

Follow the Light

How FTTH Jumpstarts Economic Development

By Lisa Payne

Fiber-to-the-home (FTTH) is the pivotal infrastructure necessary to set the stage for the dramatic economic and technological advancements the world will experience during the next century. The Internet has already revolutionized our world, enabling people across the globe to share information for business and pleasure. This has led to all forms of data being digitized and new applications being developed. For example, voice conversations, faxes, photos, maps, music, videos, research papers, etc., can be transmitted worldwide at a rate never before thought possible. The magnitude of the communications revolution is staggering when you consider the changes one generation is experiencing. Technological advancements show no signs of slowing, and therefore it is imperative that communities have the infrastructure in place to support current and future technology. Building out FTTH is the economic tool that will help communities attract new business, create new and higher-paying jobs, increase interaction and collaboration, and ensure residents will have broadband access to a wide range of services.

Why FTTH?

The current infrastructure cannot help position a community to compete and thrive in the brave new world. This is because the existing networks' data transport is asymmetrical and the bandwidth is insufficient to handle the increasing data traffic. Previously, the majority of traffic was downstream to your computer. As such, data could be received faster than it could be sent out. While this worked for the first years of the Internet revolution, today upstream traffic is increasing: we want to share our home videos with our families, send music files to our friends, and transmit complex engineering drawings or other important documents to our customers. Whereas in the past, communication was largely one way, the future will require the two-way traffic made possible by FTTH.

How Will FTTH Benefit Companies?

Today's companies are faced with the threat of losing sales to international competitors. FTTH will support companies that want to prosper by marketing and selling to customers outside their home territories. Companies and the communities they are based in will lose millions of dollars of profit and related tax revenues to online competitors if steps are not taken to even the playing field by competing online. Moreover, selling is not the only online transaction that will be improved by FTTH — customers and suppliers are using the Internet to make all transactions faster, easier and more cost-effective. Examples include credit reviews, bank payments and transfers, purchasing, shipping and inventory management.

With today's technology, a company can set up shop anywhere in the world and outsource different aspects of

its business. Manufacturing can be outsourced to China, the help desk can be in India, the answering service can be in Calgary and the sales teams can be situated closer to the customers in different regions of the world. The business owner can run the corporate head office in any fibered community with a team of highly skilled personnel to orchestrate the sales and operations around the world.

Similarly, with FTTH, telecommuting will become a viable option that will improve a business's efficiency. Virtually any information job can be done from home, including marketing, sales, help desks, legal, accounting, research, writing, analysis, logistics, news, graphic design, etc. The employee saves time and money commuting to and from work. Furthermore, working from home will play a significant role in protecting the environment, as less commuting reduces the wear and tear on roads, consumes less fuel and creates less pollution. The employer benefits through reduced overhead and relocation expenses. Companies can lower their overhead costs by reducing office space and related facility expenses. It also improves the ability for businesses to lower their prices and compete to win more international customers.

Many of the largest corporations have already recognized the advantages of relocating their offices to communities with FTTH. Microsoft established a new data center in Quincy, Wash. This followed Yahoo's proposed data center move to Wenatchee, Wash. Google chose The Dalles, Ore., for its new home. In all of these cases, one of the major decision drivers was the availability of fiber in these areas. Other considerations included good public schools, homes and amenities, which are imperative for attracting employees. Thriving communities can offer these benefits to their inhabitants, and the area can attract taxpayers by providing the infrastructure for economic development.

How Will Different Segments of the Population Benefit from FTTH?

Communities that want to grow must be proactive and plan for the future, taking into consideration all segments of the population. The advantages of FTTH will affect all levels of the community, from young children to senior citizens.

1. Adults

The adult population is critical to the economic development of the community: these people are busy raising families, buying real estate, building careers and establishing businesses. They bring the next generation into the world; the taxes they contribute pay for elderly support and provide the revenue base for the government.

If a community is not capable of competing in the digitized world, job opportunities will become scarce, and this demographic, which is largely responsible for upholding the community, will be forced to relocate to places with better employment options. Consequently, there will be a decline in the demand for property, which will cause real

estate prices to fall. This in turn will result in less collectable taxes to pay for schools and community programs.

