

# Chapter XXX

## Accessibility Issues in Municipal Wireless Networks

**Paul M.A. Baker**

*Georgia Institute of Technology, USA*

**Avonne Bell**

*Georgia Institute of Technology, USA*

**Nathan W. Moon**

*Georgia Institute of Technology, USA*

### ABSTRACT

*This chapter presents the results of an examination of the current state of U.S. municipal wireless network design and policies with regards to people with disabilities. A survey and comparative analysis was undertaken of a sample of 48 municipalities to ascertain, (1) the accessibility of municipal wireless networks, and (2) the impact of external policy instruments, in this case the U.S. Department of Justice's Project Civic Access (PCA), on network accessibility. Results suggest that the existence of external accessibility policy mechanisms, while positively associated with some sensitivity towards disadvantaged populations, does not seem to extend general awareness to individuals with disabilities. The authors conclude that although these cities have entered into accessibility compliance agreements, they are not necessarily going beyond the specific scope of the agreement, and they often overlook components of the "digital divide" within their communities.*

### INTRODUCTION

Information and communication technologies (ICTs) have become integral to almost every aspect of daily living and have transformed the

ways in which users can interact with society at large. As society becomes more reliant upon ubiquitous high-speed information flows, the demand for faster, more powerful, and always-accessible broadband network connectivity is on the rise

("Wireless broadband," 2006; Tapia, Maitland & Stone, 2006; U.S. FCC, 2007).<sup>1</sup> The United States has experienced a significant increase in the number of broadband users in recent years, but it still lags behind other industrialized nations regarding the deployment of its broadband infrastructure (Turner, 2005; Wallsten, 2005).<sup>2</sup> Government officials have begun to recognize the ability to access the Internet through broadband connections as a necessity for both citizens and the American economy (FTC Report, 2006). As a result, legislators and policymakers are supporting initiatives and plans to increase the number of Americans who are connected to the Internet.

While a majority of U.S. homes have broadband Internet connectivity via cable or direct subscriber line (DSL) modem, wireless options are becoming more viable as a primary method for delivery of broadband services (Sirbu, Lehr & Gillett, 2006a; Sirbu, Lehr & Gillett, 2006b). As the U.S. Federal Communications Commission (FCC) (2005) noted, "Wireless broadband constitutes a critical component of our nation's goal of ensuring that reliable and ubiquitous broadband becomes available for all Americans" (p. 13). Wireless technology also offers potential opportunities for individuals with disabilities by providing them the capability to access services and information that might otherwise be somewhat, if not completely, inaccessible. However, access may be limited by a general lack of awareness of technologies or accessible options, as well as economic, technological, and regulatory restrictions (GCATT, 2004). As of 2004, only 25% of people with disabilities owned a computer in comparison with 66% of individuals without disabilities. Also, only 20% of people with disabilities had access to the Internet, compared with 40% of their non-disabled counterparts (GCATT, 2004). For individuals with disabilities, equal access to information technologies and services, including wireless Internet, remains a major concern.

Many municipalities have demonstrated increased interest in deploying wireless broadband services to their regions. According to a September

2006 report by MuniWireless.com, there are currently 68 city or countywide wireless broadband networks in operation for public access and municipal use. There are also 123 municipal wireless networks currently in the deployment phase. The interest by these municipalities in providing wireless Internet networks has prompted state and federal governments to delineate the extent to which local governments may offer this service to its citizens.<sup>3</sup> Many local governments involved in municipal broadband deployment have argued for the provision of this technology as a means of providing free or low-cost Internet access to citizens in hopes of achieving economic development, realizing greater revenue for the community, and reaching underserved areas.<sup>4</sup>

Properly designed, municipal wireless Internet technologies can provide increased access to information and services and greater societal inclusion for individuals facing what researchers have termed the "digital divide," such as those people with disabilities. Overcoming the digital divide has been cited by many municipalities as part of their rationale for deploying these networks (Bar & Park, 2006). Researchers have considered the accessibility of municipal websites and e-government services in the United States (Potter, 2002; Jaeger, 2006a) and in other countries ranging from Northern Ireland, to China, to Australia (Shi, 2006; Paris, 2006). But less understood has been how those municipalities' provision of wireless broadband Internet has affected people with disabilities. As a matter of crafting equitable policy, municipalities concerned with balanced deployment of services should consider the needs of all those affected by the digital divide in the provision of wireless broadband Internet, particularly individuals with disabilities. The development of policy options such as incentive-based programs, rulemakings, or education/awareness campaigns to foster the inclusion of individuals with disabilities in the advanced information society can be enhanced by drawing upon concentrated research initiatives focused on exploring adoption barriers (Baker & Moon, 2008). Policy research

18 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/accessibility-issues-municipal-wireless-networks/21481](http://www.igi-global.com/chapter/accessibility-issues-municipal-wireless-networks/21481)

## Related Content

---

### Evaluating Open Source in Government: Methodological Considerations in Strategizing the Use of Open Source in the Public Sector

Christian Wernberg-Tougaard, Patrice-Emmanuel Schmitz, Kristoffer Herningand John Gøtze (2008). *Electronic Government: Concepts, Methodologies, Tools, and Applications* (pp. 1074-1107).

[www.irma-international.org/chapter/evaluating-open-source-government/9769](http://www.irma-international.org/chapter/evaluating-open-source-government/9769)

### E-Government Services Online: An Exploratory Study on Tax E-Filing in Malaysia

Magiswary Dorasamy, Maran Marimuthu, Murali Ramanand Maniam Kaliannan (2010). *International Journal of Electronic Government Research* (pp. 12-24).

[www.irma-international.org/article/government-services-online/46949](http://www.irma-international.org/article/government-services-online/46949)

### Reflecting on E-Government Research: Toward a Taxonomy of Theories and Theoretical Constructs

Nripendra P. Rana, Michael D. Williams, Yogesh K. Dwivediand Janet Williams (2013). *E-Government Services Design, Adoption, and Evaluation* (pp. 358-382).

[www.irma-international.org/chapter/reflecting-government-research/73051](http://www.irma-international.org/chapter/reflecting-government-research/73051)

### Guidelines for Successful Public Internet Access Points (PIAPs) Implementation

Ali Arifoglu, Gülgün Afacanand Erkan Er (2012). *Digital Democracy: Concepts, Methodologies, Tools, and Applications* (pp. 370-389).

[www.irma-international.org/chapter/guidelines-successful-public-internet-access/67616](http://www.irma-international.org/chapter/guidelines-successful-public-internet-access/67616)

### Co-Creating Public Value in E-Government: A Case Study of Korean Municipal Government Websites

Seulki Lee-Geillerand Taejun (David) Lee (2019). *International Journal of Electronic Government Research* (pp. 19-36).

[www.irma-international.org/article/co-creating-public-value-in-e-government/257488](http://www.irma-international.org/article/co-creating-public-value-in-e-government/257488)