



Internet Connectivity and Utilization in Tennessee 2016

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EXECUTIVE SUMMARY

During 2015, elected leaders, business executives and economic development professionals across the State identified broadband availability as a key strategic initiative to improve future economic development efforts in rural Tennessee. In response, the Tennessee Department of Economic and Community Development (TNECD) undertook an initiative to assess the current availability and utilization of broadband and to provide strategies for the State of Tennessee to improve broadband service availability and utilization.

This report includes two types of data:

1. Part A of this report describes the current broadband infrastructure in Tennessee based on data provided by Internet Service Providers (ISPs) to the Federal Communications Commission (FCC) and collected by Connected Tennessee for NTIA's Broadband Map.
2. Part B presents data collected in early 2016 by TNECD directly from consumers of Internet services in Tennessee. This section presents the most up-to-date information on broadband in Tennessee. The data collected directly from customers provides a valuable complement to data provided by ISPs. Over 23,000 responses were received, including every county in the state.

For purposes of this report, the FCC definition of broadband as 25 Mbps download and 3 Mbps upload will be used in assessing whether or not citizens, businesses, and counties have access to broadband services.

Key Findings

Broadband Infrastructure Capability (according to FCC and Broadband USA data)

- 87 percent of Tennessee's population has access to broadband that meets the FCC definition (25 Mbps down and 3 up) leaving 366,115 households (834,545 people) without access.
- The vast majority of the areas in Tennessee without access are located in rural regions of the state. For example, only 2 percent of urban citizens do not have access to 25/3 broadband connectivity in Tennessee compared to 34 percent of rural citizens.

Broadband Connectivity Results (according to the TNECD Broadband Assessment data)

- Internet infrastructure capacity is not fully utilized, with Tennessee speed test results from 69.2 percent of organizations and 76 percent of households failing to meet the FCC definition of broadband.

- Businesses and households in counties designated as at-risk and distressed¹ are less likely to meet the FCC standard than those in counties designated as transitional, attainment or competitive.
- Pricing within similar offerings and technologies is relatively consistent across the state.
- Reliability is the most highly rated attribute of Internet service by businesses and households, more so than speed or cost. Concerns over reliability impacts the consumers' willingness to purchase premium services.
- According to business and household respondents, fiber connectivity is the most reliable, fastest, and most highly rated of Internet services, by a significant margin. Cable and fixed wireless are rated as the next best, with DSL and mobile wireless performing at lower speeds and with less reliability. Satellite and dial-up are by far the poorest rated Internet services based on reliability and value for money.
- Broadband infrastructure is affected by
 - The economic status of the community
 - Number of ISPs (level of competition)
 - Type of connection and
 - Population density
- 4.6% of household respondents do not have an Internet connection at home. Over half of these respondents (54.1%) stated that there was no broadband available where they lived. The second most frequently mentioned reason for not having an Internet connection was affordability. Only 2.1% said that they did not have a need for the Internet

Broadband Internet Utilization

- Participating businesses reported that the Internet enabled 43 percent of net new jobs. Of the businesses reporting revenues, an average of 66.2 percent of business revenues were enabled by the Internet.
- Availability and suitability of broadband plays an important role in corporate decisions with 34 percent of businesses saying that broadband service was "essential" in selecting their business location and 55.7 percent saying broadband is "essential" for remaining in their current location. 15.5 percent of economic development agencies in Tennessee stated that businesses frequently chose not to locate in an area due to its broadband quality.

¹ This report uses the County Economic Status Classification System developed by Appalachian Regional Commission. Appendix E includes the classification to all counties in Tennessee.

Distressed: Distressed counties are the most economically depressed counties. They rank in the worst 10 percent of the nation's counties.

At-Risk: At-Risk counties are those at risk of becoming economically distressed. They rank between the worst 10 percent and 25 percent of the nation's counties.

Transitional: Transitional counties are those transitioning between strong and weak economies. They make up the largest economic status designation. Transitional counties rank between the worst 25 percent and the best 25 percent of the nation's counties.

Competitive: Competitive counties are those that are able to compete in the national economy but are not in the highest 10 percent of the nation's counties. Counties ranking between the best 10 percent and 25 percent of the nation's counties are classified competitive.

Attainment: Attainment counties are the economically strongest counties. Counties ranking in the best 10 percent of the nation's counties are classified attainment

- Broadband Internet enhances earning ability of households and provides employment and training opportunities. 23.5 percent of participating households run a home-based business, with 14.1 percent of all households running a home-based business exclusively from their home.
- Telework is also an important Internet enabled activity, with almost 26 percent of participating households teleworking (13 percent of households teleworking one or more days a week in a formal arrangement with the employer).
- Over 36 percent of households in Tennessee reported additional household income from using the Internet with 20 percent of households reporting at least \$5,000 per year in additional income.
- Actual utilization of the Internet varies notably across the state for businesses and households correlating with economic status of the community, population density, and type and speed of connection.
- The largest barriers to greater Internet use for businesses are concerns over security and privacy, while for household the greatest barriers are the reliability and speed of the connection.
- 75 percent of households want to improve how they use the Internet.