access. Service can be disrupted in extreme weather conditions.

## **Broadband over Powerline (BPL)**

- BPL is the delivery of broadband over the existing low and medium voltage electric power distribution network. BPL speeds are comparable to DSL and cable modem speeds. BPL can be provided to homes using existing electrical connections and outlets.
- BPL is an emerging technology, currently available in very limited areas. It has significant potential because power lines are installed virtually everywhere, alleviating the need to build new broadband facilities to every customer.



## COMMUNICATIONS TECHNOLOGY CHOICES

In addition to differentiating the different types of broadband technology, an understanding of the more fundamental differences among types of technology may also be helpful to rural communities. There are four fundamental types of technology:

- **Wireline:** The traditional telephone system is a wireline system. Voice and data are transmitted using a transmission medium such as copper wire or fiber optic cable. The type of transmission medium determines how much information and what kinds of service can be provided. The traditional wireline telephone network consists of customer services equipment, transmission facilities, and switches.
- **Wireless:** Land-based wireless technology transmits voice and data using radio waves. Wireless networks may transmit to a mobile receiver, such as a wireless telephone, or to a stationary receiver, such as a fixed antenna. In addition to wireless transmitters, receivers, and repeaters, a mobile wireless network may include switches and points of interconnection to the wireline public switched telephone network.
- **Satellite:** A communications satellite is a radio relay system on board a man-made satellite that orbits the earth. Communications satellites can be used to provide different types of services such as radio, telephone, data, television, and imaging. Communications satellites are capable of providing services over wide geographic areas and are often used in underserved or remote areas.
- **Cable:** This technology is used to distribute TV signals, either via coaxial or fiber optic cable, or satellite. Cable operators may use poles, a microwave link, or underground cable. Some cable systems offer a full-range of communications services, including broadband Internet access and voice telephone service.



### Key Considerations of Technology Choices

In addition to technical capability, key considerations in selecting a communications technology are: (1) regulatory standards; (2) geography; and (3) cost. We discuss these three key considerations below.

- **Regulatory Standards:** Federal, state, and local governments share jurisdiction over communications services. The FCC regulates telecommunications services between states and internationally, and the rates that local telephone companies charge long distance and wireless companies for access to their local networks. State public service commissions regulate local and intrastate (within a state) telecommunications services. Local Franchising Authorities grant operating authority to cable service providers, set rates for basic cable service if there is no effective competition, and enforce a variety of signal and service quality regulations.

When constructing facilities in rural areas, service providers must follow all applicable federal, state, and local telecommunications regulations. They must also abide by applicable federal, state, and tribal environmental and historic preservation laws.

- **Geography:** Wireless telecommunications service may be the better technology choice in environments without obstructions such as mountains or valleys where sufficient transmission towers exist or can be cost-effectively constructed. Satellite service may be the better choice in geographically isolated areas with impassable terrain that makes laying cable or constructing towers difficult or very costly.
- **Cost:** Cost is linked to geography. Satellite technology has large coverage areas and costs can be spread across communities. In areas without obstructions, wireless service may be more cost-effective than wireline service.

## UNIVERSAL SERVICE

The federal Universal Service Fund promotes connectivity in rural areas through financial incentives to institutions that provide telecommunications and information services. The Fund also provides support to basic telephone service for consumers who otherwise might not be able to afford it.

The Universal Service Fund supports four programs:

- **Lifeline/Link-Up:** provides discounts on monthly service and initial telephone installation or activation fees for primary residences to income-eligible consumers.
- **High-Cost:** supports companies that provide telecommunications services in areas where the cost of providing service is high.
- **Schools and Libraries:** helps classrooms and libraries use the vast array of educational resources available through the telecommunications network, including the Internet.
- **Rural Health Care:** helps link rural health care providers to urban medical centers so that patients living in rural America will have access to the same advanced diagnostic and other medical services that are enjoyed in urban communities.



