APPENDIX D

Wireless Internet Upgrade
(from the Small Business Committee)

Recommendation
Upgrade and add wireless Internet throughout the City of Biloxi to create hot spots.

Growth: Cities Try to Cash In
By Sandeep Junnarkar
Staff Writer, CNET News.com
February 3, 2003
News.com's Ben Charny contributed to this report

The future of wireless networks can be found about an hour from Atlanta, in the foothills of Georgia's northeast mountains. There, the small college town of Athens wants to become America's prototypical community built with "Wi-Fi" networks — the reigning standard for wireless technologies that are changing the way businesses and individuals exchange information. Last month, Athens opened one such network in a joint effort with the University of Georgia, the county government and local businesses.

"Our project is all about developing compelling applications, not just throwing up a wireless cloud because it is cheap and you can do it," said Scott Shamp, director of the university's New Media Institute, who headed the town's wireless initiative. "Imagine how much stronger economically a community could be if it establishes a reputation as a place that thinks creatively with technology."

Athens is among a disparate but growing group of communities around the country that are experimenting with wireless networking, which only a year ago was considered little more than a diversion for technophiles. Communities such as Long Beach, Calif., and Ashland, Ore., are counting on Wi-Fi's popularity as a way to revive moribund downtowns that have steadily lost business to suburban malls for decades.

The new wireless "hot zone" in downtown Long Beach, Calif., lets people in the area wirelessly surf the Internet on their laptops.

Just as venture capital fueled the Internet economy, municipal grants are being used to seed a projected boom in wireless networks. The challenge facing cities, just as it was for dot-com entrepreneurs, is to distill ways of making money from a largely amorphous technology. "We're very low on the learning curve right now, but we know there will be other business opportunities," said Bruce Mayes, a technology specialist for the Long Beach Economic Development Bureau. "We're trying to discover what they might be."

Ashland is taking a direct approach, operating its own fiber-optic communication lines and charging Wi-Fi networks $28 a month to tap into the infrastructure, though it provides free access to nonprofit groups. Other communities are exploring the possibility of charging utility-type fees for wireless services.

Even without a regulatory role, cities hope to benefit indirectly from the additional business they believe wireless services will attract. More business usually means more government revenue in the form of business taxes, property licenses and other fees.

To that end, civic leaders are banking on companies like Starbucks Corp., which is providing wireless access for a fee to draw more patrons into its cafes. Borders Books will begin a similar service this spring.

"The bottom line right now on how these wireless networks will pay for themselves is by making the city more attractive to conventioneers and by keeping people longer in our cafes and restaurants," Mayes said. His agency pays for part of the fiber connections needed by Wi-Fi networks, and Long Beach plans to extend free wireless coverage to its airport.

Cities are also counting on the high-tech industry to create new uses of the technology that will thrive in urban settings. Wi-Fi has become the one bright spot in an oppressive pall that has blanketed the telecommunications industry, which had made vast investments to install fiber-optic lines in recent years only to see them lay fallow.

Today, major companies such as Cisco Systems and Intel are investing millions of dollars to spur the use of Wi-Fi and help create the next generation of wireless technologies. Already, the technology is being used in diverse ways: Major retailers such as Wal-Mart are testing "smart shelf" systems that alert store employees when shelves are empty, and United Parcel Service is building such networks to speed delivery operations.

Wi-Fi is going to be the fourth utility. Landlords need to view it that way and are increasingly doing just that.

BOB CRINGLE, EVP
Business Development, SOHO

Cities have other incentives they can offer companies that provide wireless services. Aerie Networks, which rebuilt a high-speed Web network out of the wreckage of Metricom, has offered free equipment and Web service to city emergency service workers in exchange for a waiver on fees for installing antennas and other network gear on municipal light poles.

