Chapter 8
E-Accessibility and Municipal Wi-Fi:
Exploring a Model for Inclusivity and Implementation

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ABSTRACT

One of the typical design objectives of municipal Wi-Fi systems is the free or low-cost provision of connectivity for citizens, including people with disabilities and others impacted by the digital divide. This paper examines a range of municipal Wi-Fi implementation models for potential impact on e-accessibility. A comparative analysis was undertaken of sample U.S. and European municipal Wi-Fi systems to assess the business model and stakeholders involved in municipal wireless initiatives and to examine the degree of accessibility to or sensitivity of, municipal wireless systems for people with disabilities. As many people with disabilities are currently affected by social disparities in education and income, further marginalization of their communication and information access creates additional access barriers to critical information and full participation in community life.

WI-FI, ACCESSIBILITY, AND INCLUSIVITY

The progressively more common connectivity provided by wireless devices offers local governments 1) an opportunity to provide new and innovative services to citizens, and 2) the possibility to expand access to those who might otherwise be excluded, yet would benefit from enhanced connectivity (U.S. NTIA, 2000, 2002). Municipal wireless systems[1] (municipal Wi-Fi/muni Wi-Fi) have been promoted as a tool for the provision of widespread wireless connectivity with associated benefits. Municipal officials, telecom providers, and concerned citizens in cities and regions have

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rushed to develop plans to deliver Wi-Fi systems. A key rationale cited by municipalities for deploying these networks is their potential to bridge the digital divide by facilitating wider accessibility to broadband connectivity (Bar & Park, 2006; Chesley, 2009). According to a recent *Ars Technica* article (Fleishman, 2008), more than 300 systems in the United States have been implemented or are planned. However, a good number of initial start-up projects had been downsized or abandoned, even before the beginning of the recent economic recession (Fleishman, 2008). Similar estimates for the EU are difficult to come by, in part because actual system implementation is more problematic under EU regulation.[2]

To some extent, there is a "chicken and egg" relationship between the diffusion and adoption of these systems, and the perceived need for these systems. Broadband technology, and in this case, wireless implementations, has been seen as key to enhancing Internet diffusion (Papacharissi & Zaks, 2006; Sirbu, Lehr, & Gillett, 2006; Dingwall, 2007; Wallsten, 2005). Industry stakeholders and researchers have identified broadband access as necessary for the evolution of advanced communications services, as well as for associated economic growth (Gillett, Lehr and Osorio, 2003). The United States Congress also directed states and the FCC to encourage broadband deployment in a timely manner.[3] Despite these stated goals for faster broadband deployment, the U.S. has not adopted an official policy or regulation aimed at promoting or developing broadband deployment (FCC, 2005; FTC Report, 2006). The Broadband Technologies Opportunities Program, part of the American Recovery and Reinvestment Act of 2009, was recently funded $4.7 billion to support the deployment of broadband infrastructure in unserved and underserved areas. The program also encourages sustainable adoption of broadband services, making the need for implementing regulations and policy more timely than ever before.[4] Rationales for the development of municipal Wi-Fi systems include bridging the digital divide, enhancing economic development, reducing the cost of government, improving the level of services provided to the public, increased opportunities for education, and offering an alternative to the expensive process of physically cabling or laying fiber optics (Shein, 2005). Wi-Fi systems could ideally deliver Internet access to individuals at much lower cost than traditional broadband technology, and provide coverage via a ubiquitous "cloud" model or the creation of a network of "hot-spots".

Similarly, in the EU, the widespread introduction of broadband at affordable prices has been one of the chief objectives of the EU's i2010 action plan. The European Commission aims to achieve 100% high-speed internet coverage for all citizens by 2010 as part of the European Economic Recovery Plan. The EU is committed to ensuring that the continent's more remote and economically disadvantaged regions get the support they need to share in the benefits of economic growth. Digital technologies such as broadband Internet access can play a part in narrowing disparities between regions and helping to promote social and economic cohesion. The European Commission's Broadband Gap Policy has supported actions to develop an inclusive Information Society that embraces those who live in geographically less accessible areas (Dimireva, 2009).

While municipal Wi-Fi systems can potentially bridge aspects of the digital divide, significant policy, economic, and technological barriers to access still exist for people with disabilities, who constitute a sizable population. There are some 51.2 million Americans (about 18 percent of the population) and more than 84 million persons with different types of disabilities in all EU/EEA countries, all part of an estimated 650 million globally (UN, 2008) who have some kind of long-term or conditional disability, including sensory, physical, mental, or self-care needs (Baker & Bellordre, 2003). Accessible, universally designed Wi-Fi systems offer increased opportunity to access information and services, either in the home or