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# FRAME-UP

## An Analysis of Arguments For and Against Municipal Wireless Initiatives

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*Dozens of North American cities have announced plans to build and manage wireless broadband networks. This textual analysis is a side-by-side comparison of documents used to build up and break down the case for municipal Wi-Fi (shorthand for wireless fidelity). It examines how officials in Philadelphia—and in Atlanta and Minneapolis—use “public good” principles to frame their arguments for a potentially massive taxpayer investment in wireless technology, whereas the telecommunications industry frames city-run networks as risky and unnecessary. The industry and municipal documents frequently contradict and challenge each other—a reality that highlights the manner in which information is manipulated to “prove” even clashing arguments and influence the public debate over Wi-Fi policy.*

**Keywords:** *framing theory; Internet; wireless; political economy; digital divide*

**Advocates of these initiatives argue that just as municipalities routinely build roads, sewer lines, and power grids, local governments are obligated to ensure their residents have high-speed access to the Internet.**

Dozens of North American cities—Philadelphia, San Francisco, Chicago, Atlanta, Minneapolis, and Vancouver, and several hundred smaller towns—have announced plans to build and manage wireless broadband networks. Today, municipal Wi-Fi (shorthand for wireless fidelity) carries the same cachet as posh sports stadiums and swanky convention centers. Cities are betting that their hefty investments will help attract tech-savvy businesses, encourage tourism, and project a hip image capable of wooing young professionals (Fasenmaier et al., 2004; Fuentes-Bautista & Inagaki, 2005; Settles, 2006; Taiara & Hirsch, 2005). Currently, about 130 municipal utilities offer some form of Internet access (Clark, 2005). Advocates of these initiatives argue that just as municipalities routinely build roads, sewer lines, and power grids, local governments are obligated to ensure their residents have high-speed access to the Internet. Another common justification for the need is that wireless networks can improve the delivery of municipal services, particularly in an emergency. Public safety officials point to the appalling response to Hurricane Katrina victims in the Gulf Coast as proof of the need for improved emergency systems (Hurt, 2005).

But perhaps the most frequent claim staked by officials pushing for municipal Wi-Fi is that ubiquitous broadband access can help shrink the digital divide. Residents cut off from the World Wide Web are at a disadvantage in terms of educational, professional, and even social opportunities. “Wireless Philadelphia will be our city’s bridge across the digital divide, helping to ensure all our citizens have the opportunity to compete effectively in the knowledge economy of the 21st century,” said Philadelphia Mayor Street (2005). His administration has committed to building a 135 square mile wireless “cloud,” which means Philadelphia is poised to become the largest completely wireless municipality in the country. As of 2004, about 42% of Philadelphia’s 1.5 million residents lacked Internet access in their homes. Of

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those Philadelphia residents who subscribed to an Internet service provider (ISP), fewer than 100,000 of them had a broadband connection (Fasenmaier et al., 2004).

These statistics provide context for the primary questions explored in this article. Specifically, the research seeks to answer: How do the proponents of municipal wireless networks frame their arguments for such a potentially massive taxpayer investment? And how does this presentation of the issues compare to the manner in which opponents of these initiatives frame the issues? The research questions are significant for multiple reasons. As the trend of establishing municipal Wi-Fi networks continues to spread around the globe, local governments will need to weigh the benefits and risks of such massive undertakings. Similarly, taxpayers and potential network subscribers themselves can make better-informed decisions if they understand the divergent philosophies coloring the debate. By conducting a side-by-side comparison of studies used to build up and break down the case for municipal Wi-Fi, this article aims to contribute to that policy debate.

This study focuses primarily on Philadelphia's experience developing a wireless network. However, it references documents from two other municipal Wi-Fi projects—in Minneapolis and Atlanta—for the purposes of making comparisons and stressing the broader implications of the study. These two documents also illustrate how Wireless Philadelphia has become a model for municipal initiatives.

This qualitative research is grounded in framing theory. In communication theory, the concept of framing grew out of the agenda-setting tradition. But it moves beyond that research by highlighting the spirit of the issues under discussion rather than a specific topic (Kahneman & Tversky, 1979). This study assumes that how policy makers and telecom companies present, or frame, municipal wireless networks has significant influence on public support for these investments. It is hoped that the methodology used will serve as a catalyst for new approaches to studying public good, particularly in the context of the spin machine that inevitably accompanies initiatives that pit governments against corporations.

### **The Legislative Debate**

Soon after Philadelphia began touting its plans to build a Wi-Fi network, telecommunication giants Verizon and Comcast waged a fierce battle to kill the Wireless Philadelphia initiative. Flexing their political muscles, the companies convinced members of the Pennsylvania General Assembly to introduce legislation prohibiting municipalities from offering telecom services. The language was buried in a complex 30-page bill, H.B. 30, drafted by industry lobbyists. The measure gives telephone companies financial incentives to hasten the rollout of broadband networks, a deal with the potential to net about \$3 billion for Verizon (Parker, 2004; Shaffer, 2005). Just days before a scheduled vote in the state Senate, however, Philadelphia wireless advocates discovered the provision and began lobbying against it. Feeling the heat, lawmakers amended the bill to allow broadband services operating by January 1, 2006, to continue. The revision bought Philadelphia enough time to get its project going (Levy, 2004; Parker, 2004; Shaffer, 2005). The compromise, however, left every other municipality in Pennsylvania high and dry. The passage of H.B. 30 made Pennsylvania the 15th state to bar or restrict municipalities from providing telecom services.

