Practice Guide #31
December 2012

Planning for Transparency

through E-governance

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"E-democracy involves not only strengthening existing democracy but also developing new forms of democracy. We are witnessing the advent not only of a new society and a new economy but also of a new democracy. We must realize that our old values and standards can be preserved only if our democracy is sufficiently flexible to adapt to the changes taking place around us."[1]

Introduction

Transparency - "*mandated public disclosure … of standardized, comparable, and disaggregated information … to further a defined public purpose*" – has become a buzzword in governance literature (Fung, Graham, and Weil 2007:6). The development of internet communications technology (ICTs) over the last three decades has created a technical capacity whereby government may work more closely with engaged citizens and other stakeholders. At the local level, urban planners and planning departments have increasingly turned towards the use of such technology – commonly referred to as e-government – to enhance planning processes in a variety of ways, to collect information that may not be contained within official data, and to facilitate organization of local meetings and neighborhood development coalitions. Some communities have developed a *transactional* capacity to their electronic presence as well, allowing for purchase of various permits online, for example.

A 2011 survey reports that an overwhelming majority of local governments have at least a nominal web presence. Half of governments with websites allow for remote viewing of meetings and these governments also report increases in both *quantity* and *quality* of citizen participation, with the consequence of improving trust in local government and a perception of better decision-making by officials (International City/County Management Association 2011: 4). While e-government is not without its critics and pitfalls, it has the potential to engage citizens and other stakeholders more quickly and cheaply relative to traditional means. The capability for transparency has never been greater, even for local governments and groups operating in a scarce resource environment. ICTs are also capable of bringing voices to planning processes and discussions that would be unable or strongly unlikely to participate otherwise. Finally, recent advances in ICTs allow for user/constituent-submitted data for more efficient planning which is sensitive to local knowledge.

This practice guide is intended as a general introduction and focuses on both the design and technological elements to e-governance; it covers the reasoning and benefits of the dissemination of information, how community participation is enhanced with e-governance, explores current related technologies, and explains the implementation process. Legal requirements for e-governance are also cited.

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[1] Dr. Pauline Poland, Advisor, the Netherlands Ministry of the Interior and Kingdom Relations. February 8, 2002. Quoted in *High Payoff in Electronic Government* (Intergovernmental Advisory Board 2003: 21).

While the intended audience is municipal information technology staff, managers and other city officials may find utility in the discussion as well, especially as it relates to the general discussion of the costs and benefits. Our discussion is circumscribed not just by the simple fact that technological development outpaces writing about technology, but also because the field of e-government has expanded tremendously over the last decade. As an academic topic, it stands as a viable subfield on its own, and in the professional arena there exist several professional associations which promote learning and sharing of best practices and new technologies that advance the field (see *Resources* at the end of this document). The reader should be advised that this practice guide covers the very tip of a rather large iceberg and is encouraged to explore the resources listed below if deeper exploration is warranted.

Informing Choice: the case for and benefits of transparency

Disclosure of standardized and comparable data/information allows citizens or "users" to operate more effectively and efficiently, ideally leading to safer, healthier, and/or better quality decision-making (Fung, Graham, and Weil 2007:5-6). Planning departments become more capable of understanding constituent ("user") choices and preferences and therefore both reduce risks involved and improve service. Enabling constituents with the facts of a given decision to be made allows for smarter and more creative feedback loops between the public and planning officials. Five aspects of the planning process are amenable to enhanced transparency in the context of E-governance: design, visualization of plans, opinion collection and synthesis, distributing information, and facilitating group/stakeholder organization (ibid).

However, ICTs are not a guarantee of transparency (Bertot, Jaeger, and Grimes 2010). They may create new opportunity for corruption or lower levels of transparency as officials in charge of the systems become privileged. Cross-national comparative evaluations of ICTs suggest that similar ICTs can have widely divergent outcomes across cultural and institutional variation (Jaeger and Matteson 2009). Successful outcomes are dependent on acceptance of the technology amongst users and citizens. This is less of a problem in the United States relative to most countries; however, it is strongly recommended that the planning process in implementing E-governance in local planning consider the availability and scope of technology, especially internet access. Bandwidth levels in an area should be considered, especially in rural areas which may not have more recent fiber optic systems.

