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Sent: Tuesday, March 05, 2013 8:44 AM
To: Board of Selectmen; Manager Department; Health Department;
Planning Department; Natural Resources Department; Joanne Bissetta;
Design Review Board; ebettez@mail.ab.mec.edu
Subject: How to attract new business to Acton
Attachments: How Chattanooga Transformed Itself into America's First Gig City —
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Dear Board of Selectmen and Board Members,

When I was at the last Zoning Board meeting, I asked what was being done to encourage CLEAN industry to Acton, and was told not much.

Please find attached an article on Chattanooga, TN and how it transformed itself into America's first Gig city. It all started due to power outages (we are familiar with that in Acton) and then led to the power company using the fiber optics to make this a major business that attracts outside businesses. It took a number of years but now Chattanooga turned from being a dying town to a very prosperous one. Boston does not have the Internet power that Chattanooga has. Acton could be the first one in New England. The first always reaps the benefits.

At the very least please read the article and hopefully you would appoint a couple of people to call up Chattanooga to see how we could benefit, maybe send someone to look at what has happened. This is the clean type of industry I was talking about at the last Zoning meeting On February 26, 2013.

Thank you for your consideration,

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How Chattanooga Transformed Itself into America's First Gig City

by DAVID STROM • AUG. 13, 2012



What can you do with a ubiquitous metropolitan gigabit Ethernet connection? Google has recently gotten lots of attention with the metro fiber network that it is beginning to build in Kansas City. Welcome to Chattanooga, Tenn. The city has laid *its* fiber network just about everywhere, and is beginning to reap the rewards of ultra-fast Internet service. What lessons can Google and others learn from the experience?

Chattanooga's gigabit fiber network wasn't installed in the name of civic progress, or as a calling card to attract IT-related entrepreneurs, or to improve city services or to encourage telecommuting - all things that are happening as a result of the network.

Instead, it began as a project from the municipal electric utility, [EPB](#), to improve power delivery to its customers. Chattanooga suffers many violent storms that can knock out its power grid for hours or days. The utility wanted to increase the reliability of its operations through having a smarter grid that could minimize these outages.

As part of the effort, EPB automated 1,200 power switches and added technology capable of anticipating potential transformer overloads by measuring power flows every 15 minutes using the fiber network. This smarter grid has cut the number of power outages by more than 40%. The utility says it has also saved money.

But the same infrastructure that provides the control network for the utility can also be used to deliver Internet connectivity, and once the fiber network was in place, the utility became a fast Internet service provider.



Take Me To The (Digital) River

Chattanooga Mayor Ron Littlefield says, "Think of what we did as putting in place a digital equivalent of the Tennessee River." That's an apt analogy for the city.

Chattanooga has always leveraged the Tennessee to its advantage. Back in the early 1900s, for example, it used its place on the Tennessee River to attract the first bottling plant for Coca-Cola as well as smokestack industries. The fiber network is just a different kind of river.

The utility's smart-grid efforts have made the area more of an employment magnet and given it new ways to attract talent. The city's IT department, for example, has filled its past 10 jobs with out-of-towners, a post-fiber development. Major employers are encouraging telecommuting.

"We now have a very balanced economy between industrial and clean jobs," said Littlefield. "We have something no one else in North America has, and something that will sustain our future development."



New Uses for Fast Internet

The city has continued to build on its gigabit fiber network. For example, it put together a series of initiatives to monitor and control downtown areas. At one downtown park, the police can adjust the lighting to discourage flash mobs from gathering, as well as scan license plates on cars that are parked in the lot. This helps increase the perception of safety, not to mention discourage potential criminals. "People now

know not to park in the park if they have a stolen car," says the mayor.

Speaking of street lighting, city engineers are in the process of replacing the 28,000 traditional halogen lights with LED lights and sensors that adjust their output based on ambient light. And traffic signals can be controlled by the police or first responders to move emergency vehicles through the city.

In the works is the installation of more than 400 different wireless road sensors. In the past, the city needed to send out construction crews to dig up the road and install the common wire loops that are seen across cities around the world. The newer battery powered sensors are the size of hockey pucks and take just minutes to bury.

All told, the city has built more than 50 apps to use the fiber connections, and more are on the way. "Fiber makes bring-your-own-device strategies possible," says Mark Keil, the city's CIO. "We will have three times more devices on our network next year than before we had the fiber, and we have made it easier to monitor and manage them, too."

Gigabit Takeaways

Here are five lessons to be learned from the gigabit experience of Chattanooga:

- **Don't build a fiber network just for Internet connections.** What made Chattanooga's gigabit fiber network work was the backing of its electric utility. Once this physical plant was in place, the utility was able to offer gigabit service for \$350 a month to residential and business customers.
- **Symmetrical service is key.** Having both a gigabit up and download speed is important for a variety of applications that rely on user-generated content to receive the same benefit as downloaded Web pages. A local group of radiologists built their own app so that doctors could view digitized scans whenever and wherever. That wouldn't have been possible without a symmetrical network.
- **Focus on both big and small employers.** The region was able to attract a new Volkswagen auto assembly plant and an Amazon.com distribution warehouse, but these success stories were matched with smaller firms. The mayor is effusive in his support for the various entrepreneurial efforts around the region in bringing in smart, tech-savvy people. City CIO Keil mentions that the city asked for some programming help from several Google developers from Atlanta. By the time the project was finished, at least one of them was packing up to move to Chattanooga because of the gigabit network. And this summer several private companies put [together the city's first Demo Day](#) to feature eight tech companies who agreed to move to the city in exchange for a chance to win a \$100,000 grant. One of them moved from Ireland to participate in the program. [Banyan](#), the ultimate winner, provides integrated productivity tools.
- **Find or create a university-based commercialization partner.** Chattanooga was fortunate in having a branch of the University of Tennessee, and was able to establish a supercomputing center and a non-profit commercialization entity to help license the technologies developed by academia. Several of their apps are being used in disaster management and large-scale urban planning simulations, for example.
- **Finally, don't rule out many unexpected benefits.** "We got into robotics and energy development when they were popular many years ago. But our fiber network is like having the first city that discovered fire," says Littlefield. The city is just beginning to see lots of new apps on its network and is still discovering new uses for the universal connectivity.

Images courtesy of [Shutterstock](#).

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