"Wireless can really only get bigger," said Keith Waryas, an analyst with industry research firm IDC. Technology giants are not the only businesses to benefit from the trend. It has also spurred a cottage industry of smaller companies like SoHo Wireless and Cloud Networks, which offer services to set up free public or corporate wireless systems.

Both envision a day when commercial landlords consider offering Wi-Fi networks in their buildings as a basic service, on par with polishing the brass in the elevators or security at the entrance. "Wi-Fi is going to be the fourth utility," said Bob Cringle, executive vice president of business development at SoHo. "Landlords need to view it that way and are increasingly doing just that."

So are local governments.

The regulatory question

Much like the free services that drove the Internet's early popularity, Wi-Fi networks are cropping up across the country as free community access points set up by hobbyists, municipalities and nonprofit organizations. This egalitarianism, however, may change quickly as local governments and telecommunications companies figure out how to profit from this hugely powerful technology while the price of the equipment itself continues to drop.

Companies were paying billions for the 3G spectrum space. And then along came Wi-Fi, which basically killed 3G.

SCOTT SHAMP
New Media Institute director,
University of Georgia

Take the case of the Starbucks on the corner of 42nd Street and Sixth Avenue in New York City. The location is ideal for Wi-Fi services, with financial and technology workers on breaks but needing to keep in touch with their offices, as well as researchers pouring out of Manhattan's main research library for a coffee fix.

But there is one problem with trying to charge for Wi-Fi access on this corner: Directly across the street in Bryant Park, wireless service is provided for free through NYCWireless, a nonprofit devoted to setting up free-network areas around the city.

With a typical Wi-Fi range of about 300 feet, people sitting in Starbucks at this locale can surf the Net for free using Bryant Park's network. This scenario repeats itself in places like Pioneer Square in Portland, Ore., and other urban areas across the country.

"When the sun goes down, you aren't asked to pony up 25 cents so they can turn on the lights at the restaurant, cafe or bookstore you're in," said Terry Schmidt, co-founder of NYCWireless.

Free will only get you so far when someone has to pay for the backhaul and telecom charges — and we know there is no free lunch for long.

PAUL MOZAK
Director, Business Development
Borders

Someone, however, has to pay the bills for those services--namely businesses. Commercial venues are "more than happy to pay the monthly cost to the city to draw foot traffic to their locations," said Jim Teece, president of Project A, part of the nonprofit group Ashland Unwired. Perhaps, but that doesn't mean all businesses are happy to pay for the various taxes and other government fees imposed on the utilities that sell them power, water and phone service. That is why many fear the prospect of utility-like regulation of wireless networks, noting similarities between this technology and high-speed Internet access, which has fallen under increasing government scrutiny.

Putting a price on the spectrum

Local governments are not the only entities that derive revenue from utility services. As the popularity of Wi-Fi explodes, some municipal officials and proponents of free wireless access wonder if the Federal Communications Commission will try to impose control over this unregulated spectrum, if only to generate revenue through licensing

fees.
The move is unlikely even though the FCC does have authority to make this change, largely because of the wide number of products and technologies occupying these wavelengths. Wi-Fi networks operate in a spectrum of frequencies also inhabited by such products as cordless phones, ham radios and baby monitors.

But the unregulated spectrum is quickly becoming crowded with the popularity of Wi-Fi technology. The congestion is likely to worsen as telecommunications carriers turn to this spectrum to avoid government fees imposed on other technologies, such as the so-called third-generation or "3G" networks for cellular phones. AT&T Wireless, one of the nation's largest cellular carriers, just signed an agreement with Wayport, a privately held Wi-Fi network provider, to give its subscribers wireless access at more than 485 U.S. venues.

"Companies were paying billions for the 3G spectrum space. And then along came Wi-Fi, which basically killed 3G," said Shamp of the University of Georgia. "The free, unregulated aspect of the Wi-Fi spectrum makes it greatly advantageous over 3G."

