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Telecommunications
in Rural America

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Executive Summary

Throughout American history, whether in terms of roads, sewers, electricity, or phones, rural communities have typically been the last to receive major infrastructure improvements. Today, history is repeating itself as modern telecommunications technology takes the cities and suburbs by storm yet only slowly inches its way into rural areas. That many rural Americans still do not have access to telephone service is perhaps indicative of the technological inferiority of telecommunications in rural America, especially when considering that telephone service is now only a small part of modern-day telecommunications service.

Access to modern telecommunications technologies is essential to the development of rural communities, both large and small, throughout the United States. Such access is not only important to drawing in as well as retaining business and industry, it is also important to the quality of life in rural America. Yet there is evidence of a growing disparity between rural and urban areas in terms of access to modern telecommunications. If urban areas continue to receive advanced telecommunications technologies at a faster pace than rural areas, many rural communities will likely become technological backwaters, unable to compete economically with urban areas; social services, such as education and health, will also suffer relative to such services in urban and suburban America.

Over the past century, through regulatory means such as rate averaging and subsidies from various government agencies, federal and state governments have played a critical role in assuring that telephone service was both available and reasonably priced in most rural areas. As a result, great strides have been made in bringing phone service to rural America; in fact, although important, localized gaps remain, rural areas have reached near-parity with cities in terms of phone service. For rural areas to have access to the full array of modern telecommunications technologies, government will need to play a similar role both now and in the future.

An immediate challenge to policy makers, if federal and state governments choose to pursue this goal, will be to identify a funding mechanism for expanding the telecommunications infrastructure. The deregulation of telephone service, though perhaps a boon to consumers, presents important challenges to current public policy by altering the basis upon which universal service has heretofore been financed. With service prices driven down toward cost, cross-subsidization is no longer viable, and so services to rural and hard-to-serve areas will require new financing mechanisms. Yet the current era of rapid technological and organizational change provides unprecedented opportunities to engage regulatory reform as a vehicle for the development of policies sensitive to local needs and requirements. Effective and far-reaching collaborations between state regulatory agencies, local public interest groups, and firms in the telecommunications industry can yield positive benefits for under-served communities. Such

possibilities will require effective negotiations among concerned parties.

The disparity in telecommunications technology between rural and urban areas – past, present, and potentially in the future – must be understood and, henceforth, monitored. To this end, an update on the current state of affairs regarding telecommunications in rural America should be produced annually.

Though it is likely that there will be different outcomes in different communities, two broad possibilities are likely for the future of telecommunications in rural America: one is that telecommunications will offer a new means for social and economic development; the other is that rural areas will be bereft of the types of technologies common in urban and suburban areas. If the latter scenario comes to pass, rural areas will be at a serious disadvantage, both economically and socially, compared to the rest of the United States, if not much of the world. Now is a critical time for determining what the future will hold for telecommunications in rural America, and government policy will play a crucial role in shaping the outcome.

Introduction

Deregulation and new technology are changing the meaning and importance of telecommunications access. Whereas at one time access provided by telecommunications technology meant the ability to communicate with others located within relatively close proximity and to engage in occasional conversations with other more distant locations, today access means everything from receiving sophisticated diagnoses for medical emergency treatment, to engaging in business opportunities in a far-away city, to filing college admissions applications, to gaining knowledge about the outside world.

America made a commitment to universal access with the passage of the Telecommunications Act of 1934, and since that time it has become one of the most connected societies in the world. That commitment now faces new challenges. The dizzying array of ever-advancing telecommunications capabilities and technologies is drawing together places of population concentration and urbanization; these intensely connected places in turn are drawing apart from communities that, because of remoteness, scarce populations, rugged terrain, and poverty, are failing to connect in the digital age. In these outlying locales, access is no longer a right but a privilege, realized when and if the cost of delivering this capacity is both profitable to service providers and affordable by potential users.

The rate of technological change in telecommunications is so great that service providers are reluctant to make costly investments in intermediate technologies without a guarantee of a large, quick rate of return. Given the wide range of possible technology options, firms are going for sure markets, such as those created by the growth in producer services and those found in urban areas. Lacking both significant employment concentrations in advanced business sectors and concentrated populations, rural communities, particularly remote, hard-to-access, and poor communities, are being left behind in the race to build, connect, and ride the information superhighway.

Seventy years ago, when the concept of universal service was written into law, the challenge was to connect the nation's largely rural population to an inclusive system of communication. In 1930, demand conditions supporting universal service couldn't have been more attractive – 43% of the nation's population lived in rural areas, and the technology of communications was relatively stable. Telecommunications was a regulated monopoly. Companies could forecast demand with considerable certainty. Cross-subsidization and incentives made rural access not just affordable but profitable.

The situation is much different today. Less than 25% of the population lives in rural places, and telecommunications technology is changing literally overnight. The size of initial infrastructure investments to access these new capabilities is high, but offsetting these costs is a highly skewed structure of demand coming

from the growing array of business and commercial activities that are using the superhighway as a springboard for the creation of yet more new business ventures. Government is being warned off of providing continuing subsidies or of regulating prices to provide the necessary financial resources to maintain and reinforce universal access for fear that such moves will dampen the stimulus for technological change. In the absence of clear-cut timelines to achieve access and modern service capabilities, and with dwindling subsidies and incentives, rural and remote locations are in danger of becoming permanent laggards in the race to connect to the telecommunications superhighway.

The costs of waiting for technological standards to emerge are far reaching. Advocates embracing a wait-and-see attitude toward the new infrastructure investments required to connect all Americans argue that moving too quickly in an era of rapid technological change could result in premature “technological lock-in,” which could in turn lead to inefficiencies and missed opportunities. But this argument must be juxtaposed with the more far-reaching and dynamic interpretation of the consequences of excluding segments of society from access to superior communications. Even slightly dated capabilities are better than none at all. There is a growing consensus that the future labor market required for the digital age will be heavily reliant on knowledge both of the Internet and, through access to it, its operations. Access to the digital superhighway is imperative, even now in the absence of technology standards, in order that members of society do not become permanently disadvantaged. The alternative is significant national welfare and productivity losses as places and citizens fall out of the digital loop.

In this study we review evidence about the experience of rural communities in accessing modern telecommunications. It is divided into six parts. The first summarizes the special problems of rural areas in ensuring access to modern telecommunications. Part two recounts the history of telecommunications access in the U.S. and the special experience of rural areas. Part three reviews the effects of rapid change in telecommunications technology and the challenges facing public and private infrastructure provision. Part four examines the potential benefits of advanced communications in rural areas, while part five evaluates the technological options for high-speed connections. Part six suggests areas in which public policy can contribute to the dissemination of new technologies to rural and sparsely populated areas of the country.