At the national policy level, U.S. Rep. Pete Sessions is sponsoring a bill in the House of Representatives, H.R. 2726, that would prohibit municipal governments "from offering telecommunications, information, or cable services except" in markets where private companies have failed to provide services (Library of Congress, 2005b). Sessions, a Texas Republican, is a former SBC executive and owns more than \$500,000 in company stock options (Sessions, 2006). SBC, which recently merged with AT&T, is a major player in the U.S. phone and Internet industries. In the opposing corner, U.S. Senators John McCain (R-Arizona) and Frank Lautenberg (D-New Jersey) introduced the Community Broadband Act of 2005. That Senate legislation, S. 1294, would permit municipalities to deploy high-speed Internet networks (Library of Congress, 2005a).

## Literature Review

### PUBLIC GOOD LITERATURE AND THEORY

Regulatory and policy issues do not hang neatly on any one theoretical framework. However, because issues of wireless broadband access are intrinsically wrapped up in concerns over civic engagement and bridging the digital divide, both public good and public sphere theories apply to this issue.

Philosopher and psychologist Dewey (1954) fretted over a lack of civic engagement when he characterized the public as “uncertain and obscure” (p. 120). As a result, he wrote, all-powerful political parties fill the vacuum and pull the strings of government and corporations. Mead (1934) stressed a similar need for public participation when he referred to conversation as the “essence of human endeavor” (p. 23). Decades later, contemporary communication theorists continue to address these same concerns. Without civil society, political scientist Barber (1998) wrote, “Citizens are homeless: suspended between big bureaucratic governments which they no longer trust . . . and private markets they cannot depend on for moral and civic values” (p. 45). Where the public square once stood, he asserted, “there are only shopping malls and theme parks and not a single place that welcomes the ‘us’ that we might hope to gather from all the private you’s and me’s” (p. 45). According to Barber’s theory on public good, strong public institutions are necessary for citizens to actively self-govern and settle their own conflicts. Municipal Wi-Fi advocates hope that Internet clouds can function as this strong foundation for public involvement.

Habermas (1962) developed the initial theory characterizing the public sphere. He studied how these spaces emerged during the time of the Enlightenment, and during the American and French Revolutions, to promote political discussion and debate. Habermas described the public sphere as an arena where citizens demand freedom of expression, due process, and other fringe benefits that accompany democracy. Before the Internet, a typical forum for such engagement was a coffeehouse or literary salon. Of course, Habermas’s theory takes on new dimensions when applied to the potential of ubiquitous Internet access promised by municipal Wi-Fi. The World Wide Web extends Habermas’s concept of the public sphere as a domain for open conversation. Because anyone can post to the Internet anonymously, it is a space where public policy issues may be debated frankly and personal opinions expressed honestly, without fear of retribution. Ideally, this discourse will expand civil society (Habermas, 1962).

Sociologist Castells (1996, 1997, 1998) contended that key functions of society—whether they be economic, financial, or communication related—are structured in networks that use the Internet to transcend time and space. Therefore, those who continue living only within traditional geographic and temporal boundaries are excluded from the network society and the political realm. Essentially, these people become part of a “fourth world” (Castells, 1997) characterized by inequality and disempowerment. According to Castells, it is nearly impossible to separate power from emerging communication technology. One cannot participate in the global network society, he wrote, without access to these modern communication systems. Again, the rationale behind municipal Wi-Fi projects reflects this belief that residents who are not connected to technology—specifically, to the Internet—are likely to be marginalized.

Similarly, new media scholar Van Dijk (1999) concluded that information technology-savvy people reap economic, political, and financial benefits. Web sites and e-mail conversations can lead to increased knowledge for those with access, whereas those who lack access will likely wind up with fewer opportunities in life. But in Van Dijk’s (2004) later writing, he questioned the theory that “digital exclusion” automatically leads to social exclusion, on the grounds that the “old media” remains relevant to participating in contemporary society. Along these same lines, research conducted by Van Dijk and Hacker (2003) played down the notion that political engagement on the Internet translates into “instant democracy.” Municipal Wi-Fi opponents stress a similar point. They argue that simply because people check out Web resources, they do not automatically understand the issues better or use new information (Balhoff & Rowe, 2005).

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Since the advent of the Internet, numerous communication researchers have built on traditional public sphere and civic engagement theories to produce studies exploring how the information superhighway impacts community participation. For instance, Dutta-Bergman (2005) combined the two concepts of Internet access and community participation to explore digital divide issues. She found that not only are people living in areas with Internet access more likely to be involved in their communities, they are more satisfied with their communities.

