

Wilson's Fiber-Optic Cable Boondoggle

*City Invests \$28 Million in a
Technology That Could Be
Obsolete Before It's Paid For*

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FAST FACTS

- The City of Wilson's \$28 million investment in a fiber-optic cable system for Internet, phone and television could be obsolete even before it is paid for, leaving city taxpayers and electric utility users to pay the balance on the 25-year bonds.
- City officials promised that fiber-optic cable users, not taxpayers, would pay the entire cost of the system, but WiMax wireless Internet technology is rapidly leapfrogging fiber-optic cable technology, making it obsolete. This would leave Wilson's fiber-optic system at a competitive disadvantage because it would provide only television and phone service on this high-capacity system.
- WiMax wireless Internet technology is similar to WiFi systems except it can achieve at much faster speeds and greater distance, currently about 10 mbps (million bits per second) and 30 miles. At this distance, the entire city of Wilson could be covered by just one WiMax installation.
- Even if WiMax technology is delayed in reaching Wilson, the Wilson fiber-optic cable system is a bad idea.
- If the system fails to attract customers or becomes obsolete, the city has promised to pay the outstanding balance on the 25-year bonds by increasing property taxes and electric rates for all Wilson

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residents, even for those who don't use the fiber-optic cable system.

- ♦ Most residential users do not benefit from the system: prices are not appreciably lower, the phone and TV quality are not significantly higher, and the high Internet speeds (100 mbps) are not needed and are too expensive (\$300/month) for the average homeowner.
- ♦ Who benefits? City officials admitted from the start that the fiber-optic cable system was an economic development (corporate welfare) strategy to be used to attract new business. Thus, large business users benefit with deep discounts for the high-speed service at the expense of average residential consumers who pay market prices for a package of Internet, phone and television.

BACKGROUND

Since 1989, the City of Wilson has been interested in establishing its own cable television service to compete with private companies such as Time Warner and satellite providers. That year, the Wilson city council set aside \$4 million for the future construction of a cable television system.¹ In 2004, the project expanded as Icon Broadband Engineering recommended the city construct a fiber-optic cable system, which would provide not only cable TV, but also Internet and telephone services to Wilson's residents and businesses.² In 2006, the city council unanimously approved the construction of the fiber-optic network for its internal governmental use. They also approved additional money should they decide to expand the network for citywide use.³ Councilwoman Gwen Burton even said that not providing the technology to the rest of the community was comparable with "developing penicillin and not sharing it with others."⁴

This plan has come to fruition recently as Wilson began selling services from its "Greenlight" network. By 2010, the city expects to have the cable installed in all areas within the city limits. The project has cost \$28 million in initial investment,⁵ and the city

expects operation and maintenance costs of \$5.6 million for the first year.⁶

THE WiMAX THREAT TO FIBER-OPTIC CABLE

Greenlight's city council boosters mistakenly believe that fiber is a cutting-edge Internet technology, but the wireless technology WiMax may make it obsolete. WiMax (Worldwide Interoperability for Microwave Access), a wireless Internet technology similar to WiFi that is rapidly leapfrogging fiber-optic cable, works like WiFi but has much higher speeds and longer distance. It has the ability to cover a 30-mile radius, compared to WiFi's 100 feet.⁷ Its speeds are comparable with those of many existing cable and DSL systems, and those speeds promise to increase dramatically as the technology advances.

In October, Baltimore became the first city in the United States to have access to a WiMax system. Sprint is offering a WiMax service, called Xohm, for \$30 per month with average speeds of 2 to 4 mbps, while surfing speeds can reach 10 mbps. Technology improvements promise to increase these speeds dramatically. By next year, Sprint hopes to connect Chicago, Portland, Philadelphia, Washington, and Dallas/Fort Worth.⁸ Thus it is just a matter of time until Wilson residents have access to this advanced wireless technology.