In general, all telecommunications companies that provide interstate telecommunications service make contributions to the federal Universal Service Fund. These companies include wireline telephone companies, wireless telephone companies, paging service companies, and certain Voice over Internet Protocol providers. These contributions support the four Universal Service programs.

Some consumers may notice a “Universal Service” line item on their telephone bills. This line item appears when a company chooses to recover its contributions directly from its customers by billing them this charge. The FCC does not require companies to pass on these costs to their customers. Each company makes a business decision about whether and how to recover Universal Service costs through charges to customers.

### Lifeline and Link-Up

- **Lifeline Assistance** provides discounts on basic monthly telephone service at the primary residence for qualified telephone subscribers. These discounts can be up to \$10.00 per month, depending on your state.
- **Link-Up America** helps income-eligible consumers initiate telephone service. This program pays one-half or up to \$30 of the initial installation fee for a traditional, wireline telephone, or activation fee for a wireless telephone, for the primary residence. It also allows subscribers to pay what they owe on a deferred schedule, interest free.
- Residents of Native American Indian and Alaska Native tribal communities may qualify for enhanced Lifeline assistance (up to an additional \$25.00) and expanded Link-Up support (up to an additional \$70.00). For additional information about enhanced Lifeline and Link-Up, go to [www.fcc.gov/cgb/consumerfacts/tribalfactsheet.html](http://www.fcc.gov/cgb/consumerfacts/tribalfactsheet.html).



- The qualifying income in all federal default states except Alaska and Hawaii varies from a maximum of \$14,621 for a family of one to a maximum of \$49,964 for a family of eight. For each additional person in the household beyond eight, add \$5,049. To find the specific income requirement that determines eligibility for your state, visit the Web site of the Universal Service Administrative Company (USAC) at [www.lifelinesupport.org/li/low-income/lifelinesupport/](http://www.lifelinesupport.org/li/low-income/lifelinesupport/). You may also call a toll free number – 1-888-641-8722 – to ask general questions about eligibility, but *not* to apply to participate in the Lifeline/Link-Up programs. To find out how to apply, visit the USAC Web site at [www.lifelinesupport.org](http://www.lifelinesupport.org), or call your local telephone company.

For additional information about the Lifeline and Link-up programs, go to [www.fcc.gov/cgb/consumerfacts/universalservice.html](http://www.fcc.gov/cgb/consumerfacts/universalservice.html).

## High-Cost Support

The High Cost Support Program ensures that consumers in all regions of the nation have access to and pay rates for telecommunications services that are reasonably comparable to those services provided and rates paid in urban areas.

The program ensures that telephone companies in high cost rural areas have access to basic and advanced telecommunications services, opportunities, and financial support. A rural telephone company is one that serves a relatively small number of lines or a relatively small area.

Participants in the High Cost Support program must be Eligible Telecommunications Carriers, or ETCs. States have primary responsibility for designating carriers as ETCs; however, under certain circumstances, the FCC may have jurisdiction. Telecommunications service providers should contact the appropriate state public utilities commission to determine how to initiate the ETC designation process. Contact information for state public utility commissions can be found on the Web site of the National Association of Regulatory Utility Commissioners at [www.naruc.org](http://www.naruc.org).

## Schools and Libraries

The FCC's Universal Service program for schools and libraries benefits residents of rural areas. Under the program:

- Eligible schools and libraries receive discounts on telephone service, Internet access, and internal connections (for example, network wiring).
- The discounts range from 20 to 90 percent, depending on the household income level of students in the community and whether or not the school or library is located in an urban or rural area.

To participate in the program:

- A school or library must develop a technology plan that demonstrates the relationship between the information technology to be supported and the school's curriculum or library's objectives. The school or library then provides notice that it seeks services.
- Vendors bid to provide the desired services to the school or library. After the school or library selects a vendor, it files an application with the USAC for approval of its request for discounted service.
- After the USAC approves the school or library's application, the vendor provides the services to the school or library at discounted prices. Generally, the vendor is then reimbursed the amount of the discount from the Universal Service Fund.