E-Governance and Community Participation

Enhancing community participation is one of the desired and expected outcomes of implementing e-governance systems. It is important to understand different conceptions of what community participation means, and the reader is referred to Sherry Arnstein's classic "A Ladder of Citizen Participation." Arnstein developed a continuum for describing the various kinds of community involvement in local planning (Arnstein 1969). Among the eight levels identified are *partnership*, *delegated power*, and *citizen control*. These three levels of participation share the notion that the public has input and a voice in decision-making processes. Determination of the interests of a diverse American public requires that planners

understand and represent many interest groups; inevitably the right idea is a matter of choice, not fact (Davidoff 1965:332).

Transparency is critical in aiding planners to more accurately understand and represent the public interest. E-government systems obviate at least one major obstacle to more receptive local government by developing capacities which are capable of allowing for more voices to be heard. If the system provides sufficient transparency, citizens are substantially more informed, more likely to be engaged, and feel as if their opinions are being heard (Evan-Cowley and Conroy 2004).

Community partnerships offer the capacity for establishing relationships of trust and respect between citizens and public officials. One aspect of such partnerships is access to relevant data, documents, and related items – in a word, transparency. E-governance directly enhances citizens' participation and promotes a more knowledgeable and informed public.

Technologies for Transparency

There are a number of discrete ICTs currently available that are appropriate for e-governance. What follows is a series of sections that focus on how ICTs relate to more abstract functional uses that are the end goal of e-governance. These functions include making government documents available to the public; enhancing and augmenting dialogue between the public sector and its constituents; allowing for public contribution into local e-government data systems; and allowing for the purchase or payment of permits, fines, or other transactions.

Making government documents and data available to the public

The single largest function of existing e-governance systems is providing reports, studies, proceedings, and other documents online. Survey data indicates that the majority of individuals accessing government websites do so in order to obtain documents or forms (Evans-Cowley and Conroy 2004). Typically, the original documents or files are converted to a platform-independent format. Portable Document Formats (PDFs) are a type of file that can be generated from nearly any sort of document. It has two significant advantages: 1) reader software is available for the vast majority of computer systems in use, and 2) if formatted properly, users with accessibility needs can use PDFs easily. Thus, PDF is a highly efficient file format which can allow organizations to meet accessibility requirements. These requirements are detailed later in this practice guide. PDF reader software is easily available and free. Production of PDFs was relatively resource-intensive as recent as the mid 2000's, but now a large number of programs can convert their files to the format. Microsoft Office products such as Word or Powerpoint can save work directly into the PDF format. There are alternative office software suites such as Open Office[2] or LibreOffice,[3] which are free to use and provide many, if not all, of the functions of the Microsoft Office packages, including PDF generation.

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[2] See http://www.openoffice.org/.
[3] See http://www.libreoffice.org/.

A significant caveat for PDFs or for distributing files electronically more generally, is to be mindful of file sizes. PDFs that contain images or scanned pages of text can be very large in size, presenting a significant barrier to individuals with low bandwidth. This is likely to be even more salient in rural areas where broadband technologies are less prevalent.

E-commerce: long lines in (some) government offices are a thing of the past

Local government websites also increasingly have transactional capabilities – purchasing of permits, payments of fees, fines, etc. - on their websites (Conroy and Evans-Cowley 2006). At a minimum, users can download forms for aspects of planning such as variance requests or rezoning applications. Some cities, such as Buffalo, New York,[4] and Sunnyvale, California,[5] go further and allow for purchase of permits online. In particular, Buffalo has linked its online permit process to other local government departments which may be required to sign off on various activities, thus decreasing delays in response time and allowing for improved monitoring, especially amongst properties marked for preservation (Evans-Cowley and Conroy 2004).