When compared to service provided by phone cooperatives, low-cost Internet access made available through community Wi-Fi networks may possess the potential to further societal goals (Sandvig, 2004). Grassroots Wi-Fi cooperatives operate on the same principle as telephone co-ops that formed in rural America prior to 1940, when commercial phone companies neglected to provide service to sparsely populated communities. Just as stakeholders adapted technology to meet their own goals back then, small-scale Wi-Fi co-ops are currently doing the same today. Sandvig concludes that community wireless networks function as more than ISPs. They generate social ties for their members and promote technical knowledge. Still, a need exists to implement public policies that help create wireless co-ops in underserved communities and meet “society’s needs” (p. 598), such as educating disadvantaged residents.

It is difficult to prove that either political activism or community participation increase as a result of Internet access (Moy, Manosevitch, Stamm, & Dunsmore, 2005). Previous studies have found weak, even negative associations between time spent surfing the Web and traditional measures of civic engagement (Dahlberg, 2001). But Moy et al. (2005) found that using the Internet to seek information, to e-mail with friends and colleagues, to practice political advocacy on the Web (e.g., writing an elected official), and to pursue community-based activities all appear “empirically linked” (p. 580) to civic engagement.

If one considers economic growth to be a public good, then broadband Internet access certainly fits in with Barber’s (1998) vision. Between 1998 and 2002, communities hosting mass-market broadband services experienced more rapid growth in employment and new businesses than cities without high-speed Internet access. Research findings also included evidence that property values increased in markets with access to broadband service (Lehr, Osorio, Gillett, & Sirbu, 2005).

As lawmakers develop a regulatory framework for the Internet, they must view it as a tool that promotes access and deliberative democracy (Holman & McGregor, 2005). Or, worded more concisely, policy makers must view the Internet as a tool of the “commons” (p. 267). Policies that promote private ownership and control of information may threaten user access to both Internet infrastructure and content, Holman and McGregor (2005) write. By contrast, the commons framework asserts that network access itself can be regarded as a “public good” (p. 288) capable of fostering community participation. People who push for positive change in the world—from educators and artists to religious leaders and union organizers—could use the Internet to “revitalize a nation’s democratic culture” (p. 288). But this may be realized only if policy makers resist pressure to hand over both the flow and content of information to private media corporations, according to Holman and McGregor. Instead, regulators must consider a commons framework that will preserve the access rights of users.

Silverstone (2004) made a similar point in his essay *Regulation, Media Literacy and Media Civics*. He noted that, ironically, regulatory discourse typically fails to examine why regulation is necessary in the first place. Rather than focus on principles of social action or media representation, telecommunication regulations are created to benefit governments and the media industry. Humans are “increasingly dependent” (p. 443) on mediated images and words to understand the vast world beyond their daily reach, Silverstone wrote. Therefore, he argued, regulations should shift toward critical social and cultural practices that encourage full participation in the public sphere.

These earlier studies and essays addressing public good and civic engagement lead to the primary question driving this research on government-operated Wi-Fi networks. The following section of this literature review addresses framing theory, which is later central to the method section of this article.

**Grassroots Wi-Fi cooperatives operate on the same principle as telephone co-ops that formed in rural America prior to 1940, when commercial phone companies neglected to provide service to sparsely populated communities.**



### DEFINING FRAMING THEORY

This study relies on framing theory to compare findings generated by Wireless Philadelphia, Wireless Atlanta, and Wireless Minneapolis to several major studies funded by the biggest players in the telecom industry (including local broadband providers Comcast and Verizon, both companies with strong incentive to squash competition in the Philadelphia media market). This theory recognizes that audience members accept one meaning of a situation over another depending on how it is framed. Clearly, how a policy matter, such as municipal broadband, is communicated can deeply influence how the public comprehends and interprets it. According to Fairhurst and Starr (1996), three main components compose framing: language, thought, and forethought. Language helps people retain new information and affects perception. Before choosing specific language, however, speakers must consider their own interpretive frameworks. Of course, opinion makers are often put on the spot, forcing them to quickly present a deliberate point of view. This skill is possible only if one has the forethought to anticipate framing opportunities (Deetz, Tracy, & Simpson, 2000).

The reports analyzed for this study were released between February 2004 and February 2006 as the Wi-Fi debate began attracting mainstream attention. Although the studies generated by both industry and local governments were meant to resonate with similar audiences, their intended effects could not be more disparate. All three municipal documents—from Philadelphia, Minneapolis, and Atlanta—employ positive language, an upbeat tone, and optimistic interpretations of data to make a strong case in support of the need for citywide Internet networks. They do not dwell on financial or security risks that accompany any major technology initiative. By contrast, the telecom-funded studies begin to plant doubt even in their ominous titles, *Municipal Broadband: Digging Below the Surface* (Balhoff & Rowe, 2005) and *Government Entry into the Telecom Business: Are the Benefits Commensurate with the Costs?* (Lenard, 2004). My analysis looks at a third report funded by the New Millennium Research Council (2005), bluntly titled *Not in the Public Interest: The Myth of Municipal Wi-Fi Networks*. All three industry reports use similar techniques—an authoritative tone, worst-case scenarios, strategic omissions, and pessimistic interpretations of data—to tear down the case for government-run Wi-Fi.