For additional information about the Schools and Libraries program, go to:

[www.fcc.gov/cgb/consumerfacts/usp\\_Schools.html](http://www.fcc.gov/cgb/consumerfacts/usp_Schools.html).

## Rural Health Care

The FCC's Universal Service program for rural healthcare is also important to rural America. Under the program:

- Public and non-profit health care providers in rural areas can receive discounts on installation and monthly charges for telephone and Internet access service.
- Rural health care providers can use these discounts to provide patient services such as transmitting x-rays from remote clinics to urban medical specialists at lower cost.

Eligible entities include:

- post-secondary educational institutions offering health care instruction, including teaching hospitals and medical schools;
- community health centers or health centers providing health care to migrants;
- community mental health centers;
- not-for-profit hospitals;
- dedicated emergency departments in for-profit hospitals;
- rural health care clinics; and
- consortia of health care providers consisting of one or more entities described above.



The rural health care program works as follows:

- The rural health care provider must submit a form requesting services to the USAC. USAC posts the form on its Web site, seeking telecommunications companies to provide the requested services.
- After the rural health care provider selects a telecommunications service provider, services may be ordered.
- Using Universal Service funds, the telecommunications service provider supplies the telecommunications services to the rural health care provider at discounted prices.

For additional information about the Rural Health Care program, go to:

[www.fcc.gov/cgb/consumerfacts/usp\\_RuralHealthcare.html](http://www.fcc.gov/cgb/consumerfacts/usp_RuralHealthcare.html)

## OTHER FEDERAL RESOURCES

Other federal agencies have initiatives designed specifically to offer discounts and other incentives for rural communities to develop telecommunications infrastructure and services. Some of these programs, which may have limited application windows each year, are:

### Distance Learning and Telemedicine Loans and Grants

**Department:** U.S. Department of Agriculture, Rural Utilities Service.

**Objectives:** To encourage and improve the use of telemedicine, telecommunications, computer networks, and related advanced technologies to provide educational and medical benefits through distance learning and telemedicine projects to people living in rural areas and to improve rural opportunities.

**Assistance Type:** Project Grants; Direct Loans.

**Use:** Telecommunications, computer networks and related advanced technologies that provide educational and/or medical benefits to students, teachers, medical professionals and rural residents. Grants are limited to a maximum of 70 percent of the eligible costs of a project. Cost of money loans may be provided up to 100 percent of the eligible costs. Eligible costs depend on the type of financial assistance being requested, such as a grant or loan.

**Applicants:** Organizations such as schools, libraries, hospitals, medical centers, or other eligible organizations that will be users of a telecommunications, computer network, or related advanced technology systems to provide educational and/or medical benefits to rural residents.

**Contact Information:** Assistant Administrator, Telecommunications, Rural Utilities Service, Room 4056, South Building, U.S. Department of Agriculture, 1400 Independence Avenue, SW, Washington, DC 20250-1500. Phone: (202) 720-9554. Web site: <http://www.rurdev.usda.gov>.

### Community Connect Program (Broadband)

**Department:** U.S. Department of Agriculture, Rural Utilities Service.

**Objectives:** To promote broadband service in extremely rural, lower-income American communities where it currently does not exist, and to promote “community-oriented connectivity” that would stimulate economic development and enhance educational and health care opportunities.

**Assistance Type:** Project Grants.

**Use:** Grants must be used to deploy basic broadband transmission service, free of charge, to critical community facilities within the proposed service area, and offer broadband service to residential and business customers. As a condition for funding, grantees must construct, acquire, expand or operate a community center that provides free access to broadband transmission services for at least two years. Grantees must also provide matching contributions in the amount of 15% of the grant amount. Matching contributions may be in the form of cash, in-kind services and specified costs and expenses.

