

Universal service?

States are working to bring rural areas into the Information Age.

BY HEATHER HEATH-BAKONDY

Heather Heath-Bakondy is a program associate for the National Association of Telecommunications Directors, an affiliate of CSG located at CSG's Lexington, Ky., headquarters.



Despite rapid advances in Internet usage and e-commerce, people and businesses in rural areas of the United States often are unable to access the new digital “mass market.”

Without high-speed Internet and other digital access to markets, the potential consequences are great. Small businesses, those most likely to lack digital access, account for more than 50 percent of existing jobs, and they generate 80 percent to 90 percent of new positions nationally. Small businesses in rural areas will suffer as yesterday’s local economy transforms into today’s global economy.

Since 1983, when telecommunications largely meant access to telephones, the Federal Communications Commission has overseen universal service support for telecommunications carriers in rural and high-

cost areas, low-income consumers and schools, libraries and rural health care providers. Formally mandated as part of the Telecommunications Act of 1996, universal service provides for all Americans, whether rich or poor, or in urban or rural areas, to have a telephone at an affordable price. However, federal universal service subsidy programs have not been extended to high-speed provisions such as Internet and data services provided by broadband technology.

Just as rural areas once needed access to telephones to stay competitive, they now need access to broadband technology — a communications network in which a frequency range is divided into multiple independent channels for simultaneous transmission of signals, such as voice, data or video.

Broadband services such as traditional telecommunications and cable modems along with wireless and satellite technologies allow for data transmission at four times the speed of a common 56K modem. Broadband technology allows users to access the Internet up to several hundred times faster than common modems. This increase in speed allows consumers to use a wide range of high-technology services necessary to conduct e-commerce, such as streaming video and telephone services.

“There is no generic formula to introduce broadband into every county and every town,” FCC Commissioner Gloria Tristani said. “There is one necessary ingredient, however. Federal, state and local government, rural citizens and businesses, and industry can identify policies and incentives to ensure the development of broadband.”

While the commission established a Federal-State Joint Conference in 1999 to promote deployment of advanced broadband services, states are now stepping up to make rural connectivity a reality.

The benefits of broadband technology

Rural communities with advanced telecommunications capabilities can compete with larger cities for information technology businesses. Rural residents can overcome geographic dis-

rural companies.

“A recent study determined that if the nonrural model were applied to rural carriers, annual universal service funding would be reduced from about \$1.5 billion to \$500 million,” said Glenn Brown, senior telecommunications fellow with the Center for the New West. “This \$1 billion loss of funding would be devastating to the continuation of affordable basic telephone services, and would be a horrible precedent for the expansion of broadband capability.”

The downside of competition

The decrease in funds coincides with a reliance on competition to support the growth of technology in rural areas. Under Chairman William Kennard, the FCC has embraced reliance on competition in the telecommunications sector to speed the spread of technologies into

underserved markets while curbing reliance on federal regulatory support. While competition between telecommunications companies to reach new customers has increased modestly in the last three years, rural areas have not seen true benefits.

Deborah A. Lathen, chief of the FCC Cable Services Bureau, told the nation’s governors at their February 27 meeting that broadband Internet users are expected to increase from today’s 2 million to more than 25 million by 2004. She told the governors: “We are forbearing from regulation at this time because we believe that this is the quickest way to get this technology deployed.”

“When people get excited about the benefits of competition and resulting reduced costs, they don’t realize it just

What is universal service?

The “universal service” system was originally designed to make local telephone service available to all Americans at reasonable rates. In many cases, universal service policies have required that rates for certain telecommunications services be set above the cost of providing those services to generate a subsidy that could be used to reduce the rates for local service provided to residential customers.

The Telecommunications Act of 1996 called for a revision of the universal service system. The revision expanded the base of companies that contribute to offset communications service rates and the category of customers who benefit from discounts. Schools, libraries, and health care providers as well as residential and rural customers will be the primary universal service beneficiaries.

Source: Federal Communications Commission

advantages through distance learning and telemedicine. Broadband technology, through telecommunications, cable modems, wireless and satellite services, makes possible transmission of voice, data and video at high speeds.

As universal service funds were allocated to more programs under the 1996 Telecommunications Act, funding dedicated to bringing advanced telecommunications technologies to rural regions has declined. As a result, the FCC developed a new support program to assist nonrural telecommunications companies providing services above 135 percent of average national service costs, 20 percent higher than the previous benchmark-percentage for discounts. A similar plan that reduces federal support while relying on more aggressive competition is expected for

applies to the high-density population areas,” said Kent Drummond, business recovery coordinator for the Wyoming Information Planning and Coordination Office. “New startups ‘cherry pick’ the lucrative services while ignoring rural areas.”

The federal Rural Utilities Service reports rural infrastructure such as telephone lines cost three times that of non-rural areas. Contributing to higher costs are longer distances from central offices, uneven terrain and the lack of existing conduits such as sewer systems.

Smaller independent telecommunications companies often are better motivated and situated to meet the needs of a dispersed customer base.

Unfortunately, uncertainty surrounding the future of federal support of rural connectivity is leading some smaller companies to scale back plans to upgrade advanced services infrastructure due to the vulnerability of current support. Some companies have raised prices in anticipation of subsidy reductions. Subsidies traditionally have represented two-thirds of their revenue base.

“There will be strong incentive for these large carriers to sell off their rural properties to other carriers,” Brown said. “The outcome of such a shift could actually be good for rural America if these properties are taken over by carriers whose focus is serving rural markets. However, such a shift will place additional universal service funding pressures on a system that thus far has resisted increasing the amount of funding for telecommunications infrastructure in rural America.”