Streaming Media: enabling remote participation

Streaming media – media which users can access without having to download a particular file before viewing – can be a useful tool for E-governance. It allows for live audio and visual broadcasts of events. There is additional expense involved, typically a server capable of handling the traffic and encoding technology. These likely have significant initial cost with relatively cheaper maintenance costs, especially for cities who have invested significantly in their ICT infrastructure. One option to reduce costs is for cities to contract the infrastructure components to a private internet-service provider, thus eliminating the need for in-house system development and maintenance. There is a number of accessibility and language concerns associated with streaming public meetings and other data – cities with large non-English speaking populations will want to consider bi- or poly-lingual broadcasts, for example. Subtitles should be offered as an option if possible for viewers with hearing impairments.

Public Participation and GIS: opening data system to public input

Linking geographic information systems (GIS) to public participation represents the bleeding edge of E-governance. GIS has captured the attention of academics, officials, and stakeholders over the last decade because it ostensibly enhances public participation by empowering users to become producers of knowledge, getting beyond what Arnstein (1969) termed the "placation" stage of participation. GIS development for public use has its own subfield – PPGIS, or public participation geographic information systems.

PPGIS is not without critics. The most common critiques frame PPGIS as an instrument of government surveillance and a return to positivist thinking, in which political positions and social processes are reduced to "points, lines, areas, and attributes" (Sieber 2004: 491). In spite of these critiques, PPGIS systems have proliferated across the country, with a diversity of

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[4] Buffalo, New York. Office of Strategic Planning. (http://www.ci.buffalo.ny.us/Home/City_Departments/Office_of_Strategic_Planning)
[5] Sunnyvale, California.; (http://sunnyvale.ca.gov/Departments/CommunityDevelopment/CommunityDevelopmentDivisions/Planning.aspx)

applications and uses. PPGIS is an instrumental platform in the sense that it focuses on data as opposed to discourse. Its application varies significantly in terms of how users interface with the data; however, a key principle is to use a minimally sophisticated level of technology wherever possible – learning curves for PPGIS systems should be relatively low if they are to promote transparency. This consideration should look at the stakeholders involved and their needs. Real-world PPGIS systems range from what amount to printable maps for hand-written annotation to systems which require non-trivial statistical or computer programming skill sets.

A key aspect of transparency in PPGIS is availability of data. Easy access to data brings its own set of complications. Hoffman (2003: 498-500) argues for three major constraints with respect to data availability in PPGIS for public administration. The first is that data produced by governments is public and therefore should be easy and inexpensive to access as a norm. Second, individual privacy should be protected in instances where data contain names or other information which is not public. Third, data which is sensitive to public safety or the security of a municipality should not be made public. Inasmuch as PPGIS constitutes a system of knowledge, it is a contested system. That is, who and what is represented is critical in situations where local or indigenous knowledge is incorporated into PPGIS datasets. This kind of knowledge can range from what value residents place on their homes to perceptions of an area, and so on. In order to arrive at a broad representation of the public in PPGIS, implementers must consider whose knowledge should be included and how that knowledge will be converted for GIS purposes. PPGISs' main import is not to convert all data to a digital, GIS-usable form, but rather to organize and present pertinent information that was not previously available, using the technological capability of GIS to assist users or stakeholders in their decision making.

Syndication and producing content for multiple platforms/modes

Making content available across individual configurations of hardware and software – syndication - is easily and readily available in e-governance systems, and should be considered standard practice, including making sites readable on devices such as tablet computers and cellphones. Syndication is typically implemented through Rich Site Summary (RSS) feeds, which allow users to open a program or visit a website such as Google Reader to access multiple streams of content. If a user is subscribed to a RSS feed on a government website, then when that website or its constituent element is updated, users see the new content when they access the RSS feed. This is especially useful for news or other frequently updated sections of websites.