Industry could have framed the debate in terms of loss to its own customer base or fears of declining profit margins, as these are true factors driving incumbent ISPs to oppose municipal wireless networks. But, given that such an argument is unlikely to elicit public empathy for Fortune 500 telecom giants, industry chose a framework nearly all residents care about—responsible spending of their tax dollars. On the other side of the debate, municipalities chose to frame arguments for city-operated networks around increased community benefits. By constructing their argument on these grounds, the cities stress quality of life issues that are of primary importance to voters.

The manner in which communication scholars use framing theory varies. However, all theorists recognize that stakeholders play a powerful and obvious role in defining terms that affect the public. Stakeholders also help determine the extent to which these definitions find their way into policy documents. This research aims to demonstrate how competing interests select terms and themes to underscore their positions on municipal wireless networks can influence decisions and regulations. As Murphy and Maynard (2000) aptly phrase it, “How an issue is rhetorically positioned has a substantial impact on the policy outcome. . . . Each side in a policy dispute ‘works to define the issues and conflicts in ways that both advance its ideological position’” (p. 134).

Structuring is discursively enforced through political actors who manipulate symbols to “spin” (p. 35) issues or events (Pan & Kosicki, 2001). In other words, political actors develop a strategic discourse capable of skewing the flow of information and opinions in public deliberation toward their point of view. Pan and Kosicki contend that one cannot avoid framing an issue when participating in public deliberation. The authors consider two questions relevant to this textual analysis of municipal Wi-Fi documents. First, they ask how people develop the terms—or the signification devices of the frames—employed during a public debate. Second,

they explore how people “contest and struggle” (p. 36) over various frames (or perspectives) in the public arena.

This definition of framing theory provides context for the following section of this article, which describes how I examined primary texts in the debate over wireless Internet in Philadelphia and in Minneapolis and Atlanta.

### Method: Textual Analysis

Many of the obstacles standing in the way of dozens of proposed municipal wireless initiatives are political rather than technical. In convincing the public that Wi-Fi networks are sound public investments, officials typically stress social benefits such as increased educational opportunities and civic participation. On the opposite side of the spectrum, telecommunication companies wage public relations wars to convince taxpayers and city council members that government-run telecom systems are huge financial risks likely to stifle competition.

With related theoretical considerations in mind, I conducted a textual analysis of six primary documents generated in the months leading up to official announcements of municipal wireless initiatives. My analysis primarily aimed to answer two questions: (a) How do the proponents of municipal wireless networks frame their arguments for such a potentially massive taxpayer investment? (b) How does this presentation of the issues compare to the manner in which opponents of these initiatives frame the issues?

By comparing how both proponents and opponents of city-run networks framed the issues, I hoped to shed light on the influence texts exert over public policy decisions. This analysis highlights how politics often trumps sound policy when local governments attempt to roll out citywide Wi-Fi networks. Although I was certainly interested in examining how the debate evolved in Philadelphia, my larger goal was to extend these research findings beyond one specific case study. Therefore, this textual analysis aims to explore how the two primary competing interests—telecommunication companies and local governments—strategically debate pending municipal Wi-Fi projects around the nation.

Local governments have conducted extensive research to justify investments in Wi-Fi, whereas industry released an equal number of contrasting studies. Because the Wireless Philadelphia plan—dated February 9, 2005—is a substantial document, I chose to analyze it for this study. For comparison sake, I also examined the Wireless Minneapolis business plan, dated February 16, 2006, and a PowerPoint presentation created by the city of Atlanta that touts goals for a municipal network. I then analyzed parallel arguments laid out in three studies conducted by the telecom industry. These include *Municipal Broadband: Digging Below the Surface*, a 209-page report focused on defeating Wi-Fi in Philadelphia (Balhoff & Rowe, 2005). I also examined a February 2004 study critical of government entrance into the telecom business. Thomas Lenard, vice president of a “market-oriented think tank” (Progress & Freedom Foundation, 2006) supported by BellSouth, Time Warner, Verizon, AT&T, and about 40 other telecom companies, authored this report. Finally, I looked at a policy study created by the New Millennium Research Council, which bills itself as an independent think tank staffed by scholars. But a closer investigation reveals that the council is a subsidiary of the public relations firm Issue Dynamics Incorporated, whose client list includes key corporations attempting to squash municipal broadband: Verizon, SBC, and Comcast (Chen, 2005).