*“The telecommunications industry is making the painful transition toward competition after almost a century of public regulation.”
— Thomas Bonnett, TeleWARS*

Schools, libraries benefit

The Schools and Libraries Universal Service Program, commonly called the “E-rate,” was established as part of the Telecommunications Act of 1996. This program provides affordable access to telecommunications services for all eligible schools and libraries, particularly those in rural and inner-city areas. Funded at up to \$2.25 billion per year, the program provides 20 percent to 90 percent discounts on telecommunications services, Internet access and internal wiring of buildings.

“E-rate has provided the schools and libraries across Mississippi the opportunity to afford high-speed access to the Internet,” said Gary Rawson, infrastructure planning coordinator for the Mississippi Office of Strategic Services. “The schools and libraries in the state access the Internet via the statewide backbone network. The benefit is that

the [public can access] switches in seven nodal sites throughout the state, making ATM (a high-speed technology) available to everyone.”

As with other universal service programs, there is a downside regarding rural areas. “The intent [of the program] was to make technology available to all students regardless of location or economic status,” Rawson said. “This has been mostly successful — schools have high-speed telecommunications service that provides access to the Internet [and other] eligible services at a considerable discount. However, many of the poorer schools, the ones this program was designed for, have no means to purchase the computers that will give the students access to this tremendous resource. In your poorer

schools there is a ‘dangling patch cord’ in each classroom with nothing to connect to it.”

While K-12 technology education has been addressed through the federal E-rate program, graduates will seek employment opportunities that match their skills. Consequently, they are forced to abandon rural states for better-connected urban states and cities.

Success stories

As noted by Thomas Bonnett in *TeleWARS*, “The telecommunications industry is making the painful transition toward competition after almost a century of public regulation.”

This transition is perhaps most painful for primarily rural states such as Nebraska, North Dakota, Oregon and Wyoming. These states have anticipated decreases in federal funding for the improvement of rural telecommu-

nications infrastructure and have taken steps to address the shortfall. In February, the Nebraska Information Technology Commission announced the release of the first Statewide Technology Plan that addresses promoting economic development and universal access. Also in February, North Dakota Gov. Ed Schafer outlined priorities for developing a statewide high-speed, high-capacity technology network.

Drummond noted the success of recent initiatives in Wyoming. "In respect to the problem [of providing high-speed data services to remote areas], US West and the independent telecommunications companies in Wyoming are upgrading their facilities as quickly as they can," Drummond said. "US West has engineered this network to be large enough to accommodate businesses and nongovernmental entities as well as the school and library system. We have many independents that have taken major steps to upgrade their central offices and provide the latest technological services to their customer base."

Oregon legislators addressed this problem with the passage of SB 622, signed into law by Gov. John Kitzhaber effective Sept. 1, 1999. SB 622 required carriers to deposit 20 percent of gross regulated intrastate revenues into a Telecommunications Infrastructure Account and Connecting Oregon Communities Fund over a four-year period. These funds will support development

Under the Federal Communications Commission's new cost-support program, seven states will receive support totaling \$245.5 million: Alabama (\$67.5 million), Kentucky (\$18 million), Maine (\$6 million), Mississippi (\$113.5 million), Vermont (\$12 million), West Virginia (\$34.5 million) and Wyoming (\$3 million).

Source: Federal Communications Commission

of telecommunications infrastructure and enhanced access to advanced services for rural Oregonians.

This achievement hinged on the organized efforts of rural residents. "This bill is an example of grassroots legislation," bill sponsor Sen. David Nelson said. "The idea came from concerned rural residents of La Grande, a city of 13,000 with a declining economic base. These hearings brought forth the fact that the entire state has a dramatic need for high-speed technology.

"We do not have a statewide technology backbone, and education, economic development and health care have suffered as a result. Legislators were hard-pressed to deny the prevalent need in their districts for the technology connection that will provide for distance learning and the ability to compete for economic development projects."

The future is unclear

Despite these helpful initiatives, it remains to be seen if states can compensate for anticipated shortfalls in federal universal service aid.

"I am not sure that anyone has the answer as how to get broadband out to the rural areas," Brown of the Center for the New West said. "Ultimately, there will not be one answer, but many. There is no escaping the reality that [nationwide] deployment of a broadband infrastructure would be prohibitively expensive. Thus, in many areas community access 'nodes,' such as local schools or libraries, might be an economical solution. Of course, the technology is not standing still. It is highly likely that some new technology, perhaps wireless, will evolve in the near future to simplify the problem."

Brown, like others, said it is crucial to bridge the urban-rural divide. He said, "So far, the impact of the scarcity of broadband in rural America is mostly anecdotal. With the growth in e-commerce and business-to-business applications in the American economic landscape, it doesn't take a rocket scientist to figure out that those areas that do not keep up with broadband advances will become the ghost towns of the information age." ★

Download times using different technologies: The advantage of broadband

	<i>Transfer Times</i>	
	<i>3 hr. movie</i>	<i>3.5 minute video clip</i>
Traditional		
28.8 K modem	42 hr., 30 min.	46 min.
Broadband		
Digital Subscriber Line (1.5 Mbps over telephone line)	49 min., 20 sec.	53 sec.
DSL or Cable Modem — 8 Mbps (Cable through cable TV line)	9 min., 14 sec.	10 sec.

Source: Center for the New West

Resources

The State Role in Regulating Telecommunications by Thomas Bonnett is available for \$25 through the CSG publications department, (800) 800-1910.

The National Association of Telecommunications Directors, an affiliate of CSG located at CSG's Lexington headquarters, posts news and information on the Web. Link to its site, www.nastd.org through www.csg.org.

For more information on Federal Communications Commission actions on broadband and rural services link to www.fcc.gov.