Some community leaders will lobby the government to maintain the status quo through employment grants and industry tax incentives. However, this may only mask the real problem and delay the inevitable economic and population erosion that will result for those areas that fail to adapt to the changing times. This decay can be prevented and reversed if change is embraced, rather than avoided, and if the leadership proactively places the community to participate in the new economy.

2. Senior Citizens

There are many unattractive measures the government can take to compensate for mounting healthcare costs. These cost-saving methods may include raising taxes, shifting the burden of healthcare to the private sector or to the individual, reducing spending and cutting programs. Alternatively, the government can manage healthcare costs for seniors by finding a more efficient delivery model. Homecare and remote care are two such models that, with the support of FTTH, will increasingly play vital roles in managing healthcare costs. The costs for homecare patients are 40 to 75 percent of the costs of facility care.

FTTH will enable home monitoring via data collection, remote lab test analysis, surveillance, emergency alert and telemedicine. Furthermore, pharmacies and healthcare providers will be able to share patients' data, thereby avoiding adverse reactions and consequential hospital admissions and morbidity.

Mobility is one of the major challenges faced by senior citizens. Many elderly people find themselves housebound during their twilight years. FTTH can help seniors stay connected to their community as well as to the world at large. Video conferencing provides a great way to communicate with family, friends and support groups, and the growing Webcast trend of transmitting weddings and funerals means the elderly never have to miss important family functions because of immobility.

3. Children and Students

A state-of-the-art broadband network will provide access to medical and educational resources, allowing families to access medical advice and family support groups from home, rather than having to commute to the nearest city for the same services. Parents can watch their children at daycare from their computer screens at work. Families can share the joy of watching their children grow up with other family members who live in different parts of the world.

Children will use FTTH for many reasons beyond scholastic research and corresponding with their friends and family. Children can be encouraged to share videos and pictures with their grandparents. They can enjoy interactive on-line games, VoIP and educational videos. They will download their favorite music while chatting online with Dad while he is on a business trip. Video on demand, high-definition television and interactive TV are just some of the new forms of entertainment. More importantly, communities that embrace new technologies are preparing their children for the future ahead of the curve. Early adopters will have an advantage over late adopters.

FTTH can benefit students by enriching their learning experience and enhancing their education through video conferencing, virtual tours and remote tools. Tutors can be located anywhere in the world and still be able to aid students with their homework, and can be hired at a fraction of the cost of hiring local tutors. FTTH will level the playing field for students around the world by enabling them to interact remotely with global learning centers.

Government Responsibility for Infrastructure

It is short-sighted for the government to fund more recreational facilities, housing or business grants to attract families to diminishing communities. These small injections into the local economy are a band-aid solution to a much larger problem. The government needs to focus spending on infrastructure that will stimulate long-term economic growth. The government can fund FTTH and FTTH can support government initiatives to help support families, improve access to education and enhance security.

Not only will members of the community benefit from FTTH, but the government will have the means to improve the management of public utilities and services. This translates into improved revenues and reduced costs. Here are just some of the examples:

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- More efficient traffic monitoring and management.
- Transport electronic files rather than courier documents.
- Integrate government information.
- Improve parking meter control and revenue collection.
- Enhance police, fire and utility management.
- Improve community communications.
- Improve management of licensing, permitting, taxes and billing.
- Attract more customers, tourists, business functions and residents.
- Disseminate cultural and community information.
- Reduce the number of truck rolls.
- Increase community involvement.

Can a Community Afford Not to Build FTTH Infrastructure?

The benefits of FTTH will be shared by every member of the community regardless of age, sex, economic standing, religion or race. The ubiquitous FTTH infrastructure may bring modest economic perks to the individual, but collectively, the impact is substantial. Conversely, relying on private investments will enable biases as to who will have access and who will not, creating a digital divide between affluent neighborhoods and less affluent ones.

If municipalities do not recognize the value of a virtual community and take steps to enable their citizens to digitally access the rest of the world, they will lose to the communities near and far who have. Community leaders have a responsibility to bring benefits to all constituents. FTTH will lead to near-term benefits and will generate a significant long-term impact on the growth, success and prosperity of the community.

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