My textual analysis considered biases inherent in the ways both industry and municipalities frame the need for government-operated Wi-Fi networks. *Bias* is defined as word choices that imply “an unreasoned and unfair distortion of judgment in favor of or against a person or thing” (Merriam-Webster, 2006). My analysis takes note of positive and negative predictions and assumptions from all stakeholders. In addition, I examine arguments surrounding the digital divide because the phenomenon is so frequently cited in policy discussions about municipal wireless initiatives. The major themes in both reports relate to the reliability of Wi-Fi technology, potential security breaches, and the best financial models for wireless networks. The following analysis examines in detail how both sides framed these issues.

## Findings: Opposite Ends of the Spectrum

### IN SUMMARY

**Municipalities argue that citywide Wi-Fi networks will improve quality of life for city residents, tourists, and business people. The industry reports counter this assumption by questioning how broadband access can possibly fulfill the grand expectations laid out by elected officials.**

As detailed in the following sections, several themes clearly emerged during my text analysis. For instance, municipalities argue that citywide Wi-Fi networks will improve quality of life for city residents, tourists, and business people. The industry reports counter this assumption by questioning how broadband access can possibly fulfill the grand expectations laid out by elected officials. My analysis also reveals that although municipal wireless plans stress the economic and social benefits of Internet access, telecom representatives place equal emphasis on financial risks. Another theme that became apparent is that cities would like to preempt criticism about network security; again, industry studies take the opposite view and exploit network security as a weak spot. Finally, municipal wireless plans argue that Wi-Fi will help close the digital divide, whereas ISPs attempt to cast doubt on the public good aspects of such an investment.

### QUESTIONING MOTIVES AND HONESTY

A primary theme running throughout the Wireless Philadelphia report is that ubiquitous Wi-Fi will improve quality of life for city residents and business owners. The Wireless Philadelphia plan attempts to create this perception by suggesting that multiple segments of the local population will benefit from this “transformative technology” (Wireless Philadelphia Executive Committee, 2005, p. 10). For instance, the study asserts that Wi-Fi will provide a competitive edge for businesses locating in Philadelphia, and that it is “an indispensable tool” (p. 11) for tourists who want to look up cultural institutions and business travelers seeking to download maps. Wi-Fi is a “needed investment” (p. 10) if Philadelphia hopes to improve delivery of services, including immediate information access for police officers and firefighters. Invoking the public good frame, the Wireless Philadelphia report asserts that an Internet cloud is “an essential element” (p. 10) to improve quality of life for the city’s workers and residents.

In this same vein, Atlanta officials claim a wireless network there will provide “high value access” and improve quality of life for local residents (Atlanta Wireless, 2006). The technology, according to the city of Atlanta, has the potential to lower government costs while bolstering services at the same time. Minneapolis purports Wi-Fi will do everything from make city workers “highly effective” (Wireless Minneapolis, 2006, p. 32) to “enhance safety and efficiency” (p. 34), “facilitate economic development” (p. 35), and “deliver consistently high quality City services at a good value to our taxpayers” (p. 6). These quotes demonstrate the public good principles used by city officials to frame the Wi-Fi debate.

By contrast, all three telecom industry studies use language that exploits the common perception in American culture that the government is not to be trusted and aim to make readers question cities’ stated public good goals.

The report by industry consultants Balhoff and Rowe (2005) is skeptical of cities touting altruistic motivations for investing in wireless networks. Although proponents of municipal Wi-Fi may point to “the digital divide, social outreach and insufficient service by incumbents” (p. 59) as drivers for providing broadband access, these critics charge that “an honest assessment” reveals local officials are simply looking for a money-making opportunity. (The irony of this statement, of course, is that the incumbent high-speed ISPs that financed this report have every reason to worry that muni-wireless will cut into their market shares.) The Balhoff and Rowe study also uses framing to suggest that municipally controlled telephone, cable, and Internet networks attempt to conceal monetary losses by hiding their financial records. According to this telecom industry study, “In some instances, the municipality has experienced financial problems and is reluctant to provide detail” (p. 32), or perhaps elected officials “see detailed reporting as a political risk, especially because of the high cost of broadband initiatives” (p. 32).



The report published by the Progress & Freedom Foundation (2006) similarly frames the argument around taxpayer protection. The foundation contends that municipalities currently operating telecom systems rack up debt. These ventures “will be an indefinite drain on . . . taxpayers” (p. 2), thus forcing residents to pay more for other city services. This industry analysis also attempts to shoot down the perception that private ISPs do not offer broadband in all neighborhoods. “The fact that local telecom markets are increasingly competitive undermines much of the rationale for government entry and makes such entry financially very risky” (p. 4), Lenard (2004) alleges. The Progress & Freedom Foundation goes on to assert that municipally run telecom networks actually violate the “well-accepted principle” (Lenard, 2004, p. 3) that government should not compete with private industry. Government-owned networks are exempt from paying taxes and are not subject to antitrust regulations, it points out.

