Overcoming Obstacles to Rural Telecommunications

Everyone knows that rural areas face a variety of obstacles in obtaining advanced telecommunications. But what exactly are those obstacles and what can be done to overcome them? A new report by TVA Rural Studies, titled *Rural Telecommunications: Why Your Community Isn't Connected and What You Can Do About It*, offers some insights.

Cliché though it is, rural America is highly diverse. Communities differ along many dimensions. Consequently, the obstacles they face in gaining access to, and benefiting from, advanced telecommunications vary. What for some is a huge barrier, simply isn't a problem for others. In fact, some rural communities seem to have no barriers at all. What that means, of course, is that those communities worked hard to overcome their barriers. But first, they had to understand them. Basically, there are four types:

Market Obstacles
The Telecommunications Act of 1996 drastically changes the determination of who gets what service, when, and at what price. Prior to the Act, governmental regulations and subsidies played the primary role. Following it, the market does. Unfortunately, in many rural areas there is no "competitive market" for telecommunications services. The characteristics of rural areas—relatively few people, low population densities, and distance from large cities—work against the existence of a competitive market by reducing demand, raising costs, and limiting suppliers.

Regulatory Obstacles
Most experts agree that deregulation of the telecommunications industry does not bode well for rural areas. Because deregulation tends to favor economic efficiency and profitability over equity and universal service, many feel that it will lead to less access for most rural users. Furthermore, many of the regulations that remain are based on urban conditions. Therefore, they often do not fit rural areas and can work against them. For example, subsidies for telecommunications services are available to rural health care providers only if they are non-profit organizations. Unfortunately, many rural areas are served by a single physician or a small group practice—neither of which is a non-profit entity despite the likelihood that both are only marginally profitable.

Physical/Technical Obstacles
Distance is a defining characteristic of many rural places. Consequently, infrastructure—whether roads, sewer pipe, or phone lines—must often cover long stretches of ground in order to serve the people who need it. In fact, the physical footprint of a typical rural telephone switch—the number of square miles served—is twice as large as a typical urban switch. Such distances mean two things: higher costs and service deterioration. In a similar vein, the terrain that telecommunications lines must traverse can also increase the costs and length of time required to install them.

Distance and terrain aside, the type and quality of the switch serving rural areas is very important. And with switches, the key word is digital. Digital switches permit the clear transmission of data and enable it to be sent faster, characteristics not possible in the earlier switch technology known as analog switches. Not surprisingly given the expense of these switches and the fact that many rural areas only upgraded to analog switches in the 1980s, digital switches are slow in coming to rural areas. And even when they do, customers further than 18,000 feet from them cannot access many of the advanced services.

End-User Obstacles
As difficult as it will be to overcome some of the obstacles discussed above, getting advanced telecommunications to rural areas is only half the battle. The real victory lies in ensuring that the services are fully utilized by, and to the benefit of, rural businesses, citizens, and institutions. And several obstacles stand in the way of that.

First and foremost is the obvious Catch-22: People who lack advanced telecommunications services cannot utilize and benefit from them. People who have not utilized and benefited from them are less likely to demand them. People who do not demand them are not going to get them—certainly not from the market and perhaps not even from regulators.

Even in communities where advanced telecommunications are present, several characteristics of rural areas can hamper the adoption, use, and benefit of the services. In general, education, income, and age all influence the adoption of technology. The more education and income a person has, the more likely he or she is to adopt and use new technologies. Likewise, youth helps. Consequently, rural areas with lower average levels of education and income and growing numbers of older people tend to lag behind urban areas in the adoption and use of technology.

But the Obstacles Can Be Overcome

In spite of these obstacles, some rural areas have gained access to advanced telecommunications and are benefiting. The obstacles can be overcome. The approaches will, of course, vary greatly from community to community. What will not vary is the need for local citizens, businesses, and officials to come together and plan for their collective telecommunications future. A recent report from the International City/County Management Association suggests four possible strategies that a community might take: 1) do nothing and hope that the market provides, 2) use regulatory and property management procedures to your advantage, 3) use government purchasing power to create a buyer's market, and 4) develop publicly owned infrastructure.

Whichever strategy, or combination, is chosen, communities would do well to consider the following principles:

- **Aggregate demand**. Lack of demand is perhaps the single largest obstacle that rural areas face in a market environment. One way to generate that demand is to pool various users together and give them more leverage

- **Interconnect to urban networks.** "Piggybacking" on the urban portion of an existing network eliminates the need to build duplicate infrastructure in rural areas and requires that a rural community pay only for the cost of extending the connection to the network.

- **Look at alternative technologies.** Wireless technologies, for example, are particularly promising for remote rural areas, since they eliminate the need for stretching miles and miles of wire or cable.

- **Work with alternative providers.** Large telephone companies, including the Regional Bells, are unlikely to provide rural America with the services it needs, especially in a deregulated environment. They simply do not have the incentives. Instead, smaller phone companies, electric utilities, cable television companies, and

even municipalities themselves are often in the best position to ensure that their communities get what they need.

- **Educate, educate, educate.** Without understanding why and how to use advanced telecommunication, all else is for naught.

For a copy of the report or more information about the program, please contact TVA Rural Studies at 1 888 885-9800 or at www.rural.org.