Given that attraction, any attempt to regulate the wireless spectrum would be met with fierce lobbying opposition from all the diverse manufacturing industries that use it. Nonprofit groups also oppose such regulation, concerned that government charges might be passed along to the consumer and make it more difficult to operate free networks.

"Wi-Fi is going to get cheaper and easier to deploy," said Schmidt of NYCWireless. "As people encounter these networks increasingly for free, they are going to expect them for free--as a facility service, just like AC, heating or water."

Yet not all wireless services were created equal. Executives at

T-Mobile, the wireless telecommunications company building subscription-based networks for Starbucks and Borders, question whether everyone would be satisfied with the quality of free wireless networks.

"The commitment to that quality comes at a financial cost," said Frank Ramirez, the director of business products at T-Mobile. "And what is the commitment to a venture that doesn't make money for long?" Anyone can offer fast wireless connections, he noted, but bottlenecks appear when transmissions hit the "backhaul," or the fiber connecting to the Internet. As a result, T-Mobile and others expect free "hot spots" to continue proliferating but also anticipate strong demand for paid services.

"People might be giving away free access today because it is easy and cheap to put the equipment in place, but we believe that to have a consistent, quality service, it is important to form a partnership with a national provider and to charge a fair subscription fee," said Paul Mozak, director of business development at Borders.

"Free will only get you so far when someone has to pay for the backhaul and telecom charges--and we know there is no free lunch for long," he said.

Funding sources

USDA Announces Funding Opportunities under Community Connect Grant Program; Investments Designed to Benefit Economic Growth and Education in Rural Areas

The provision of broadband transmission service is vital to the economic development, education, health, and safety of rural Americans. The purpose of the Community Connect Grant program is to provide financial assistance in the form of grants to eligible applicants that will provide currently unserved areas, on a "community-oriented connectivity" basis, with broadband

transmission service that fosters economic growth and delivers enhanced educational, health care, and public safety services. The Department of Agriculture's Rural Utilities Service has announced the opening of the application window for Community Connect Grant Program FY 2006 funding. A total of $8.9 million has been identified available for grants. USDA has established a minimum grant amount of $50,000 for FY 2006; there is no maximum grant amount for FY 2006.

Eligible entities include:

> incorporated organization,
> Indian tribe or tribal organization
> a state or local unit of government,
> a cooperative, private corporation or limited liability company organized on a for-profit or not-for-profit basis.

To be eligible for a grant, the project must serve a rural area where broadband transmission service does not currently exist (to be verified by USDA Rural Development prior to the award of the grant). The project must also serve one and only one Community recognized in the latest U.S. Census, which shall encompass any community added through the Count Question Resolution Process, as well as any Census Designated Place.

Grant funds may be used to finance:

> the construction, acquisition, or leasing of facilities, including spectrum, to deploy broadband transmission service to all participating critical community facilities and all required facilities needed to offer such service to residential and business customers located within the proposed Service Area;
> the improvement, expansion, construction, or acquisition of a Community Center that furnishes free access to broadband Internet service, provided that the Community Center is open and accessible to area residents before, during, and after normal working hours and on Saturday or Sunday. Grant funds provided for such costs shall not exceed the greater of five percent (5%) of

the grant amount requested or $100,000;
> end-user equipment needed to carry out the project;
> operating expenses incurred in providing broadband transmission service to critical community facilities for the first 2 years of operation and in providing training and instruction.
> the purchase of land, buildings, or building construction needed to carry out the project.

USDA notes these application submission requirements:
> paper copies must carry proof of shipping no later than May 15, 2006 to be eligible for FY 2006 grant funding. Late applications are not eligible for FY 2006 grant funding.
> Electronic copies must be received by May 15, 2006 to be eligible for FY 2006 grant funding. Late applications are not eligible for FY 2006 grant funding.

The full application content requirements may be found in the March 14 *FEDERAL REGISTER*. The informational flyer and application guide will be available at the USDA Community Connect web site.