**Applicants:** Legally incorporated organizations, Indian tribes and tribal organizations, state and local government agencies, cooperatives, private corporations and limited liability companies, organized on a for-profit or non-profit basis. Eligible applicants must have the authority to own and operate broadband facilities and enter into contracts.

**Contact information:** Assistant Administrator, Rural Utilities Service, STOP 1590, 1400 Independence Ave., SW, Washington, DC 20250-1590. Phone: (202) 720-9554. Web site: <http://www.usda.gov/rus/telecom/commconnect.htm>.

## Rural Business Enterprise Grants

**Department:** U.S., Department of Agriculture, Rural Business-Cooperative Service.

**Objectives:** Facilitate the development of small and emerging private business, industry, and related employment to improve the economy in rural communities.

**Assistance Type:** Project Grants.

**Use:** Rural Business Enterprise Grant (RBEG) funds may be used: (1) to create, expand or operate rural distance learning networks or programs that provide educational or job training instruction related to potential employment or job advancement to adult students; (2) to develop, construct or acquire land, buildings, plants, equipment, access streets and roads, parking areas, utility extensions, necessary water supply and waste disposal facilities; (3) for refinancing; (4) for related services and fees; and (5) to establish a revolving loan fund. Television Demonstration Grant (TDG) funds may be used for television programming to demonstrate the effectiveness of providing information on agriculture and other issues of importance to farmers and other rural residents.

**Applicants:** Applicants eligible for RBEG grants are public bodies and nonprofit corporations serving rural areas such as States, counties, cities, townships, and incorporated towns and villages, boroughs, authorities, districts and Indian tribes on Federal and State reservations that will serve rural areas. Applicants eligible for TDG grants are statewide, private, nonprofit, public television systems whose coverage is predominantly rural.

**Contact Information:** Director, Specialty Lenders Division, Rural Business-Cooperative Service, Department of Agriculture, Washington, DC 20250-3222. Phone: (202) 720-1400.

Web site: <http://www.rurdev.usda.gov>.

## Public Telecommunications Facilities, Planning, and Construction

**Department:** U.S. Department of Commerce, National Telecommunications and Information Administration (NTIA).

**Objectives:** To assist in the planning, acquisition, installation and modernization of public telecommunications facilities, through planning grants and matching construction grants, in order to: (1) extend delivery of public telecommunications services to as many citizens of the United States and territories as possible by the most efficient and economical means, including the use of broadcast and non-broadcast technologies; (2) increase public telecommunications services and facilities available to, operated by, and owned by minorities and women; and (3) strengthen the capability of existing public television and radio stations to provide public telecommunications service to the public.

**Assistance Type:** Project Grants.

**Use:** Provides grants for the planning and construction of public telecommunications facilities. Matching grants are given for apparatus necessary for production, dissemination, interconnection, captioning, broadcast, or other distribution of programming and reception of noncommercial educational, cultural radio and television programs and related noncommercial instructional or informational material.

**Applicants:** Applicants eligible for public telecommunications facilities, planning and construction are public or noncommercial educational broadcast stations; noncommercial telecommunications entities; systems of public telecommunications entities; nonprofit foundations, corporations, institutions or associations organized primarily for educational or cultural purposes; State, local and Tribal governments (or agencies thereof); or political or special purpose subdivisions of a State. Special consideration is given to applications that increase minority and women's ownership of, operation of, and participation in public telecommunications entities.

**Contact Information:** Office of Telecommunications and Information Applications/NTIA, Room 4625, Department of Commerce, 1401 Constitution Avenue, NW, Washington, DC 20230. Phone: (202) 482-5802. Web site: <http://www.ntia.doc.gov/ptfp>.

## Community Technology Centers

**Department:** U.S. Department of Education.

**Objectives:** To promote the use of technology in education through the development of model programs that demonstrate the educational effectiveness of technology in urban and rural areas and economically distressed communities. Projects funded under this program support community centers that provide access to technology to residents of local communities.