Syndication allows users who frequently visit a site or source to "capture" the content of that site in third-party programs by use of RSS. RSS implementation is relatively trivial to incorporate into web hosting and has little additional cost for government websites through the use of server-side programming; typically, scripting in PHP or other scripting languages is required. Thus, some expertise is required during the development process. Fortunately, the knowledge of how to implement RSS feeds is well-known. If local governments lack information technology (IT) expertise in this area, outsourcing to private hosting or web development firms can fill the

void; implementation requires little custom programming or program development. Implementation should not represent substantial cost above the cost of web hosting in general.

Social media: enhancing dialogue between the public sector and citizens

Social media have been at the forefront of changes in how individuals access information. Technologies such as Twitter and Facebook are seemingly omnipresent. The two technologies mirror each other in their function, with the distinction primarily being that Twitter restricts messages to 140 characters or less. Facebook, to date, has approximately 1 billion users, or almost twice the population of North America. The site can enable organizations – through features such as group pages and event planning – to reach audiences who would likely lie outside their reach. Twitter similarly has a large user base, approximately 10 percent of all internet users. It has been credited with enabling rapid organization of individuals in social movements across the Middle East and China. Both products are used primarily on smartphones rather than a computer. This is suggestive of both their functionality and limits for planning departments and communication: both are useful to organizations who wish to sustain communication or messaging with groups who are already linked in to the organization's knowledge networks; at the least, the user needs to "follow" the organization prior to receiving updates. Twitter shares the messaging functionality of Facebook. However, it is more often used by organizations to broadcast relevant news and to offer rapid responses from user-submitted feedback or comments.

It is not enough to build online social networks and expect the public to join; rather, networks centered around local planning need to be place based (Evans-Cowley 2010:411). Research shows that the more common a local issue is, the more likely those local residents come together online – and offline. Rheingold (2000) argues that online connections result eventually in face-to-face meetings. There is further evidence that shared sensibilities about what communities need or lack lead to collective support for change (Foth 2004). Place and proximity are still important with organizing or communicating through social media. This is a "good problem" for planners to have, ideal perhaps, as online communication has been shown to reinforce and perpetuate face-to-face interaction (Foth 2006).

Social media represent an intriguing and still-developing trend in organizational communication. For large organizations who communicate to multiple audiences, a common practice is the creation of a job position dedicated to social media messaging. While representing significant cost, social media appear to be en route to becoming a common tool in public relations.

Mobile devices

In March of 2012, the number of smartphone users in the U.S. surpassed 100 million according to market analysts.[6] There are some 40 million tablet PCs in use in the USA. With respect to all cell phone users, some 48 percent use apps and/or use their phone to browse the World Wide

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[6] Radwanick, Sarah and Carmela Aquino. 2012. "2012 Mobile Future in Focus." Available online at http://www.comscore.com/Press_Events/Presentations_Whitepapers/2012/2012_Mobile_Future_in_Focus. Accessed September, 2012.

Web regularly (ibid). Trend analysis indicates that the number of individuals using smart phones is rapidly increasing. Organizations and communities developing E-governance structures would be well advised to take the mobile phone user population into account in the implementation process.

Several of the preceding discussions in this practice guide relate to E-governance development for mobile phones. RSS feeds and syndication represent an efficient solution for many organizations, due to the fact that RSS as a technology is platform-independent. In order for individuals to access and view RSS feeds properly, they must already have a RSS reader installed on their phone (or desktop). Social media is also geared towards mobile users – one in three U.S. mobile phone users accessed Facebook and other social networks via their phone.

Message boards

Message boards provide a useful resource for stimulating two-way discussion between citizens, planning departments, and other interested parties. For organizations that already have a web presence, implementation is inexpensive and there are many software packages available such as Snitz, Infopop, and others.

It is important, however, to recognize that message boards typically are vulnerable to spam attacks as well as to the perils of anonymous or semi-anonymous interaction. There are several practices available to mitigate both of these problems: removing anonymous posting and requiring users to provide some limited personal information via an account registration process before posting is allowed.

