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RE: Analysis of Wireless Philadelphia Developments

On May 13, EarthLink Corporation issued a press release stating that it would discontinue its municipal Wi-Fi operations in Philadelphia. Due in part to Civitiium's past affiliation with the project, and our status as an advisor for public communications projects, we have received numerous inquiries from clients, partners and the press since last week. This memo seeks to provide our perspective on the factors that led to the breakup of the Philadelphia-EarthLink partnership and how these developments may be used to inform decision-making for cities involved in similar initiatives.

A Brief History

Despite the volumes that have been written about the history and evolution of Wireless Philadelphia, there has to-date been no accurate account of the events that occurred and decisions that were made as the Wireless Philadelphia project progressed. Attempts to document the project have lacked first-hand knowledge of the events, or have been influenced by advocacy goals or special interests, or both. For this reason, we feel it is important and appropriate to set the record straight with a fact-based account of the origins and evolution of events before considering EarthLink's announcement.

Wireless Philadelphia was conceived in 2004 by then-CIO Dianah Neff and then-Mayor John Street of Philadelphia. Mayor Street had been actively involved in neighborhood revitalization efforts during his administration, and the initiative was seen as a way to apply technology to introduce new economic and educational opportunities for low-income and disadvantaged citizens. Poverty was high, computer and Internet use was low, and anecdotal evidence suggested that these two issues were at least somewhat related. Over time, many secondary goals were introduced for the project - stimulating economic development and improving the efficiency of various government operations - but digital inclusion remained the driving force throughout the project.

At the start of the project, the Street administration established a clear and firm policy that the city would not spend public funds to finance, construct or manage the network. While this decision was criticized by many advocates for public ownership of such networks, Mayor Street remained consistent on this policy throughout his administration. As we will see, this policy position had a profound effect on the decisions that were made going forward.

As the project was getting underway, Philadelphia immediately found itself in a stand-off with Verizon Communications (the incumbent telephone company) over Pennsylvania House Bill 30 (HB 30), which sought to establish "barriers to entry" for municipal government throughout the state to engage in broadband initiatives. At that time, it was assumed that HB 30 would hinder, or possibly even prohibit, Philadelphia from moving its initiative forward. To make a rather long story somewhat shorter, ultimately a compromise was struck at the bill's 11th hour between Verizon and the City of Philadelphia. Verizon agreed to waive any future challenge to the project, effectively exempting Philadelphia from the



restrictions in the bill. With the objections from Philadelphia cleared, Pennsylvania Governor Edward Rendell signed HB 30 into law.

In the same way that Mayor Street's policy against public investment would influence future decisions for the project, HB 30 would also have a profound impact on the market as a whole. The intrigue surrounding the battle over HB 30 elevated the issue of public broadband across the nation and the world. The intense coverage of HB 30 played at least some part in encouraging more than 200 other cities to launch similar projects. HB 30 was like an obscure book that suddenly appears on the Oprah Winfrey Show; it instantly turned municipal wireless into a center-stage issue in many public and private board rooms.

After an extensive planning process, the Street Administration acted on the advice of a 17-member executive committee and created a not-for-profit corporation called Wireless Philadelphia (WP). At this time, it was assumed that this city-created not-for-profit would finance and own the wireless network, which was also based on a recommendation made by the executive committee. The committee was dismantled by that time (its purpose to advise was considered complete) and the city proceeded to establish a charter for WP, name several of its initial Directors, and instruct it to proceed with the development and release of an RFP for the network's construction and management.

While the executive committee had made a clear recommendation that the not-for-profit should finance and own the network, it had left the job of determining *how* to accomplish that up to the not-for-profit. After substantial effort to identify a source of financing through foundation grants, banks and other vehicles, and after receiving advice from an expert financial advisory firm, WP came to the conclusion that the only way financing could be obtained was if adequate security for the loan was provided. Having no credit history, no collateral of its own, no ability to use the network's assets themselves as collateral (the assets would depreciate too quickly) and no ability to have the financing secured by public funds (remember Mayor Street's policy against putting taxpayers at risk), WP was at an impasse.

In parallel with its financing efforts, WP had solicited a large and diverse number of responses to its RFP for network equipment and buildout services. Three finalists had been selected; EarthLink, HP and Lucent. Two of the three respondents, HP and Lucent, offered to sell the network equipment and services to WP, consistent with the business model that had been recommended. EarthLink offered an alternative proposal where it would own the network and accept the entire financial risk to construct, and manage the network. Because of the financing challenge noted above, WP explored leasing options as a last-ditch effort to overcome the impasse on financing. Ultimately, WP selected the alternative proposal submitted by EarthLink Corporation. In addition to providing a highly qualified response to the RFP, EarthLink was the only qualified respondent that was prepared to accept the entire financial risk to construct and manage the network. WP remained a central player going forward. Even though it would not own and operate the network, it retained responsibility for administering digital inclusion programs and handling much of the oversight of EarthLink as a partner.

The decision to adopt a private-ownership model in Philadelphia was not based on any outside forces or any affinity for private ownership by participants in the project, as has been suggested by some of the project's critics. It was made largely on the judgment by WP that there were no remaining options to move the project forward.

