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Understanding the Risks of Municipal Broadband

As communities across the United States plan their future within a competitive global economy, ensuring a robust broadband infrastructure is paramount. Communities must develop a plan that includes a path to ultra-broadband, while minimizing the inherent risks that come with executing it.

The Role of Ultra-Broadband for a Community's Future

A new phase of broadband is upon us, and it is commonly referred to as ultra-broadband. This next generation of broadband is characterized by much faster speeds than broadband's first generation, typically offering 100 Mbps or faster. It also delivers low latency, helping satisfy requirements for a variety of emerging business and consumer applications like telemedicine and virtual reality. Ultra-broadband is typically delivered by a deep-fiber broadband network, and in ideal conditions, delivers fiber to the premises (FTTP), to both homes and businesses.

Beyond important end-user applications, ultra-broadband also lays the foundation for a smart city, enabling communities to fully participate in the 'gig economy.' Smart cities are more efficient, saving taxpayer money through lower operational costs. Applications like smart LED lighting and smart grid drive better efficiencies. Smart cities also provide a better means for civic engagement, ensuring communities can best leverage the many talents of their citizens and increase citizen satisfaction.

Smart city initiatives are often portrayed as the domain of large urban markets. But in reality, small and midsized cities are very active with smart city projects. A 2016 survey by the U.S. Conference of Mayors found that of 459 planned smart city projects, 131 are in small cities, and 225 are in mid-sized cities.[1] Physical infrastructure was rated the most important factor for smart city projects by survey participants, followed by governance.

"All smart city projects require an information and communications technology (ICT) network to control devices and collect data across the city," the 2016 Smart Cities report outlines. "In some cases, smart city projects will require new networks to be deployed."

Indeed, the presence of ultra-broadband within a community helps drive important economic development decisions. Communities that lack it are at a disadvantage to those who provide it. A recent study by RVA, LLC for the Fiber Broadband Association found that access to ultra-broadband ranked only second to safe neighborhoods as a factor for relocating to a new community.[2]

A study by the University of Tennessee examined the economic benefits of the gigabit-capable ultra-broadband network deployed by municipal broadband provider EPB in Chattanooga. The study calculated all of the economic benefits of EPB's network and found the fiber network helped add between 2,800 and 5,200 new jobs, translating into benefits of between $2,832 and $3,762 per Hamilton County resident.[3] The study, conducted by economist Bento Lobo, concluded that the network means an additional $865 million in economic activity for the Chattanooga region.

Both consumers and businesses now look for ultra-broadband connectivity when making decisions about relocating, or staying in any given community.

Ultra-Broadband is Not Without Risk

Like any major infrastructure investment, building ultra-broadband networks has inherent risks, regardless of who does it, public or private interests. These include the obvious financial risks, but include others as well. When evaluating risk, it's important to put ultra-broadband into proper context. It is arguably the most important infrastructure investment a community can make.

Here are some key considerations:

Financial Risks — The deployment of ultra-broadband means a deep, fiber-based broadband network must be deployed, which requires significant investment. Funding this network build involves risk, but it should be manageable. There are a variety of funding sources, including bond issuance, debt financing (including government-based lending institutions like the Department of Agriculture's Rural Utility Service), grants, and public-private partnerships.

When done correctly and professionally, financing of municipally owned and/or operated networks can involve manageable risk. The Institute for Local and Self Reliance, through its Community Networks initiative, reports that fewer than 2 percent of municipal networks have defaulted on bonds.[4]

Partner Risks — The building and operation of an ultra-broadband network is a complex task, requiring specialized skills. Municipal entities typically lack these skills and must turn to outside partners for support. Selecting these partners is critical, because they can make or break the successful construction and launch of the network. Partners must be properly vetted and chosen.

Operational Risks — With any business proposition, there is no guarantee of success. Operating an ultra-broadband network is no different, and will require proper attention. Prospective municipal operators must avoid the "build it and they will come" attitude, particularly when competitors are present.

Attention to detail with operational/technical, customer experience, and sales and marketing functions is critical. Typically, a minimum 30 percent take rate is required to be successful. Pushing that target to 50 percent or more is preferred. A detailed business plan should be developed that outlines how to achieve these penetration rate goals.