**Assistance Type:** Project Grants.

**Use:** Projects funded under this program must be for the purpose of meeting the needs of residents of rural and urban areas and economically distressed communities through development of community technology centers.

**Applicants:** State educational agencies, local educational agencies, institutions of higher education, other public and private nonprofit or for-profit agencies and organizations, or groups of such agencies, institutions or organizations are eligible to receive grants under this program.

**Contact Information:** Division of Adult Education and Literacy, Office of Vocational and Adult Education, Department of Education, 400 Maryland Ave., SW, Washington, DC 20202-7240. Phone: (202) 205-8270. Web site: [www.ed.gov/about/offices/list/ovae/index.html?src=mr](http://www.ed.gov/about/offices/list/ovae/index.html?src=mr).

## Rural Telemedicine Grants

**Department:** U.S. Department of Health and Human Services, Health Resources and Services Administration.

**Objectives:** To expand access to, coordinate, restrain the cost of, and improve the quality of essential health care services, including preventive and emergency services, through the development of integrated health care delivery systems or networks in rural areas and regions. Specifically, the purpose of the Rural Telemedicine Grant Program is to demonstrate how telemedicine can be used as a tool in developing integrated systems of health care, improving access to health services for rural citizens, and reducing the isolation of rural health care practitioners. The purpose is also to collect information for a systematic evaluation of the feasibility, costs, appropriateness, and acceptability of rural telemedicine.

**Assistance Type:** Project Grants.

**Use:** Funds may be used to: (1) demonstrate the use of telemedicine in facilitating the development of rural health care networks and improving access to health care services for rural citizens; (2) provide a baseline of information for a systematic evaluation of telemedicine systems serving rural areas; and (3) purchase or lease and install equipment; and (4) to operate and evaluate the telemedicine system. Not more than 40 percent of grant funds may be expended for equipment. Not more than 20 percent of grant funds may be expended for indirect costs. Grant funds may not be used for purchasing and installing telecommunications transmission equipment (such as microwave towers, satellite dishes, amplifiers, digital switching equipment or laying cable or telephone lines). Construction costs are allowable only for minor renovations related to the installation of equipment.

**Applicants:** An entity that is a health care provider and a member of an existing or proposed telemedicine network, or an entity that is a consortium of health care providers that are members of an existing or proposed telemedicine network are eligible for a grant. An eligible network may include for-profit entities so long as the network grantee is a nonprofit entity.

**Contact Information:** Co-Director of Rural Telemedicine Grants, Office for the Advancement of Telehealth, 5600 Fishers Lane, Room 11A-16, Rockville, MD 20857. Phone: (301) 443-1293. Grants Management contact: Grants Management Office, HIV/AIDS Bureau, Health Resources and Services Administration, 5600 Fishers Lane, Rockville, MD 20857. Phone: (301) 443-2385. Web site: [www.hrsa.gov/telehealth/](http://www.hrsa.gov/telehealth/).

## Regional Authorities

The Appalachian Regional Commission (ARC) and the Delta Regional Authority (DRA) provide grants for economic development and infrastructure projects, including telecommunications projects, in their jurisdictions.

## Telecommunications Development Fund (TDF)

The TDF is a venture capital corporation that opened its offices in 1998. This fund seeks to increase emergence of telecommunications businesses by providing capital and management expertise to talented entrepreneurs. The mission of the TDF is to improve telecommunications for all Americans by:

- promoting access to capital for small businesses;
- strengthening competition in the telecommunications industry;
- stimulating new technological growth and development;
- promoting universal service; and
- enhancing the delivery of telecommunications services to rural and underserved areas.

TDF funds come from the interest paid by banking institutions on the up-front money bidders pay during spectrum licensing auctions held by the FCC. TDF offers financing in the form of equity investments ranging from \$375,000 to \$1 million per initial investment.

For more information, contact the TDF at <http://www.tdfund.com> or call 202-293-8840.



