

SMART Update

Broadband Expansion

Public Broadband is Coming to Knoxville

At the end of June, 2021, Knoxville City Council voted in favor of the public broadband plan proposed by Knoxville Utilities Board (KUB). Over the next ten years, [KUB will lay fiber optic cable and begin offering public broadband internet as a fifth utility](#). Some of KUB's [210,000 clients](#) will be able to start their subscriptions as early as next year. KUB provides utilities in many rural parts of Knox county, as well as [sizable areas in Union, Grainger, Jefferson and Sevier counties](#), which means that many of these previously underserved areas will have high speed internet access for the first time. This is a significant increase in access for those seeking telehealth coverage, especially for the treatment of substance use disorder (SUD), [as these areas have some of the highest opioid mortality rates in the state](#) while [lacking proportional treatment options](#).

According to the Federal Communications Commission's (FCC) 2020 Broadband Deployment report, [Tennessee ranks as the 34th state](#) as it pertains to basic broadband coverage, with [432,627 Tennesseans still living in areas without access](#) to baseline speeds (10 Mbps download/1 Mbps upload). Earlier this year, [the State of Tennessee allocated \\$100 million to expanding access to broadband, with plans to allocate an additional \\$500 million through federal American Rescue Plan \(ARP\) funding](#). Although the State has shown a commitment to expanding broadband access, it is important to note that KUB does not simply rely on state funding.

Instead, it will be paid for by gradual increases to utility bills. KUB estimates that overall utility bills would increase by about [\\$3.60/month based on an average of 1,100 KWh used per house](#), which could lead to savings of an average of \$11-\$46/month compared to the cost of current internet packages. Furthermore, professor Larry Kessler of UT's Boyd Center for Business and Economic Research estimates that [it could generate aggregate income growth for Tennesseans by as much as \\$85 million per year](#). There is reason to believe these estimates, as [Chattanooga's public broadband generated about \\$1 billion in economic growth and the creation of over 5,000 new jobs](#) only four years after going online.

The Digital Divide

According to an [interactive map](#) recently published by the Federal government, the vast majority of Tennessee counties still lack access to broadband internet. Crucially, many of these counties were previously identified by the Substance Abuse and Mental Health Service (SAMHSA) as having [significant gaps in SUD treatment coverage](#). In other words, there is almost a complete overlap between areas that need more SUD treatment options and those that need broadband internet access.

As large as the Federal government's estimation of the digital divide is, the true gap in broadband coverage may be even worse. For example, an initiative in Georgia found that despite being listed as "fully served" by the FCC - which relies on census data - [at least 255,000 households were in reality "at best only partially served."](#) Citing this exact finding, the Tennessee Advisory Commission on Intergovernmental Relations (TACIR) recommended in a report last year that Tennessee make a new

service coverage map using more accurate data. Part of the increase in the state budget for the expansion of broadband may indeed go towards such a map.

In the meantime, [SMART policy network has developed a coverage map of our own](#), available at smart.tennessee.edu. This interactive map includes county-level percentages of households that lack internet access, estimates of broadband and hardware availability, total usage of internet services, census tract level data pertaining to broadband accessibility, and more. For this and other publications and data visualizations, please visit our website. We will continue to closely follow the developing broadband situation in Tennessee.

More Than One Way to Lay a Cable

Chattanooga's Electronic Power Board (EPB) became the country's first municipal utility provider to implement fiber optic broadband internet. [Though EPB only needed 42,000 subscribers to their network, by 2016 they had 83,000](#), leading to a significant return on investment. Additionally, the broadband network led to about [\\$1 billion of economic growth and the creation of up to 5,200 new jobs](#). It has also [improved competition](#), with Comcast and Telecom now offering faster speeds and better prices across Hamilton county. KUB's plan for municipal broadband is similar to Hamilton County's, and similar economic growth is anticipated.

Meanwhile, the town of Erwin, located in the deeply rural area between Johnson City and Asheville, NC, has been working on developing a fiber optic network for the last 20 years, and in 2015 they implemented the first phase of their broadband plan. The Unicoi County Joint Economic and Community Development Board has since [completed a network in the downtown commercial district, offering internet service unparalleled in the surrounding areas](#).

In Rockwood, [UTK engineering and business students have partnered with ROANEnet to test a "low cost mobile mesh wifi network."](#) The objective is to streamline a process for the rapid implementation of a high speed internet connection in underserved areas in the case of natural disasters or other emergencies. Rural areas provide significant geographical and topographical challenges for laying the "final mile" of cable, so this project should yield important findings for improving the process of establishing permanent networks.

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