As more and more Internet users opt for mobile laptop computers, they seek freedom from stationary cable access to the Internet, so demand for wireless connection to the Internet is increasing. This development will leave Wilson's expensive fiber-optic cable system, Greenlight, far behind, but the bonds used to purchase the obsolete system will still have to be paid over the next 25 years, despite dwindling subscribership to Greenlight. City officials have therefore indicated that they would have taxpayers pay for the bonds with higher property taxes and customers of the city's electric utility monopoly pay for them through higher electric rates.

Greenlight's high-capacity fiber-optic system would be left providing homeowners with cable TV and phone service while

TABLE 1. CITY-OPERATED FIBER-OPTIC CABLE SYSTEMS

<i>City</i>	<i>Median Household Income</i>	<i>Population/ Households</i>	<i>Initial Cost of Cable System</i>	<i>Result</i>
Wilson, NC	\$31,169	Pop.: 47,380 Hhd.: 18,660	\$28 Million	
Ashland, OR	\$32,670	Pop.: 19,522 Hhd.: 8,537	\$5.2 Million	Sold cable TV and phone business
Provo, UT	\$34,313	Pop.: 105,150 Hhd.: 29,192	\$39.5 Million	Sold
Lebanon, OH	\$46,856	Pop.: 16,962 Hhd.: 5,887	\$1 Million*	Sold

* In 1997, Lebanon approved \$1 million in initial construction spending. The city borrowed \$3.5 million in 1998, the year before the city began selling services.

they looked to a WiMax system for better and mobile Internet service. As discussed in detail below, the benefits of Greenlight's high capacity and high speeds are clearly for large businesses, not the average homeowner. It will also become clear that the primary goal of the city's fiber-optic cable system is to attract new businesses to Wilson, with consumers, taxpayers, and electricity consumers paying the bill.

But even if WiMax availability for Wilson is delayed for some time, the council's decision to get the city into this highly competitive and rapidly changing technology business was a bad decision from the start.

WHO PAYS?

Boosters on the city council and in the city bureaucracy constantly claim that subscribers will pay all of the costs. City manager, Grant Goings, has said, "We said from day one — our business plan states this; our financing shows this — this system is subscriber revenue. It's not tax dollars running fiber-optic systems."⁹ While it is the city's *intent* for subscribers, not taxpayers, to pay for the system, it is unlikely that it will work out that way. According to the city, the system needs 30 percent of its approximately 18,000 households to subscribe for the subscribers to pay for the system.

City-owned fiber-optic cable systems in other parts of the country failed to attract enough subscribers to pay for their systems.

Lebanon, Ohio; Provo, Utah; and Ashland, Oregon installed fiber-optic cable systems intending for subscribers to pay for the costs. These cities all have median household incomes higher than Wilson, suggesting that they are better situated to attract subscribers (see Table 1). All of them, however, had problems using subscriber revenue to pay for their systems. To cover their systems' ever-growing operation deficits, they either hit property taxpayers or city electric service customers. Unable to stem those deficits, the cities all eventually sold their systems.¹⁰

If Wilson proves unable to raise enough revenue from subscribers, which is likely, the city's backup plan is to increase property taxes and raise electricity rates at the city's electric monopoly to pay for the fiber-optic cable system.

According to the City of Wilson's application to the State Treasurer for approval of the bonds:

Should the fiber optic project not perform as expected [i.e., attract enough subscribers], the debt service could be repaid through other sources. For example, an electric rate increase of approximately 1.4% would be needed; a [property] tax rate increase of 5.6 cents would be needed; or, some combination of the two could be put in place. These rate increases are not considered by the city to be unreasonable if they become necessary.¹¹

TABLE 2. ELECTRICITY RATES IN NORTH CAROLINA

<i>Provider</i>	<i>Basic Customer Charge</i>	<i>July-October Monthly Residential Rate</i>	<i>November-June Monthly Residential Rate</i>
Wilson Energy	\$8.30	\$0.14628 per kWh	\$0.13338 per kWh
Progress Energy	\$6.75	\$0.09678 per kWh	\$0.08678 per kWh
Duke Energy	\$7.87	\$0.077048 per kWh for first 350 kWh, \$0.080946 for all over 350 kWh	\$0.077048 per kWh for first 350 kWh, \$0.080310 for all over 350 kWh

Sources: www.wilsonnc.org, www.progress-energy.com, and www.duke-energy.com.

