URL for this article: http://online.wsj.com/article/SB118722557149599153.html

THE WALL STREET JOURNAL. ONLINE

Wireless -- With Strings Attached

Cities Building Wi-Fi Networks Are Running Into Hurdles, Including Mounting Costs

By AMOL SHARMA
August 16, 2007; Page B1

In recent years, dozens of U.S. cities and towns have announced plans to build Wi-Fi networks that would give their citizens a cheap and convenient way to access the high-speed Internet and provide new competition to phone and cable companies.

Now some of those projects are running into hurdles. Constructing networks that can provide Internet access to homes and office buildings and withstand challenges from nature that interfere with wireless signals -- such as hills or rainstorms -- is proving more costly than anticipated. Some Wi-Fi projects, such as Philadelphia's, are running 30% or more over budget. Many cities are discovering the true costs of the initiatives only as they begin to roll out infrastructure and test the networks. Consumer demand for the services, meanwhile, has been soft in the early going. (See related article.[1])

Encountering Static

U.S. cities have faced many hurdles with deployment of Wi-Fi. Selected problem areas include:

- **Philadelphia** EarthLink spent 30% more than expected on network to guarantee good coverage city-wide.
- **Anchorage, Alaska** City canceled the project after it couldn't meet MetroFi's financial demands.
- **Toledo, Ohio** City is reworking its proposal after local opposition to the financing plan.
- **Minneapolis** US Internet Corp. increased spending by about 25% to make sure Wi-Fi signals get through trees.
- **San Francisco** Issue is on November ballot after political controversies ranging from privacy to city ownership.

Illustration: Hal Mayforth

Companies such as **EarthLink** Inc. and **MetroFi** Inc. have been increasingly taking the lead on building and operating these networks for cities. But as the economics of the industry get tougher, the companies are asking cities to bear more of the financial burden, either by contributing cash toward construction or by agreeing to purchase Wi-Fi services for government workers.

"This is a new and emerging industry, and the business model is still evolving," says MetroFi Chief Executive Chuck Haas. Mr. Haas says MetroFi, which specializes in designing and building Wi-Fi networks for metropolitan areas, now requires cities to contribute a substantial amount of capital before agreeing to new projects.

It isn't just financial issues that are plaguing Wi-Fi initiatives. In San Francisco, an array of politicians and civic groups have criticized the city's deal with **Google** Inc. and EarthLink, primarily a provider of landline Internet access, to create a Wi-Fi network. The critics cite privacy concerns, poor economics for the city, and even the potential that radiation from Wi-Fi equipment could have harmful health effects. Following a standoff with the city's board of supervisors, the mayor,

who had proposed the idea of a citywide Wi-Fi network, placed the issue onto a November ballot.

An EarthLink spokesman said the company remains in discussions with the city on how to move forward with the project. "We continue to hope that EarthLink and the City of San Francisco will find a way to enable all its residents to enjoy the free Wi-Fi network they deserve," said a Google spokesman. "We believe that ballot initiative is a great opportunity for San Franciscans to express their support for free wireless access for all."

The municipal Wi-Fi movement is far from dead. More than 90 cities and towns, including Portland, Ore., Corpus Christi, Texas, and others, have already launched service, according to MuniWireless.com, a Web site that tracks the projects nationally. Nationwide spending on municipal Internet projects was $236 million last year, up from $117 million in 2005, and is expected to nearly double this year, the organization said. Wi-Fi technology, generally, is gaining popularity. Consumers are increasingly accessing the Web at hotspots like coffee shops and airport lounges. And they are doing so not just from laptops, but also from new mobile devices like **Apple** Inc.'s iPhone.

But municipal networks aren't on track to offer consumers a cheaper high-speed alternative to the powerful U.S. phone and cable companies, as some backers once envisioned.

Proponents of municipal wireless networks say cities and Wi-Fi companies are learning lessons from the early setbacks and are adapting.

Initially, cities funded their projects out of their own budgets. That proved controversial, as telecom operators argued that it smacked of the government competing with the private sector. Now many cities are contracting out the work of building and operating the networks to companies like EarthLink and MetroFi, who team up with Wi-Fi equipment providers like Tropos Networks Inc., **Motorola** Inc. and BelAir Networks. In many cases, the only thing cities are offering the companies in such deals are the rights to hang hundreds or thousands of small Wi-Fi transponders on public property such as lightpoles and traffic lights.

That model isn't holding up. The Wi-Fi companies envisioned being able to offer subscription service to consumers at rates that were significantly cheaper than phone and cable broadband. But the unexpectedly high costs of building Wi-Fi networks -- the price tag can easily run into the tens of millions for a big city -- coupled with lower prices for broadband from some phone companies, has made it tougher for consumer Wi-Fi to be competitive. For example, EarthLink offers Wi-Fi for about $20 a month, a price that is on par with the lower-end Internet services now offered by **AT&T** Inc. and **Verizon Communications** Inc.

At the end of the second quarter, EarthLink had only about 4,000 subscribers from its rollouts in Philadelphia, Anaheim, Calif. and Corpus Christi. The company, which is operating under new leadership after the death of former Chief Executive Garry Betty early this year, said in late July it would pull back on further investments in Wi-Fi until it negotiates better deals with cities. In particular, the company wants a commitment by cities to become a significant customer, or "anchor tenant," and thereby guarantee EarthLink a steady revenue stream. "The Wi-Fi business,

as currently constituted, will not provide an acceptable return" for EarthLink shareholders, said newly installed Chief Executive Rolla Huff on a recent conference call with analysts.

Mountain View, Calif.-based MetroFi has also signaled that it is only interested in projects where cities are a major customer. While the company has faith in its model of providing free Internet service to consumers supported by ads, that model "has to work in conjunction with other revenue streams," Mr. Haas says.

Esme Vos, who runs the MuniWireless site, says the pressure on cities to use the networks for government services is healthy. "It forces the cities to sit down and think about what they want to do with the networks," she says. "They actually have to come up with a business plan."

In many cases, says Ms. Vos, public-safety workers are a natural user base. Policemen could use the service to download mug shots of suspects in their vehicles, while firefighters could get blueprints of burning buildings. In some cases, Wi-Fi could be used to let government workers telecommute.

Some big cities, like Minneapolis, are already signing those kind of "anchor-tenant" agreements. But for many cities with tight budgets, bearing costs for the projects isn't easy. In July, the city of Anchorage, Alaska pulled out of its deal with MetroFi after the company demanded the government pay a fee for network usage. Toledo, Ohio originally awarded its contract to MetroFi and agreed to put in financing worth $4.3 million. MetroFi would offer consumers free Internet service supported with ads and provide access for public safety workers. But some local politicians and citizens balked at the deal, saying the city couldn't afford it.

Now, the Toledo plan is being reworked. Todd Davies, Toledo's commissioner of development, says the new proposal would reduce the city's contribution to $1.5 million by tapping resources already budgeted to public-safety agencies and taking advantage of a federal grant the city has received from the Department of Homeland Security. The city council still has to approve the plan.

Craig Settles, a consultant to cities and companies on municipal-wireless initiatives, says cities that are just now drawing up plans for Wi-Fi are doing so more cautiously. Mr. Settles is advising Glendale, Calif., on its project. Before the city issues a request for proposals from bidders, it is conducting a study to determine which businesses, government workers, and members of the medical community could use the network. The goal is to make sure there will be demand for the Wi-Fi service before the city commits to anything.

"The cities that didn't join the rush last year are taking it slower and are being much more thorough in their analysis," Mr. Settles said.

--Bobby White and Kevin J. Delaney contributed to this article.

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