For more information about federal rural programs and funding sources for rural telecommunications initiatives, contact :

U.S. Department of Agriculture Rural Information Center  
National Agricultural Library  
10301 Baltimore Ave., Room 304,  
Beltsville, MD 20705-2351  
Telephone: 1-800-633-7701  
E-mail: [ric@nal.usda.gov](mailto:ric@nal.usda.gov)  
Web site: [www.nal.usda.gov/ric](http://www.nal.usda.gov/ric)



## PARTNERSHIPS

The FCC has developed partnerships to foster the deployment of advanced telecommunications services in rural areas and to increase participation in the Lifeline and Link-Up programs that provide affordable telephone service to income-eligible consumers. Partnerships help reach stakeholder groups and individual consumers that can benefit from both basic and advanced telecommunications services. The FCC has developed working partnerships to improve telecommunications in Appalachia, the Mississippi Delta Region, and to American Indian tribes and Alaska Native Villages.

### Appalachia

The FCC has formed a strategic partnership with the Appalachian Regional Commission (ARC) to address low penetration (telephone subscribership) rates and other deployment issues. This partnership consists of the FCC joining ARC and its 410 rural counties in 13 states, spread from northern New York to northeast Mississippi and forming the Appalachian Region. Working with ARC, the FCC engages in cooperative outreach that permits maximizing efforts and successes.

The FCC reaches out through local media in the region to bring information to millions of consumers about the availability of Lifeline and Link-Up, broadband, and other advanced services.

The FCC also participates in conferences and symposiums to educate consumers in Appalachia about federal Universal Service programs and developments in telecommunications services. Through focused programs with key stakeholders, the agency works to explore the potential of specific technologies to promote the economic development, safety, and well-being of the citizens of the region.

**Grants:** ARC annually funds telecommunications-related projects that benefit all sectors of the local economy, including:

- strategic telecommunications planning programs;
- aggregation of demand programs;
- traditional E-learning and distance learning projects;
- telemedicine and telehealth programs;
- E-government programs and applications; and
- demonstrations projects in E-commerce

The ARC grant approval process works through a federal, state, and local partnership. Potential grantees should consult the ARC web site at [www.arc.gov](http://www.arc.gov) to determine if they are eligible to receive funding, and who should be contacted at the state office level. ARC does not accept direct applications.



## Delta Region

The FCC's efforts in Appalachia have served as a model for its approach to the Mississippi Delta region, which consists of 240 counties and parishes in 8 states. The FCC is launching broad-based outreach efforts with the Delta Regional Authority (DRA).

Facing some of the same economic and geographic challenges as Appalachia and Indian Country, the Delta region's penetration rates fall within the lowest 10 percent of penetration rates in the nation. Like ARC, DRA is charged with facilitating economic development in the region.

The FCC has met with the DRA and is developing an ongoing partnership through which it can engage in cooperative efforts to address the unique telecommunications needs of the Mississippi Delta. The FCC is exploring other joint outreach opportunities with the DRA, including workshops, public meetings, and media news spots. For more information about the DRA visit: [www.dra.gov](http://www.dra.gov).

**Grants:** The DRA provides grants within the area it serves for economic development and infrastructure, including telecommunications. For information about DRA grants, call 1-888-468-6372, ext. 25.