On the flip side, Wireless Philadelphia frames its mission as a struggle against powerful forces in the telecom industry—forces willing to go to any length to kill the initiative yet lacking interest in building a citywide Wi-Fi network itself. Several passages in the Wireless Philadelphia business plan refer to H.B. 30, the bill passed in the Pennsylvania General Assembly that nearly squashed Philadelphia’s plans to build a wireless network. “The city has already overcome a major hurdle in delivering a low-cost, ubiquitous broadband network,” according to Wireless Philadelphia Executive Committee (2005, p. 8).

In pushing the idea of the digital divide, Philadelphia officials are undoubtedly framing the issue as motivated by public good goals. The business plan employs language it hopes will persuade taxpayers that Philadelphia’s disadvantaged population will be deprived of educational and social opportunities without government action. Wireless Minneapolis (2006) similarly argues that local broadband needs “have not been met by many private sector providers in an adequate manner” (p. 8) and that deployment is “highly unlikely” (p. 8) any time soon.

## TAKING A RISK

Although the municipal wireless plans stress the economic and social benefits of ubiquitous access to the Internet, they construct their arguments to downplay financial risks. Wireless Philadelphia repeatedly mentions that the city is taking a cautious approach to any claims that Wi-Fi will generate revenue. Specifically, the nonprofit makes a conscious effort to mention that revenue projections are based on “conservative assumptions” (Wireless Philadelphia Executive Committee, 2005, p. 37). The city’s predictions about capital expenditures are also “conservative” (p. 37).

The Wireless Philadelphia Executive Committee (2005) study describes a financial model that includes capital for completely replacing the network within a decade, should newer technologies arrive on the scene. “The business model demonstrates the ability for a citywide wireless network to deliver broadband access at dial-up rates and provide positive financial results” (p. 40), according to Wireless Philadelphia. Countering this claim, the industry study characterizes Philadelphia’s proposed Wi-Fi network as obsolete even prior to its construction. Balhoff and Rowe (2005) claim that Wi-Fi speeds are slower than what most business and residential customers demand today. The consultants compare the technology to emerging Wi-Max systems, which they claim have longer-range signaling capabilities and faster speeds.

The Wireless Minneapolis (2006) report touts the financial “benefits and opportunities” (p. 21) of a public-private partnership model for implementing its network. It points to the wireless infrastructure as a “valuable asset” (p. 21) for the city and that this model involves “no financial risk” (p. 21) to Minneapolis’ coffers. By teaming up with a private ISP, this report asserts, construction, systems operations, and maintenance costs will be borne by the private company. Atlanta Wireless (2006) asserts that the “low subscription price will ensure that everyone, regardless of economic status” can realize “the benefits” of broadband Internet.

Similarly, Wireless Philadelphia summarizes both data collected from 110 participants who participated in focus groups and comments made during a town hall meeting. The business plan puts a positive spin on these comments and frames the feedback heard during these events as “overwhelmingly” (Wireless Philadelphia Executive Committee, 2005, p. 24) supportive of the

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city's initiative. By contrast, participants who criticized municipal Wi-Fi are described as expressing "some apprehension" (p. 24)—a much softer phrase. These language choices demonstrate the city's desire to downplay any public doubts about its Internet initiative.

As demonstrated by these excerpts, cities frame the prospects for wireless in rosy terms. Their business plans focus on the benefits of government-owned systems and typically neglect to mention how local governments would cover unexpected costs. When framing the financial outlook for muni-wireless, however, industry studies repeatedly invoke the words *risk* and *risky*. These hot-button words incite alarm for policy makers and taxpayers who would, ultimately, foot the bill for an underperforming wireless network.

The New Millennium Research Council (2005) argues that muni-Wi-Fi networks are financially unsustainable—employing fervent language to reinforce the point. Specifically, the council refers to taxpayers as "victims of the scheme" (p. 3). The report also cites several money-losing telecom services as "evidence that such municipal projects can result in disaster" (p. 4), which is quite a strong assertion given that local governments routinely subsidize constituent services. But this industry study uses even more dramatic language to frame the telecom business as extremely dicey:

Into this swirling vortex of enormous risk marches a new breed of competition—an intrepid band of county councilman, city administrators and mayors pro tem, who are convinced that they can navigate the risky rapids and eddies of broadband rollout better than can expert technology companies. Elected from previous careers as doctors, lawyers and newspaper editors, they're convinced that their neighbors should be bearing the enormous financial risks associated with the broadband revolution, rather than allowing willing investors and companies to voluntarily put their own capital at risk to build broadband networks. (p. 16)

This language echoes assertions made by Balhoff and Rowe (2005), who contend that operating costs and the need to replace infrastructure will drain profits for muni-Wi-Fi. They say the potential for a negative return is "very high" (p. 99) in a competitive Internet market such as Philadelphia. Their report repeatedly mentions the financial "risks" (pp. 95, 97, 99) of municipally run networks. "Wireless has appealing features and significant risks" (p. 95), is typical of these assertions in the Balhoff and Rowe study.

