

BEYOND FAST INTERNET AND NETFLIX: THE TRUE VALUE OF BROADBAND

The value and importance of broadband is quite high and rising. It impacts the everyday life of consumers by enabling life-changing experiences in education and professional development, healthcare and wellness, lifestyle, and entertainment, among others. Simply put, broadband significantly improves the quality of life for the average consumer.

But it's important to recognize that broadband's impact also extends to the larger community. Broadband has become an essential utility, on par with, or potentially even exceeding the importance of electricity and water. We're in the early stages of realizing the impact and potential broadband has on the overall community. There are applications to come that we can't even comprehend today. To remain relevant and thrive in the future, robust broadband networks are now required for any community, regardless of size and location.

Technology as a Foundation

In today's world, technology can determine success or failure. Leverage technology correctly and success is more easily achieved. With limited or poor access to technology, you are left at a distinct disadvantage, which may be impossible to overcome. This reality extends to communities at-large.

Technology makes the world smaller, and communities, regardless of size, are now competing globally with other communities for talent, industry, jobs, institutions, and people. Increasingly, key to that competition

is robust and ubiquitous broadband. With it, communities can lay the foundation that will help attract and retain people, the companies who employ them, the institutions that educate them, and the culture that will keep them engaged. Without it, a community is more likely to shrink, and eventually die. It's a sobering reality.

According to research from the Strategic Networks Group (SNG), 40% of people in the 18 to 34-year age bracket would definitely relocate if they lack access to quality broadband, with another 20% very likely to relocate. "Fifty-one percent of long-standing residents would definitely or very likely relocate for broadband, compared to 36% of newer residents. It is a fallacy to assume that because people are well-established in the community they are less likely to relocate," SNG Reports.

Broadband is now the lifeblood of economic development. Companies and industry need it to conduct their business and empower their employees. If robust broadband is not available, these companies will simply migrate to where it is available. As companies leave, jobs disappear. As jobs disappear, people choose to relocate. The tax base erodes and communities struggle to meet the bare necessities, much less recruit new companies for economic development. This reality has led communities all across the globe to demand robust communications networks within their borders. Whether partnering with network operators, or building it themselves, communities are working to ensure they don't get left behind.



Smart Communities

Smart is no longer just the domain of cell phones, TVs, or even cars. It's now about communities as a whole. Smart communities are learning to tap communications networks for a variety of applications that improve quality of life for their citizens, while also more actively engaging them. These applications can help create efficiencies – better managing traffic flow for example -- while also making it easier for citizens to receive government services.

Smart communities leverage a range of technologies, including wireless and wireline networks, sensors, and smart electrical grids, among other. The community of Ridgeland, Mississippi is tapping service provider C Spire and Nokia for applications that include smart lighting, which uses sensors to turn on street lights only when necessary .

These foundational technologies can help enable and improve important quality of life applications like telemedicine, remote education, and work from home opportunities. It's of particular interest to rural communities, because smart rural communities leverage technology to allow their citizens to work basically anywhere in the world, receive specialized medical attention remotely, and gain a world class education without leaving the community. Distance and location become less important and anyone can now live a desirable rural lifestyle while not diminishing their professional, educational, and medical opportunities.

“The future of America’s states—and their ability to meet major economic, social, and

environmental challenges—rests largely on how they adapt to and take advantage of changes in technology,” reports Praxis Strategy Group on behalf of the U.S. Chamber of Commerce in their report *Enterprising States* .

Companies and industry are also attracted to smart communities. These companies can leverage smart applications to operate their businesses more efficiently and more profitably. Additionally, smart communities attract smart talent, giving companies a better workforce to recruit and engage. These factors all work in concert and can contribute to a solid economic base, with benefits for end consumers and the communities in which they live.

Preparing for 5G

An important community-level technology development is the arrival of 5G wireless technology. 5G is the next evolution of wireless, promising significant benefits for individuals, companies, and the community as a whole. This next iteration of wireless will significantly increase wireless speeds, providing a better mobile user experience.

But perhaps more importantly, 5G will truly enable the Internet of Things (IoT), providing an underlying wireless network that will connect thousands, or even millions in some cases, of sensors, devices, and even cars throughout any given community. IoT for business will drive important economic activity including smart agriculture, autonomous transportation, drones and robotics, and industrial/factory IoT. The impact on consumers and businesses alike will be profound. According to international



consulting firm Accenture, the broader economic benefits from 5G could create an additional 2.2 million jobs in communities across the United States .

For 5G to become a reality, it needs an underlying fiber-broadband based wireline network to connect all of the access points necessary for broad coverage. These access points will grow dramatically from the cell tower footprint used for today's 3G and 4G networks. Thousands of new small cells will also be needed, perhaps every 1000 feet or so to ensure adequate 5G coverage. This requirement will drive the need for a robust fiber-based broadband network. A recent study from Deloitte Consulting estimates that the United States requires an investment of \$130–\$150 billion in fiber infrastructure over the next five to seven years to adequately support broadband competition, rural coverage, and wireless densification .

Like other important technology developments, 5G will drive a community's ability to compete. Lack of a 5G network could put it at a disadvantage for attracting people and industry. 5G will become a key enabler of the smart community and a hugely important economic development tool. Planning for it and ensuring an adequate underlying network is in place will be critical for community leaders.

Conclusions

The applications and experiences that good quality broadband brings to individual consumers is well documented. In today's society, broadband makes a considerable difference in both quality of life and economic achievement. A broader view of broadband also includes understanding the overall impact it has on the community as a whole. Just like individual consumers need broadband to improve their overall life situation, so too do communities.

Robust communications networks (both wireline and wireless) and the broadband service they enable, are a key economic development engine to any community, regardless of size and location. These networks are the underlying technology in the emergence of smart communities, a 21st century priority for any community.

Smart communities are leveraging the power of technology to empower their citizens, their businesses, and their institutions to thrive in the modern world. To successfully compete in this globally connected economy, communities need to plan for and implement strategies and policies that ensure the necessary communications networks, including 5G, are present and available. It's the critical economic development priority of our time.

¹ Broadband Importance to Household Location - <https://sngroup.com/broadband-and-household-location/>

² Ridgeland to partner in C Spire's first "Smart City" technology trial in Mississippi - <https://www.prnewswire.com/news-releases/ridgeland-to-partner-in-c-spire-first-smart-city-technology-trial-in-mississippi-300494501.html>

³ Enterprising States - <https://www.uschamberfoundation.org/enterprisingstates/assets/files/Executive-Summary-OL.pdf>

⁴ New Research from Accenture Strategy highlights Economic and Societal Impact of Investing in 5G Infrastructure - <https://newsroom.accenture.com/news/new-research-from-accenture-strategy-highlights-economic-and-societal-impact-of-investing-in-5g-infrastructure.htm>

⁵ Deep deployment of fiber optics is a national imperative - <https://www2.deloitte.com/us/en/pages/consulting/articles/communications-infrastructure-upgrade-deep-fiber-imperative.html>