

Lexington Goes for a Gig

Mayor Jim Gray's fiber optic initiative puts Lexington, Ky., on a forward-looking path.

By Masha Zager / *Broadband Communities*

The city of Lexington, Ky., is famous for its beautiful horse farms and historic bourbon distilleries but not for its broadband. Internet service there could fairly be described as mediocre – the Internet metrics company Ookla recently measured the average download speed in Lexington at 16.2 Mbps, well below the U.S. average of 37.1 Mbps.

On the other hand, unlike some other cities that have launched FTTH initiatives, Lexington isn't precisely underserved. There is no groundswell of community outrage about broadband. But Jim Gray, the city's mayor, believes better broadband will give the city a better future, and he vowed to make Lexington a gigabit city. "Every city is in a competitive chase for talent and investment and jobs," he explains. "This is essential just to stay competitive."

LEXINGTON'S ADVANTAGES

Gray thinks Lexington offers advantages for Internet service providers that the existing providers do not take account of. For one thing, the city is very dense – about 300,000 residents in 90 square miles – and it's growing denser. Land beyond the inner core is protected by

Lexington offers advantages for broadband providers, including high density, a major research university and access to a middle-mile network.



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zoning and by purchase of development rights to protect the horse farms. Thus, infrastructure within the urban service boundary will become increasingly valuable as the population rises.

Another asset is the presence of a major research university, the University of Kentucky. The university brings with it a knowledge economy built around research and development; a highly educated, affluent population; and a vibrant cultural scene. The businesses and households associated with the university are all desirable customers for providers of advanced Internet services. Already, Lexington has the highest concentration of e-book readers in the country, according to The Atlantic, and is the top city in the United States for using the Roku online streaming receiver, according to Roku. As Gray says, "Lexington is a university city, with a highly educated workforce that can leverage greater bandwidth



Lexington locals and visitors enjoy live music at the Thursday Night Live Block Party.

speeds to create new technologies, new ideas and new markets.”

A third important asset that will soon be available is KentuckyWired, a middle-mile fiber network that the state is about to begin building. The network will pass through Lexington and connect educational and other anchor institutions there; it will also lower the cost of Internet transport for potential last-mile providers.

To get Lexington the broadband infrastructure that will equip it for the future, Gray realized he would have to encourage competition by marketing the city’s assets to potential providers. The first step was for city staffers to begin working on the Google Fiber City Checklist, which helps cities assess their capabilities and infrastructure. The checklist, originally created for cities to apply for Google Fiber rollouts, has become a national standard for cities to prepare for any fiber optic builds.

Though completing the checklist took a lot of work, Lexington was

one step ahead of the game because it had already made a great deal of data available through its open data initiative. The checklist proved to be a “powerful organizing framework,” in the words of Scott Shapiro, senior adviser to Mayor Gray.

Shapiro says the exercise uncovered a “healthy chunk of fiber” already existing in the city, including traffic system fiber as well as commercially owned fiber, and prompted the city to work on streamlining its permitting processes. The most important effect of completing the checklist, he adds, is that it pushed the city out of the reactive mode of issuing franchises upon request and into a proactive mode of deciding what infrastructure it needs and determining how to work with companies to obtain that infrastructure.

SEEKING A PROVIDER

In March 2015, Lexington was ready to take the next major step: issuing a

request for information from companies interested in building and operating a fiber optic network in the city. The RFI gave respondents the option of proposing a public-private venture or a purely commercial solution. It set the following requirements for a network:

- High-speed connectivity to business and residential customers on a highly reliable and available network
- Services and network performance that are a significant improvement over what is currently provided by existing networks
- Excellent customer service
- Competitive cost for customer services and flexible plans for price-sensitive customers
- Capability to extend the network as Lexington grows.

The initiative is generating excitement locally. Several thousand residents are following the events on the “GigforLex” page on Facebook. The

Lexington received 11 responses to its request for information and is now exploring a range of possible avenues to becoming a gigabit city.

University of Kentucky – a founding member of Gig.U, which popularized the idea of university communities soliciting proposals from the private sector to build fiber optic networks – has been helping and advising the city. The local chamber of commerce and the business community in general are also strongly supportive, according to Gray.

Eleven responses to the RFI were received from a wide variety of companies, some of which proposed multiple solutions. The city is currently exploring a range of possibilities – including whether to commit to building out all neighborhoods or use a “fiberhood” approach and whether to select a public-private or fully private solution.

It’s also exploring how to leverage a fiber optic network to promote growth in the high-tech sector and to deliver government services more efficiently. Staffers have been studying the Kansas City Playbook that helped the two Kansas Cities take advantage of the Google Fiber network, and they plan to assemble a playbook of their own.

As Gray says, “If we’re a beacon on the map for fast access, then we are going to have a competitive advantage.”



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KENTUCKYWIRED – A STATEWIDE FIBER RING

One factor that makes Lexington’s gigabit initiative possible is KentuckyWired, a unique statewide project that aims to develop a robust, reliable, fiber backbone infrastructure to bring high-speed Internet connectivity to every part of Kentucky. Gov. Steve Beshear and U.S. Rep. Hal Rogers announced in December 2014 that the project would be built as a public-private initiative with the Australian financial giant Macquarie Capital and its consortium partners, which include First Solutions, Fujitsu Network Communications, Black & Veatch and Bowlin Group.

Gov. Beshear said at the time, “Kentucky’s Internet speed and accessibility have lagged behind the rest of the nation far too long. This partnership puts us on the path to propel the commonwealth forward in education, economic development, health care, public safety and much more.”

KentuckyWired will be paid for primarily by leveraging private capital. “If we were to rely solely on state government funding to get this project off the ground, it would take years, if not decades. Those kinds of tax dollars just aren’t available,” said Gov. Beshear. “In this technology-dependent economy, we can’t afford to wait another minute. That’s why this partnership is so valuable – it ramps up this project to the speed of the private sector without any additional burden on our taxpayers.”

THE MIDDLE MILE

The first stage of the project is to build 3,000 miles of main broadband fiber lines, or middle-mile network, across the state. Fiber will be available in all 120 counties, and the underserved eastern Kentucky region will be the first priority area. Once this backbone is complete, Internet service providers, cities, partnerships or other groups may tap into it to complete the last mile to homes or businesses. The project will take advantage of existing infrastructure to deliver the network more quickly and reduce construction costs.

Improved cell phone coverage is anticipated as part of the initiative. Cell phone companies may use the middle-mile fiber network to add capacity and broaden coverage areas that have traditionally had poor cell phone reception.

The push for reliable, accessible high-speed broadband emerged from the Shaping Our Appalachian Region (SOAR) initiative, which aims to help Kentucky’s economy adapt to the restructuring in the coal industry. “This new Super I-Way is the cornerstone of SOAR’s mission to diversify the economy in eastern Kentucky with improvements in business recruitment, fast-tracking telemedicine in the mountains and adding high-tech advancements in education,” said Congressman Rogers.

The project is estimated to cost between \$250 million to \$350 million and will be supported by approximately \$30 million in state bonds and \$15 to \$20 million in federal grants.

The network will be open access, meaning that many Internet and cell phone service providers can lease portions of it. Because those leases will not be limited to one provider per county or community, consumers will have broadband choices. By partnering with the network, providers will be able to reduce their costs when building out last-mile services – and that competition should result in lower consumer costs.