Listservs and Email

Listserv[7] – a popular software package for managing email mailing lists – is another attractive and popular option for E-governance and electronic communications. The lists may be configured to allow or prevent discussion. The latter type functions as a way to distribute news, announcements, and other kinds of information to its audience. There are several ways to engage users and connect them to mailing lists, via web-based forms and through emailed commands to the listserv software itself. A third option, but one that is more resource intensive, is to have an individual in the role of gatekeeper. In this scenario, users cannot automatically join the list; they join a queue where the gatekeeper then manually admits them to the listserv. This option can be useful for restricting conversations to specific sets of individuals or groups. On interactive lists, requiring people to sign up with their real name may mitigate issues common in semi-anonymous interaction.

While Listserv itself is a software package for managing electronic mailing lists, there are a number of competing packages. All vary in terms of cost, with some providing limited free lists. If costs are prohibitive, it is possible for organizations to use pre-existing server infrastructure to maintain their own lists. This may be efficient in situations where a large IT staff exists. In

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[7] See http://www.lsoft.com/products/listserv.asp.

other cases, outside vendors can maintain the list and manage technical problems. In general, utilizing email is an inexpensive way to publish content to an audience (using file formats such as PDF, described above). A best practice in e-government is to publish information in multiple ways and let end-users decide how they want to receive that data.

Preparing for Implementation

Generally, the public sector has some difficulty in forming long-term policy, especially when that policy is not expected to have results which matter for the next election. The characteristic shortsightedness of the public sector brought about by short election cycles is perhaps the greatest financial problem associated with a transition to e-government (Edmiston 2003:36). A transition of this magnitude requires expenditures for large fixed costs, whereas the savings generally accrue very gradually through reductions in operating costs. In other words, the pain is immediate while the gain is distant. Effective transitions to e-government therefore need a large investment in and commitment to the future. Reluctance on the part of some public officials and administrators to implement e-government at such a high cost is rational. However, in some ways, the e-government transition can be self-financing. Minnesota's state government recently used savings from the outsourcing of its automobile registration renewal form mailing ($220,000 per year) to help finance technology designed to speed up the renewal process on the back end (ibid).

Public-private partnerships represent another viable option. Business, as a substantial consumer of government services and payer of taxes, has a significant financial interest in seeing e-government develop. Therefore, promoting their involvement is, in a sense, a marketing problem. Public-private partnerships are an important component of e-government transition financing in many of the state and local governments that have successfully launched major e-government initiatives. For example, IBM completely developed Arizona's vehicle registration program and operates the program on its own servers for $1 per transaction and 2 percent of revenues (Snell and Moore 1999; Stratford and Stratford 2000). As noted earlier, this program has resulted in significant cost savings for the State of Arizona. Similarly designed public-private partnerships have been touted as the only real solution for e-government. Of course, cost savings are not the only goal of e-government, nor may they be the primary goal, as an expansion of public service provision to previously underserved populations would potentially yield great benefits.

Implementation Models

Evans-Cowley and Conroy (2004) suggest there are eight steps in implementing e-government in local government. Fundamental initial considerations should be on the scope and identity of the e-governance system: which department(s) should be involved? Management, IT staff, planning staff and public officials should come together to discuss relevant issues such as cost, services offered, and technology choices. Generally, the following skill-sets should be "at the table" in one form or another: planning, project management, graphic art and content creators more generally, customer service, marketing, and security (ibid). Asking for and including public

input is also warranted on both normative and practical grounds: rather than building a system of e-governance that *may* be what the public wants, why not find out in particular? Generating ideas is potentially exhausting; a key practice for this step is to consider other city websites, especially cities of comparable size and demographics. It is critical to keep ease-of-use in mind; the importance of public input is reiterated. From this step concrete goals or objectives should emerge, providing a roadmap for e-government implementation. Costs associated with the established objectives may be provided by IT staff, which should also be able to suggest an estimate of labor-time involved.

