# Chapter 4.26
# Development and Use of the World Wide Web by U.S. Local Governments

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## INTRODUCTION

San Carlos, California (www.cityofsancarlos.org) claims to have developed one of the earliest local government Web sites in the world, posted on May 10, 1994 (San Carlos, 2006). From this early effort, United States (U.S.) cities moved rapidly onto the Web. Norris and Moon (2002), for example, report that some 4.4% of U.S. cities in a 2000 survey by the International City Management Association (ICMA) reported developing Web sites before 1995; 27.1% reported developing their Web sites in the 1995-'96 time period, and 68.5% reported their Web site developed after 1997. San Carlos' original Web site comprised one page; its current Web site now contains some 8,000 pages and uses some of the Web's most modern technology available, such as really simple syndication (RSS) and Flash Paper.[1] This article uses the example of San Carlos' Web site, along with two surveys of local government Web sites in the U.S., to illustrate the experience that U.S. local governments have had in developing and using Web sites in the pursuit of bettering governance. The article examines four local government Web applications—bulletin boards, promotions, service delivery and citizen input—and assesses their use by U.S. local governments. The article then addresses current issues of outsourcing Web site design and maintenance, and future issues of privacy, security, the digital divide and the possible effects of increased local government Web sites on U.S. civil society.

## BACKGROUND

Some idea of the expanse and number of city Web sites can be obtained by consulting one of several search engines to locate local government Web sites. One such engine, containing links to some 10,235 Web sites, is State and Local Government (www.statelocalgov.net). This site

provides not only links to local government Web sites in the U.S. but also to national organizations that represent state and local governments (e.g., U.S. Council of Mayors) and a functional area listing of service Web sites for state and local government (economic development, tourism, etc.). Another such engine is Official City Sites (www.officialcitysites.org), which not only lists local governments (towns, cities, counties, etc.) in the U.S. but also in Australia, Canada, France, Germany, Japan, The Netherlands, New Zealand and the United Kingdom. The Official City Sites Web page is particularly attractive, with clickable stylized maps of the individual countries leading to individual maps or lists of sub-units within that country (states, provinces, etc.) and then to the local Web sites within those sub-units.[2]

## LOCAL GOVERNMENT WEB APPLICATIONS

In previous work (Scavo & Shi, 1999; Scavo, 2003), we identified four types of Web applications that local governments tended to use: bulletin board applications; promotion application; service delivery applications; and citizen input applications. Bulletin board applications involve the use of a Web site to provide information about the services, personnel, programs and so forth provided by a government agency. Promotion applications have to do with the provision of information about the area—population characteristics; climate data; tourist attractions; and so forth. Service delivery applications are much more interactive than the previous two; involving the use of the Web to do such things as apply for licenses, pay taxes and make appointments. Last, citizen input applications allow citizens to communicate directly with government officials and personnel and also with each other (Scavo, 2005).

The four applications demonstrate an increasing level of Web application sophistication—the base is bulletin board usage. Posting basic infor-

mation on government was the original function of local government Web sites—at first, some of this information was simply posted; later, much of the information became clickable, meaning that clicking on the name of the mayor, for example, would open a dialog box that would allow the user to send an e-mail to or chat with the mayor. Promotion applications are only somewhat more sophisticated than bulletin board applications. With these latter applications, information is posted, as with bulletin boards, but the information has a somewhat different focus and audience. Service delivery and feedback applications are more sophisticated than the previous two, with feedback being even more specialized than service delivery. Both of these applications require more technically sophisticated Web sites which, in turn, require more highly trained Web site designers and maintenance people, faster servers and, most likely, a greater financial investment by the local government in Web site design and operation. Scavo and Shi (1999) found empirical support for this hierarchy of applications and concluded that it seemed likely that local governments would introduce themselves to the Web by developing bulletin boards and promotion applications and then move into service delivery and feedback applications.

Scavo (2003) found that while U.S. local governments had generally improved their Web sites across the four utilizations from 1998 through 2002, there was a great deal of random movement within this increase. The mean score for all local governments on the overall Web feature scale increased dramatically between 1998 and 2002, as did the scores (some much less dramatically) for the sub-scales for the four utilizations, indicating improvement. However, the across-time correlations for the four sub-scales were low, varying between 0.00 and +.25, indicating a great deal of random variation among the Web sites. And, five local governments that had Web sites (one county and four municipalities) in 1998 did not have them in 2002, indicating some retrenchment.

The four applications are of varying interest

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