Lenard (2004) similarly frames the debate by repeatedly using the phrase "financially very risky" (p. 4). Lenard asserts that government telecom investments result in "large negative returns" (p. 4) and that it is "doubtful" (p. 30) cities will ever pay off initial investment in these networks. Finally, the New Millennium Research Council (2005) study makes many similar claims, adding that public officials build Wi-Fi clouds "at their peril" (p. 10).

#### SAFE AND SECURE?

Wireless Philadelphia preempts criticism about network security by mentioning in its business plan five separate steps taken to ensure data protection. Wireless Minneapolis says that city is "highly cognizant that network security is a high-priority for a wireless broadband system" (p. 53) and that its wireless mesh network will utilize "several components to ensure data security" (p. 53).

By contrast, the Balhoff & Rowe (2005) study asserts that persistent doubts about network security and privacy are likely to determine whether businesses subscribe to Wireless Philadelphia. They go on to caution that security breaches are a potential liability for municipal network operators and could prevent potential subscribers from signing up—finding yet another way to negatively frame municipal broadband.

#### SUBSCRIPTIONS AND PROSCRIPTIONS

In line with local government optimism, the Wireless Philadelphia business plan assumes lower prices and comparatively high-speed access will attract a large cluster of subscribers to

the network. Specifically, the plan predicts anywhere from 13% to 22% of local Internet subscribers will sign on to Philadelphia's network and, again, characterizes the bottom number as "very conservative" (Wireless Philadelphia Executive Committee, 2005, p. 40).

For comparison purposes, it is worth taking a look at Wireless Minneapolis's (2006) revenue projections. They assume 10% of locals will sign up for the service by Year 2 and that the network will earn about \$1,000 from each of the estimated 2,500 business subscribers by then. If break even levels are achieved in Year 3, as projected, that would constitute a "reasonable level of risk for experienced providers" (p. 57).

However, Balhoff and Rowe (2005) scoff at both municipal assumptions. They note that during the first 3 months of 2005, the annual increase in U.S. broadband penetration was about 7.5%. In other words, the number of American households subscribing to a broadband ISP increased from 23.1% to 30.6%. Given these statistics, Philadelphia's subscriber projections appear "extreme" (Balhoff & Rowe, 2005, p. 52).

The New Millennium Research Council (2005) stresses the "reality" (p. 13) that providers of "stand-alone Wi-Fi service" (p. 13) have failed to generate profits by selling access directly to subscribers. According to the council, this is because consumers expect wireless broadband to be bundled with other "goods" (p. 13), such as hotel rooms and coffee beverages. This assertion ignores the widespread popularity of wireless routers in homes, however.

In aggregate, discrepancies in reports generated by cities versus industry sources highlight how the two entities frame statistics quite differently to further their own agendas.

## BRIDGING THE GAP

Finally, municipal wireless plans assert that their networks will make major contributions toward bridging the digital divide. Wireless Philadelphia Executive Committee (2005) assumes that within 5 years of operation, \$5 million in Wi-Fi profits may be available for the nonprofit to purchase home computers for low-income residents and train folks on how to use these machines. Atlanta Wireless (2006) makes parallel claims that its "low subscription price will ensure that everyone, regardless of economic status, can realize these benefits" (p. 37). Wireless Minneapolis (2006) contends that Wi-Fi will "help bridge the digital divide in low-income and underserved neighborhoods" (p. 8).

The telecom industry reports, however, question how these lofty goals are achievable if municipal networks should ultimately lose money. Balhoff and Rowe (2005) also disagree that broadband Internet is a necessity for every household, on par with electricity and water—or even telephones. Too many people remain uncomfortable with computer technologies, or simply do not need them, to justify a municipal investment, the industry consultants argue. They also note that Internet access is widely available in libraries, schools, and work environments. "The fact that broadband has achieved a 30% penetration . . . is an indication to thoughtful policymakers that there are additional factors currently affecting usage" (Balhoff & Rowe, 2005, p. 65) and the need for public subsidies.

The New Millennium Research Council (2005) also attempts to shoot down the notion that municipal Wi-Fi can bridge the digital divide. Its report claims that the majority of Wi-Fi users are "well-to-do professionals or their college-aged children" (p. 8) and attempts to use former Philadelphia CIO Diannah Neff's own words against her. The report quotes the technology czar describing Wireless Philadelphia as both a program for low-income residents and an initiative aimed at helping business travelers. Taxpayers would have a difficult time "discerning from Neff's remarks who the real beneficiaries of the city's \$10 million outlay are" (p. 9), the council report reads.

## Discussion and Conclusion

Stakeholders on both sides of the Wi-Fi debate use language to advance their own agendas and establish themes. As noted throughout this textual analysis, Wi-Fi policy documents from

**Wi-Fi policy documents from cities and industry are filled with contradictions. These inconsistencies highlight the manner in which “facts” can easily be manipulated—or framed—to “prove” even clashing arguments.**

cities and industry are filled with contradictions. These inconsistencies highlight the manner in which “facts” can easily be manipulated—or framed—to “prove” even clashing arguments. Overall, the Wireless Philadelphia Business Plan goes beyond expressing mere optimism toward the benefits of Wi-Fi. In fact, the report repeatedly implies that the success of Philadelphia’s future depends on deployment of a wireless network. From predictions about the number of people who will subscribe to the city’s network to the breadth of services it will provide, city officials lean toward the “best-case scenario.”