After a lengthy negotiation between the city, WP and EarthLink, agreements were signed in 2006, approved unanimously by the city's council, and the work begun to design and build the network.



During this time, the “Philly business model” – pursuing municipal wireless through a public-private-partnership - became the model many cities sought to replicate, despite the fact that this decision by WP had been what could be called a last-resort.

Why did the partnership ultimately fail?

Our analysis suggests that there are four root issues that the failure of Philadelphia’s partnership with EarthLink can be traced back to; alignment of the parties’ interests, changes in the parties’ leadership/direction, technology and overall market forces.

Root Issue 1, Alignment of the Parties’ Interests - On the surface, there appear to have been a number of significant points of alignment between the city’s interests and EarthLink’s. For example, the city wanted new broadband facilities to be deployed, and EarthLink was eager to find a “third pipe” to the home after its loss of regulated access to cable and DSL networks. The city wanted cheaper prices for broadband, and EarthLink had achieved success in a price/value-sensitive customer segment. The city wanted a strong focus on first-time broadband users, and EarthLink had a large base of dial-up subscribers. The city wanted an open network, and EarthLink adopted a wholesale-access model for its municipal wireless business unit. The city wanted more competition in the market dominated by the telephone and cable duopoly, and as a competitive ISP, once again EarthLink seemed ready to oblige.

Despite these points of alignment, there was a more fundamental issue that was not aligned; the shareholder interests of EarthLink and the public interests being advanced by the city. By its nature as a public company, EarthLink was obligated to invest in and operate its businesses in a way that would maximize its return to shareholders. This was analogous to the Street administration; it was obligated to maximize the community value generated for each dollar of taxpayer money spent. While this may be stating the obvious, what is in the best interest of a private shareholder is not always (in fact, rarely is) in the best interest of a consumer. For example, consumers want an abundant array of products and services at cheap prices, while private companies want to maximize the profit generated by their products, and they often accomplish that by making their products as scarce and valuable as possible.

The above point could be made about almost any form of public private partnership, not just municipal wireless and not just Philadelphia-EarthLink. There are clearly public private partnerships that work in other domains, and this leads us to describe other contributing factors.

Root Issue 2, Change in the Parties’ Leadership - In early 2007, there was a change in leadership for EarthLink and in early 2008 a change in leadership for Philadelphia. Mayor Street, who was term-limited, left office and was replaced by former council member, Michael Nutter. And at EarthLink, its CEO Gary Betty, who had been an outspoken champion for EarthLink’s entry into municipal Wi-Fi, died unexpectedly of cancer. Mr. Betty was replaced in June of 2007, and the new CEO immediately began a review of EarthLink’s various lines of business, with a particular emphasis on its two growth initiatives; the company’s Helio joint venture with SK Telecom, and its EarthLink Municipal Networks division. In spite of EarthLink’s core dial up business remaining profitable, the company’s on-going growth investments in Municipal Wi-Fi and its much larger investments in Helio were diminishing the company’s free cash flow and profits

As with any change in leadership between two partners, there were new agendas, new priorities, new directions, new leadership styles, and so on, on both sides. This placed substantial strain on a brand



new partnership that was already challenged with enormous attention, expectations, opposition, and one that had little if no precedent that could be learned from. There was an almost overnight changing of the guards, and press accounts since mid 2007 suggest that neither of the new administrations had the same level of loyalty, passion or commitment to the partnership or the initiative as the leaders before them.

But how did this actually contribute to the failure of the partnership? We propose that it likely reduced the quantity and quality of “communication from the top” well below what may have been in place before the new leaders arrived. An executive-level dialog becomes even more critical as problems with deployment timelines, technology and various other challenges inevitably surface. The result (and tone) we see from EarthLink’s announcement earlier this week further suggests that seemingly straightforward discussions about anchor tenancy, right-of-way and pole fees, and other issues more likely declined into posturing, demands, threats and ultimatums than through two partners who prioritized making things work – or at least having an amicable breakup.

Root Issue 3, Technology - While municipal Wi-Fi systems have advanced dramatically over the past few years, Philadelphia was the first opportunity to understand precisely how these systems would perform in such a dense urban market and at a previously untested level of scale. The technology proved immature at the time and EarthLink was forced to lead the industry in uncovering issues and designing solutions in a very large pilot market. At the same time, EarthLink’s expectation of a rapid build-out and consumer focus resulted in a network architected for a rather narrow use with limited flexibility to provide higher end services. In essence, EarthLink built a network that could only provide the services contemplated in their RFP response to Philadelphia rather than shift as the market evolved.

Ultimately, Wi-Fi as a fixed residential alternative to DSL/cable required a much denser deployment of radios, more expensive CPEs at the subscriber’s location, and still struggled to provide a customer experience that was on par with DSL and Cable.

Root Issue 4, Market Forces - The partnership between Philadelphia and EarthLink clearly did not exist in a vacuum. While the above issues were largely internal, there were also external factors occurring in the broadband market as a whole, and first-time lessons being learned about consumer adoption (and willingness to pay) for Wi-Fi on this scale. Several of these factors would have a profound impact on the economics of the business for EarthLink, and therefore on the entire partnership.