In other words, property taxpayers in Wilson and ratepayers in the city's electric monopoly — who already pay some of the highest rates in the state (see Table 2) — will be made to pay higher rates to subsidize the fraction of city residents actually using the city's Greenlight service.

In fact, Wilson has already used its electricity monopoly to subsidize the fiber-optic system. In 1998, the city used \$4 million from the city's electric utility fund to start the system. This is exactly what happened when Ashland, Oregon's fiber-optic system could not secure enough subscribers. Ashland slapped a \$7.50-per-month fiber-optic network fee on all electricity customers whether or not they were using the cable system.

If Wilson fails to attract enough subscribers to Greenlight, it's a strong possibility that city leaders would adopt such a cross-subsidy scheme, which would result in lower-income electricity ratepayers subsidizing higher-income Greenlight users.

PRICE COMPETITION

City officials are basing its claim that "subscribers will pay" on the 2006 report from the consulting firm of Uptown Services, LLC. That report assumed that the city's price structure would be seven to 13 percent below the private-sector competitors.¹² So if Greenlight were to offer lower prices than its competitors, the subscriber rate of 30 percent to pay for the system would seem realistic. Unfortunately, as Table 3 (next page) shows, Greenlight's price for the basic package for phone, cable TV, and Internet is more than Embarq's price and about the same as Time

Warner's — and while the service levels are different, some customers will opt for the lower price and slightly lower levels of service offered by the private-sector providers.

FASTER INTERNET SPEEDS

City officials are banking on the faster Internet speeds, which are above the 10 mbps speeds offered in the basic package, to sell the system. After all, Greenlight's cable TV and phone service are not of appreciably greater quality than the competition's, and the city doesn't provide any technical information to show that they are better.¹³ Selling the system based on the higher speeds for fiber-optic cable is qualified by two factors, however.

First, the higher speeds are cost prohibitive to the average homeowner. Greenlight's price for 100 mbps, for example, is almost \$300 per month, a capacity and a cost that is primarily for the large business user. On the other hand, \$300 per month for a business user is significantly below the rates charged by Greenlight's competitors. Time Warner business customers pay \$424.95 a month for speeds one-tenth that of Greenlight's.¹⁴ A conservative estimate for 100-download and 100-upload mbps connection would be about \$1,000 per month. As discussed below, such a pricing structure would seem to be yet another subsidy offered to large businesses at the expense of the average homeowner.

Second, to take advantage of Greenlight's Internet service, the homeowner must have a computer. The U.S. Census Bureau estimates that 55 percent of homeowners in North Carolina would have computers in 2007.¹⁵ Because Wilson's households have

TABLE 3. PRICE STRUCTURES AND FEATURES OF GREENLIGHT AND COMPETITORS

<i>Service*</i>	<i>Greenlight Monthly Cost</i>	<i>Time Warner Monthly Cost</i>	<i>Embarq with Dish Network Monthly Cost</i>	<i>Direct TV Monthly Cost</i>	<i>Hughes Net Monthly Cost</i>
Standard Cable	\$46.95 (81 channels)	\$49.85 (74 channels)	\$37.99 (100+ channels)	\$34.99 (150+ channels)	—
Basic Phone†	\$34.95	\$49.95	\$44.95	—	—
Basic Internet§	\$34.95 (10/10 mbps)	\$46.95 (10/786 kbps)	\$29.95 (786/384 kbps)	—	\$59.99/\$79.99 (1 mbps upload / 128 kbps download)
Basic Package	\$99.95	\$99.95	\$87.89	—	—

* Prices and features as of August 13, 2008.
† Telephone features are similar but not the same.
§ Greenlight's internet service provides 10 mbps upload and download speeds. The upload speed is a significant advantage for some users who send very large files such as multiple or large format photos. For average users, it is much less important.

a median income lower than the statewide median household income, the percentage of households with computers in Wilson is probably lower. If, for purposes of illustration, we assume that 50 percent of Wilson's households own computers, then the number of subscribers to Greenlight's Internet service the system would need would go from 30 percent to about 60 percent of the households with computers. That shows how unlikely is the claim that subscribers alone would fully support the cost of the system.