Balhoff and Rowe (2005) are clearly unimpressed with the Philadelphia Wireless Business Plan. In fact, they describe the document as “sketchy and vague” (p. 51). Similarly, the New Millennium Research Council (2005) alleges that municipalities have failed to answer “critical questions” (p. 11) about citywide Wi-Fi. Its report also attempts to cast doubt on municipal network research by calling it “long on hyperbole and short on quantifiable data” (p. 1)—yet offering almost no statistical evidence of its own assertions.

In fact, my textual analysis finds industry studies to be even more hazy when it comes to issues of financial disclosure. Balhoff and Rowe (2005) decline to specify which telecommunication companies provided money for their research. “By way of disclosure, the funding for this study has come from industry” (p. 14), is the sole reference to their unnamed clients. As previously mentioned, neither the New Millennium Research Council nor the Progress & Freedom Foundation reveal that their existences rely on funding from the telecom industry.

### The Aftermath

When these reports were floated, few observers could have predicted the manner in which Philadelphia’s Wi-Fi initiative would ultimately transpire. In March 2006, Wireless Philadelphia announced it was abandoning plans to manage network construction and operation. Instead, the city would completely privatize the network. Essentially, it appears that Philadelphia officials have ultimately come around to agree with their critics in the telecom industry. Significantly, this final deal—which establishes a public-private partnership—is generally now viewed as a model for structuring municipal Wi-Fi networks.

As initially proposed, the Wireless Philadelphia endeavor meant a potential investment of \$18 million, raised through bonds and bank loans. Given the budget climate—Mayor Street proposed dramatic cuts to social services and firehouses during his fiscal year 2005 budget address—this massive financial investment appeared too risky, according to an attorney for the Philadelphia Law Department (K. Greenberg, personal communication, March 21, 2006). Instead, Wireless Philadelphia struck a deal with the private ISP Earthlink. The Atlanta-based company agreed to put up money to build the physical infrastructure and to manage daily operations of the network. Earthlink has set subscriber rates at \$20 per month for most customers, but it is contractually obligated to offer a discounted rate of \$9.95 per month for at least 25,000 low-income residents. The ISP has also agreed to create 22 public hotspots around the city, where anyone with a laptop computer can access the Internet free of charge.

In the wake of Philadelphia’s contract with Earthlink, some media activists fear the city is handing over a vital public resource to Silicon Valley tech companies—essentially creating a corporate monopoly—and stomping out more innovative, democratic applications (Redden, 2006). Others insist the free market would have addressed the need for low-income Internet service without government interference (T. Christie, personal communication, February 10, 2006). Skeptics also question how Wireless Philadelphia can live up to its ambitious public good goals of both providing ubiquitous connectivity and supplying computers, training, and some Web site content.

Yet Earthlink has agreed to take on many of the public good goals the city is pushing in exchange for the potential profits earned from managing a wireless network in the country’s fifth largest municipality. Based on how the telecom giants framed their argument against muni-wireless, one can infer that the industry had hoped to kill the Wireless Philadelphia initiative. Therefore, it is significant that ISPs such as Earthlink, and cable and telephone companies, are

**In the wake of Philadelphia’s contract with Earthlink, some media activists fear the city is handing over a vital public resource to Silicon Valley tech companies—essentially creating a corporate monopoly—and stomping out more innovative, democratic applications.**



now angling to jump on the municipal wireless bandwagon. As Settles (2006) notes in his book chronicling the Philadelphia project, “Earthlink’s offer took people by surprise, and quickly changed how other cities think about implementing their plans” (p. 10).

Both Wireless Philadelphia and the telecom industry carefully constructed their arguments with the intent of influencing the public debate and, ultimately, policy itself. And there is little doubt that stakeholders hoping to affect execution of the Earthlink contract—media activists, potential subscribers, incumbent ISPs, Wireless Philadelphia board members, and Earthlink officials—will adopt similar framing techniques. They will attempt to exert power over the process by choosing words that push their own ideologies, sharing only select information with the public, and manipulating the findings in previous studies. By closely analyzing these future arguments as well, communication researchers may gain insights into the dozens of other municipal Wi-Fi debates now unfolding in city halls around the country.

With municipal wireless initiatives rapidly evolving around the globe, communication researchers could explore multiple angles in the future. As these projects come on-line, the most pressing question to be asked is: What “public good” potential exists for disadvantaged neighborhoods in the wake of wireless broadband initiatives? Conversely, it is important to ask residents in disadvantaged communities how Wi-Fi improves their quality of life. Finally, researchers need to study whether a business model based on private-public partnerships will most effectively achieve digital inclusion goals. All of these questions have important implications for public policies affecting the rapid deployment of wireless networks.

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