Public Relations — The growing momentum of municipally owned and operated ultra-broadband networks does generate some controversy. There is potential opposition to the practice, particularly from incumbent telephone and cable service provider interests. Municipalities must understand and anticipate this risk and the negative public relations activity it may generate. Involving the community and key stakeholders early in the process can help mitigate this risk.

The Risk Communities Face Without Ultra-broadband

While there are risks inherent with building and operating ultra-broadband networks, there are arguably greater risks to communities who lack this capability. Technology has made the world much smaller, and communities are now in global competition with each other. Competing means attracting and retaining knowledgeable workers and the companies who employ them. Lack of ultra-broadband infrastructure may be the greatest long-term risk to a community's future.

Here are some key considerations:

Economic Development — The engine for stability and growth for any community is continuing economic development. Gross metropolitan product (GMP) is an economic measure of the value of all goods and services produced within a metropolitan statistical area (MSA). Research sponsored by the Fiber Broadband Association found that GMP growth for communities with a 60 percent or better penetration of FTTP was 64 percent higher than those with a FTTP penetration of less than 25 percent.[5]

While ultra-broadband by itself does not guarantee improved economic development, there is no question that without it, economic development is significantly more difficult.

5G Wireless Opportunity — Movement to the next generation of wireless technology, 5G, is already well underway. To function properly, 5G infrastructure requires a fiber-rich broadband network, like that deployed through an ultra-broadband network. 5G wireless will bring tremendous improvements over today's 4G environment, but will also be a major factor in job growth and economic development. Management consulting firm Accenture recently performed a study that indicates 5G could create up to 3 million jobs and add approximately $500 billion to U.S. GDP.[6]

The benefits have a local impact as well. "The [Accenture] report findings show what an incredible opportunity there is in local economies," said Tejas Rao, managing director and Mobile Offering Network lead for Accenture's North America practice. "5G-powered smart city solutions applied to the management of vehicle traffic and electrical grids alone could produce an estimate of $160 billion in benefits and savings for local communities and their residents."

Retaining Important Populations — While much economic attention is focused on attracting new citizens and employers, communities can't lose sight of their own important populations, including younger demographics. It's no secret that young people favor technology and the technology-driven applications enabled by ultra-broadband networks. Whether it's virtual reality, 4K video, gaming, or the ability to study at any university across the globe from the comfort of home, young people crave technology. They are, in fact, digital natives and they choose to live and work in areas that support their digital lifestyle.

Management consulting firm PwC published the study, Millennials at Work: Reshaping the Workplace. A key finding highlighted that 59 percent of millennials said an employer's provision of state-of-the-art technology was important to them when considering a job.[7]

In order to retain this important demographic, communities will have to offer the technology-driven environment they demand.

Conclusions

The next generation of broadband is here. Ultra-broadband is proving to be a requirement for long-term community success in the global economy. Many communities throughout the country and all across the globe are already embracing it and gaining competitive advantage as a result.

Communities of all sizes must now evaluate how they will keep pace. That evaluation may lead to taking on the task of building and operating an ultra-broadband network. In so doing, communities must understand and plan for the inherent risks that come with it.

Perhaps the largest risk is inaction. The stakes are high and ultra-broadband networks will prevail as the underlying technology that fuels long-term community prosperity. As a result, every community must develop a path to get there.

1   U.S. Conference of Mayors — 2016 Smart Cities Report, http://www.usmayors.org/wp-content/uploads/2017/02/2016SmartCitiesSurvey.pdf

2   RVA — 2017 State of Broadband Update, http://glenechogroup.isebox.net/fiber-connect-2017#

3   Times Free Press - Study finds EPB fiber optics generates over $865 million in benefits for Chattanooga, http://www.timesfreepress.com/news/business/aroundregion/story/2015/sep/15/study-finds-epb-fiber-optics-generates-over-865-million-benefits-chattanooga/325235/

4   ILSR — How Municipal Networks are Financed, http://ilsr.org/wp-content/uploads/2014/01/financing-munis-fact-sheet.pdf

5   RVA — 2017 State of Broadband Update, http://glenechogroup.isebox.net/fiber-connect-2017#

6   Accenture - 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

7   PwC - Millennials at Work: Reshaping the Workplace, https://www.pwc.com/gx/en/managing-tomorrows-people/future-of-work/assets/reshaping-the-workplace.pdf

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