WHO BENEFITS?

It is clear that the Greenlight system offers the average homeowner very little. The price for the basic three-service package is the same or more than its competitors. Most homeowners cannot afford and do not need the faster Internet speeds, and the phone and cable TV services are not appreciably better than those offered by private-sector competitors. If average homeowners see no appreciable benefit but are likely to face higher bills to cover the system's losses, either in higher electric rates or higher property taxes or both, then who *does* benefit from this system?

It has been clear from the start that the city's promotional appeals directed to homeowners are a cover for another city corporate welfare plan. City officials justify the project by saying the fiber-optic cable network will encourage economic development in the

area. The "Necessity" section of the city's "Application for Approval of Installment Purchase Contract" to the Department of the State Treasurer states, "The city has come to realize the potential economic development benefits that could be derived by providing high-speed broadband services throughout the city."¹⁶ The fiber-optic lines will be attractive to large businesses that can afford the nearly \$300 per month for the service,¹⁷ which as discussed above is a price far below market levels. The primary beneficiaries are large businesses, not homeowners.

In addition, some city officials believe the upgraded technology is essential for making Wilson attractive to new businesses. City Manager Grant Goings has said, "Something that new industries are going to want to know is what our fiber looks like."¹⁸ It is uncertain — but not out of the question — whether Wilson will offer deep discounts on their fiber-optic system to attract new businesses as part of an economic development incentives package. Mr. Goings denies that the city would do this, but circumstances often change when city officials are confronted with the possibility of a new large business moving into the city. If and when discounts are offered, they would be funded through higher Greenlight rates to homeowners, higher electricity rates, higher property taxes, or all three.

CONCLUSION

Predicting the problems with the city's fiber-optic system was not difficult. A *Wilson Daily Times* article from 2007 ran the numbers and found they came up short:

The math is simple – 30 percent of 18,522 households equals 5,557. Multiply that by a \$90 basic TV, Internet and phone bundle, times 12 for a year of service, and the city is looking at \$6 million in annual revenues. Some people would surely get packages with more cable channels and faster Internet speeds, so that's more money.¹⁹

The first year's expected operating costs is \$5.6 million²⁰ and the annual debt repayment is \$1.8 million,²¹ however; the \$7.4 million in expenses would not be fully covered by \$6 million in revenue, which would result in a \$1.4 million loss per year. Obviously this loss would have to be covered by city funds from other sources, most likely from electricity rate increases, property tax increases, or both.

Rather than falling for rosy reports from consultants, guesses about consumer behaviors, and overestimations of the city's ability to deliver a new technology in a highly competitive market, city leaders should have considered the failure of fiber-optic cable systems in other cities as better indicators of how a fiber-optic cable network would fare in Wilson. The fact that WiMax wireless technology could make fiber-optic cable obsolete is further warning against cities risking taxpayer money in rapidly changing technological ventures.

By investing millions of dollars in this telecommunications project, Wilson officials are irresponsibly risking taxpayer money. The city should have stuck to managing its essential services, but since it is fully invested in Greenlight, all Wilson residents can do now is hope it will be able to avoid the downfalls of other city fiber-optic systems so they don't end up facing higher tax burdens.

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NOTES

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11. City of Wilson, "Application for Approval of Installment Purchase Contract," letter to the North Carolina Department of State Treasurer, Attachment 3, Item 7, Feb. 5, 2007.
12. Matthew Shaw, "Competition for cable," *Wilson Daily Times*, Sept. 23, 2006.
13. See the Greenlight web site, www.greenlightnc.com.
14. See the Time Warner Cable web site, www.twcbc.com.
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18. Matthew Shaw, "City to expand fiber network," *Wilson Daily Times*, Aug. 18, 2006.
19. *Op. cit.*, note 1.
20. *Op. cit.*, note 6.
21. *Op. cit.*, note 2.