- **Price declines in the entry-level broadband market** - As the growth rate for broadband subscribers began to slow, incumbent providers, especially telephone companies, began introducing lower-cost, entry-level, broadband products to attract price-sensitive consumers still on dial-up. Some of these entry-level initiatives appeared timed with EarthLink’s plans. Since this was a key customer segment EarthLink planned to target, it resulted in much lower subscriber uptake by the time EarthLink’s Wi-Fi network was commercially launched.
- **Increased service levels in the mature broadband market** – As EarthLink built its network, competitive service levels for consumer broadband continued to rise at a rapid rate. While a 1 mbps symmetric broadband service was very attractive in 2004 and 2005, the new emphasis on video raised offerings from DSL and cable providers to 6 to 15 mbps with higher speeds available for short bursts. While EarthLink never targeted existing DSL and cable customers, increased service levels also spilled down into entry-level offerings and hurt EarthLink’s competitive position.



What resulted were upside-down economics for EarthLink's municipal Wi-Fi business. Lower sales prices and higher costs to acquire each customer is like a one-two-punch in the ISP market. With a promotional price of \$7 per month, EarthLink was likely in a position where the cost to acquire each new subscriber exceeded the lifetime value (LTV) of that subscriber to the business. This is especially true since the number of subscribers were not nearly enough to cover the network's fixed costs through economies of scale. This likely explains the reason that EarthLink did not invest heavily in sales and marketing programs once the network was substantially completed and operational. The more subscribers they would have attracted, the higher their losses would have been.

Why didn't the city accept a "free" network?

EarthLink's announcement stated that the company had failed to reach a settlement agreement with the city (and with the nonprofit involved in the negotiations, OneCommunity), even after offering to "give the network to the city or the nonprofit for free, along with a \$1 million payment." This caused many to question whether the city was being irresponsible or too risk-averse; not accepting an asset estimated at having cost \$17 million to build.

We propose that this apparently generous offer to the city is posturing on the part of EarthLink, especially when considered alongside their court filing to remove their equipment and cap their liability at \$1 million. While transferring title to the network over to the city at no cost may sound like a great deal, the fact that EarthLink has admitted it is currently losing \$2.4 million annually on the network operation, and that it is already obligated under the terms of the original agreement to pay the city \$1 million, sheds new light on how difficult it would be for the city to accept such an offer.

There is also the question of IT readiness by the city. Introducing new services to any organization requires more than simple connectivity. To introduce video, new cameras and other equipment may be required. To introduce mobile workforce applications, new applications, integration, training and even process re-engineering may be required. Accepting ownership of the network and putting it to use for municipal applications would require more investment by the city at a time when they were saddled with the transferred liabilities and costs. It is clear from other cities' experiences that such business cases can be developed, but doing so while facing ultimatums from a partner and expectations from commercial users is a daunting task.

Looking Forward

How can the lessons learned - the best and worst practices - from Wireless Philadelphia be used to inform cities' decision-making as the market moves forward? How should an outcome that results in the network being dismantled be viewed by cities considering similar initiatives, but recognizing the need to take different approaches?

Certainly, the Wireless Philadelphia partnership has been a profound disappointment for many, but the experimentation that occurred was an important part of the evolution of public broadband. It has also produced a number of positive outcomes; the issue of broadband is now more engrained across our communities that just a few years ago; our local leaders are smarter and more informed about broadband and technology's impact on communities; we all have increased clarity about the pot-holes and road-blocks that we may face in future initiatives; residential broadband offerings are improving in



the market; and getting a national broadband policy for America is closer due to the grass-roots efforts of local government.

At Civitiium, we have seen an increase in public broadband initiatives since the market correction sparked by EarthLink. We see innovative work being done in ad-hoc, community-powered deployments with companies like FON and Meraki; we see Cablevision announce its intent to deploy Wi-Fi access its cable territory as a free service for its subscribers; we see Wi-Fi enabled consumer electronics becoming more and more innovative; we see public safety benefitting from integrated 2.4 and 4.9 GHz networks. Even without the grand-scale, citywide Wi-Fi initiatives of yesterday, there remain many opportunities for cities to leverage Wi-Fi and other technologies for targeted municipal use, and to make broadband less scarce and more abundant in communities.

We have noticed a subtle but important shift in thinking across our base of clients. Rather than the original promise of “solving a wide range of problems with a single technology,” we now find that our clients are working to “solve targeted and specific problems with a wide range of technologies.”

We also find that our clients are increasingly looking over the horizon to the issue of “big broadband,” specifically to fiber optic technologies, business models and deployment scenarios. The intense focus on Wi-Fi over the past few years may have distracted us from the balance needed for focus on other technologies and services. There is also a renewed focus on technology-enabled economic development, particularly in regional areas. And finally, many of our clients continue to make tremendous progress at understanding and attacking the digital divide through innovative policies and programs.

Civitiium continues to work with our clients to think critically and objectively about the business, technology and public policy issues they face in this area. We hope that this brief analysis on the grand experiment that is Wireless Philadelphia provides some insight and value for our clients and partners.