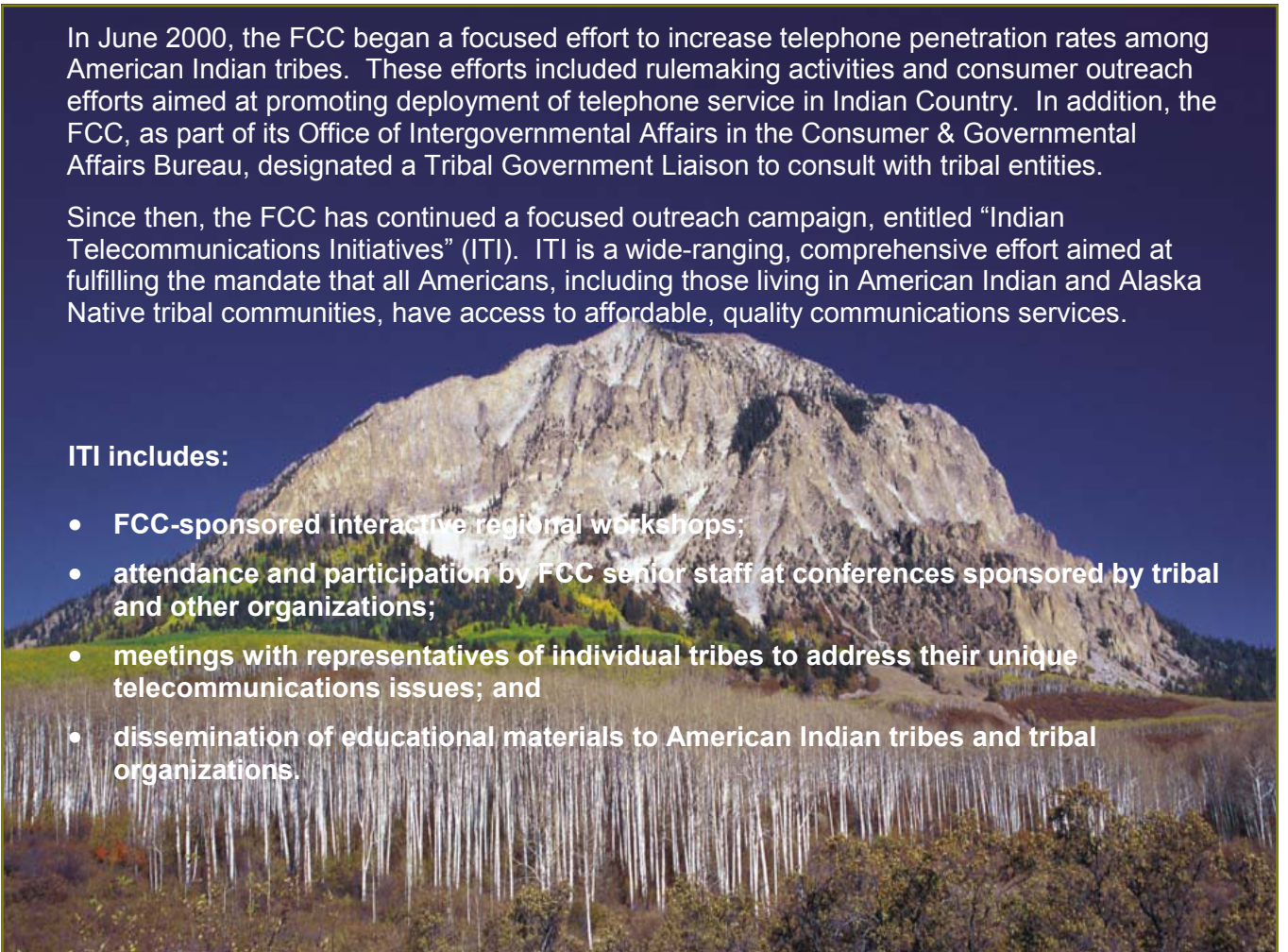
## Indian Country

In June 2000, the FCC began a focused effort to increase telephone penetration rates among American Indian tribes. These efforts included rulemaking activities and consumer outreach efforts aimed at promoting deployment of telephone service in Indian Country. In addition, the FCC, as part of its Office of Intergovernmental Affairs in the Consumer & Governmental Affairs Bureau, designated a Tribal Government Liaison to consult with tribal entities.

Since then, the FCC has continued a focused outreach campaign, entitled "Indian Telecommunications Initiatives" (ITI). ITI is a wide-ranging, comprehensive effort aimed at fulfilling the mandate that all Americans, including those living in American Indian and Alaska Native tribal communities, have access to affordable, quality communications services.

