

Information and Telecommunications Technology and Economic Development: Findings from the Appalachian Region

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EXECUTIVE SUMMARY

Uneven access and capacity underscore the primary challenges rural communities face in exploiting the new technologies. They must secure cost- and quality-competitive access to advanced telecom services and rapidly build local expertise, training and service capacities to improve local business performance and to attract new firms.

The research strategy used here provides a comprehensive map of current telecom infrastructure patterns and focuses on tracing outcomes associated with federal and state universal service programs as well as additional state and local telecommunications-related initiatives. This work is part of a larger project that used field research and telephone interviews, archival and secondary documents, and web-based investigations in order to gather data.

Our goal is to document the status of telecommunications in the Appalachian region with a view to assessing its potential relationship to economic growth and the range of federal and state policies that influence its development. We find that telecommunications infrastructure in the Appalachian regions is less developed than that in other parts of the country and that it compares negatively to national averages on various broadband indicators. Broadband technologies such as cable modems, DSL, and even the presence of high-speed services are not as widely distributed in our target region as national statistics would suggest. Statistical analyses show that these distribution patterns are in each case associated with economic activity: more distressed counties have less developed broadband telecommunications infrastructure.

We find that federal universal service supports favor the most rural of the Appalachian states: only Mississippi, Alabama, West Virginia, South Carolina, Georgia and Kentucky have a net positive inflow of funds through the program, although the internal adjustments (from larger, urban-serving companies to smaller, rural companies) among the other states are not to be discounted. These six states are among the most rural of all the Appalachian states, having the lowest population densities among the group we are examining (Tennessee being a close exception).

While state universal service programs have cropped up in part to ameliorate the revenues losses local exchange companies face attribute to deregulation (especially reduced access rates), those programs are not uniform. Most offer some low-income support as well as support to telecommunications companies serving high cost territories.

Some states are not allowing that support to flow to the largest, wealthiest companies (e.g., the BOCs or other price-cap companies) and instead favor companies serving exclusively rural regions. In such approaches they hint at the sorts of concerns for balancing costs and supports that will probably become more pervasive in the future.

Several states have proactively initiated programs to enhance telecommunications infrastructure. By using state telecommunications networks through resource sharing, demand aggregation or anchor tenancy programs, states are able to leverage their considerable investment and offer benefits to other public sector users - and in some cases, even private sector users. Seven states also allow municipally owned utilities to offer telecommunications services, expanding the range of choices and the potential for competition in the process. Nearly every state had some special program, or many programs, for enhancing Internet connectivity or broadband access. The least active states appear to be West Virginia, Mississippi, South Carolina, Kentucky and Alabama, although these too have some state programs to enhance telecommunications access or use.

One factor that appears to enhance state potentials for improved telecommunications is coordination among state agencies within the state. By coordinating network design and use, state-funded infrastructure can be used optimally. When it is absent, programs may be duplicative, underutilized, and more costly.

Most state and federal programs have focused on market-related initiatives to solve their telecommunications problems. We observe, however, that attempting to work with (or against) the market yields only limited returns in the absence of leadership. With more creative collaboration and attention to some of the nonmarket solutions to obtaining and using telecommunications - solutions such as training, education, organizational resource sharing - the larger harnessing of telecommunications capabilities to economic growth can be accomplished.