### ITI includes:

- FCC-sponsored interactive regional workshops;
- attendance and participation by FCC senior staff at conferences sponsored by tribal and other organizations;
- meetings with representatives of individual tribes to address their unique telecommunications issues; and
- dissemination of educational materials to American Indian tribes and tribal organizations.



## Alaska Native Villages



Two hundred twenty-seven of the more than 560 federally-recognized Indian tribes are located in Alaska. They are organized politically as “Alaska Native Villages,” and constitute about 19 percent of Alaska’s total population, and 80 percent of its “rural” population.

The remote nature of most Alaska Native Villages, as well as climatic and other geographic challenges, impede the construction of adequate roads and utility infrastructure that are necessary for the provision of electricity, water, telecommunications, and police and fire-protection services. This remoteness has been a considerable obstacle to economic development.

The FCC visited with members of these communities and with Alaska Native organizations, including the Alaska Rural Development Council, to learn more about their specific telecommunications needs. The visit also demonstrated the federal government’s commitment to improving the quality of life for Alaska Natives through the development and deployment of telecommunications infrastructure necessary to access vital telecommunications services. The agency has continued its outreach efforts with Alaska Natives through ongoing activities.



## CONCLUSION

Communications services have tremendous potential to foster economic development, distance learning, e-commerce, e-government, telemedicine, and public safety. Through its rural outreach initiatives, the FCC is working to help rural America reap the benefits that these services offer. This document is intended to serve as a starting point for rural leaders interested in developing telecommunications infrastructure in their communities.

For more detailed information and any questions, please visit the FCC’s Web site at [www.fcc.gov/cgb/rural](http://www.fcc.gov/cgb/rural) or call us at: 1-888-CALL-FCC (1-888-225-5322) voice, or 1-888 TELL-FCC (1-888-835-5322) TTY.



## **FCC CONTACT INFORMATION**

### **Federal Communications Commission**

445 12<sup>th</sup> Street, SW  
Washington, DC 20554

### **General Information:**

***Web site:***

[www.fcc.gov/cgb/rural](http://www.fcc.gov/cgb/rural)

***E-mail:***

[fccinfo@fcc.gov](mailto:fccinfo@fcc.gov)

***Telephone:***

1-888 CALL-FCC (1-888-225-5322) Voice  
1-888 TELL-FCC (1-888-835-5322) TTY

### **FCC Bureaus:**

***Consumer & Governmental Affairs:***

[www.fcc.gov/cgb](http://www.fcc.gov/cgb); (202) 418-1400

***Enforcement:***

[www.fcc.gov/eb](http://www.fcc.gov/eb); (202) 418-7450

***International:***

[www.fcc.gov/ib](http://www.fcc.gov/ib); (202) 418-0437

***Media:***

[www.fcc.gov/mb](http://www.fcc.gov/mb); (202) 418-7200

***Wireless Telecommunications:***

[wireless.fcc.gov](http://wireless.fcc.gov); (202) 418-0600

***Wireline Competition:***

[www.fcc.gov/wcb](http://www.fcc.gov/wcb); (202) 418-1500

## ADDITIONAL INFORMATION

Universal Service Administrative Company (USAC)

[www.universalservice.org](http://www.universalservice.org)

Rural Utilities Service (RUS) of the U.S. Department of Agriculture

[www.usda.gov/rus](http://www.usda.gov/rus)

Small Business Administration

[www.sba.gov](http://www.sba.gov)

Outreach ideas and strategies

[www.connectkentucky.org](http://www.connectkentucky.org)

[www.arc.gov](http://www.arc.gov)

[www.ruraltelecon.org/](http://www.ruraltelecon.org/)

Studies of various broadband applications

Pew Internet & American Life Project: [www.pewinternet.org](http://www.pewinternet.org)

Telehealth & Telemedicine

[www.hrsa.gov/telehealth/](http://www.hrsa.gov/telehealth/)

[tie.telemed.org](http://tie.telemed.org)



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