Throughout the entire process, it is important to keep the end goal in mind – a common mistake cited in both academic literature and case studies on e-government implementation is the construction of extensive systems which are under-utilized. The so-called "if we build it, they will come" fallacy can be avoided by incorporating public input throughout the design process: the best tool is the one that is used. While building system capacity or functionality beyond public input is, all other things equal, a good idea, this capacity should be understood as an extension. Additionally, websites or systems which have high technology requirements for users may also contribute to under-use of that system. If your particular e-government implementation follows federal mandates for accessibility, this may be avoided (see following section).

Legal Requirements for E-governance: The Americans with Disabilities Act

All government websites must be accessible to individuals with hearing and/or visual difficulty. Section 508 of the Rehabilitation Act, passed in 1998, details legal requirements for federal e-government websites (29 U.S.C. § 794d(a)(1)(A)(ii)). Jaeger (2004; 2006) has provided a useful summary of its contents. For the sake of clarity, in this section italicized text represents directives stemming from Section 508 and is accompanied by discussion on how to make your e-governance system compatible. Please note that this listing and discussion of accessibility requirements is not exhaustive and should not be considered so. [8]

A text equivalent should be provided for every non-textual element. Equivalent alternative formats of elements of multimedia presentations must synchronize to the appropriate parts of the presentation. Redundant text links should be provided in each active region of server-side image map. Client-side image maps should be used whenever possible to facilitate the map being readable by assistive technologies. This may be as simple as providing transcripts for PowerPoint presentations; however, depending on the type of media being used, synchronization may need to be accomplished by use of time-stamps in a transcript. With respect to image maps, whether they're client-side or server-side, providing alternative text for images, which is only displayed if images are not, is supported in standard website construction and is trivial to accomplish. [9]

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[8] See the US Federal Government's "Resources for understanding and implementing Section 508" for more information (http://www.section508.gov/)

[9] HTML, or hypertext markup text, provides support for text equivalents through use of the ALT attribute. For more information on using ALT, see the W3C's standards at http://www.w3.org/TR/WCAG20-TECHS/H37.

All information conveyed through color must also be conveyed without color. Visual displays of data or information – charts, maps, graphs, and so on – need to be available in grayscale or black-and-white. Nearly all graphic design or editors have this capability. There are also many free programs available which can do the job.[10]

Documents must be organized so as to be readable without an accompanying style sheet. Cascading style sheets, or CSS, allow for the visual design and content of a website to be separated, allowing for more simple modification as well as modulatization, wherein different style sheets may be created for different web browsers or systems. In this case, websites should include code which provides for text-only versions of website content.[11]

Row and column headers should be identified on data tables. Markup should be used to associate data cells and header cells in data tables to ensure graceful transformation. Frames should be titled with text that identifies frame and facilitates navigation. Hypertext markup language, or HTML, is the universal scripting language used for website creation. Proper design of tables is performed through appropriate 'markup' of data elements such that, as Section 508 requires, table headers and rows are required. HTML itself – without any additional technology – can meet this requirement through proper use of HTML tags for table rows and headers, viz. "<tr>" and "<th>" respectively. The World Wide Web Consortium (W3C) is the governing body for World Wide Web standardization and should be regarded as the ultimate source of information regarding standards and best practices for websites.[12]

A text-only equivalent page must be available for every page that cannot otherwise be made completely compliant with all other requirements. All scripting language related to content must be identifiable and readable by assistive technologies. For any Web site that employs applets, plug-ins, or other applications on the users' computers, these applications must comply with the Section 508 guidelines for software products and Web sites. Users should not be timed out of applications—for timed applications, users should be given an alert message and the option to indicate that more time is necessary. The above requirements can be difficult to implement in some cases where more dynamic or complex application might be preferred. These guidelines essentially constrain e-governance systems to standard uses. Technologies which require plug-ins and/or additional client-side software generally violate these requirements unless supplemented with additional resources. The litmus test for whether your e-government system meets these standards is whether an electronic screen reader can process your content. While not prohibited, technologies such as Java and Macromedia's Flash should be avoided. Instead, content needs to be presented in its most basic universal form. Minimalist site design in this sense should work with all potential end-user software and hardware configurations. For local governments, the Americans with Disabilities Act of 1990[13] is also important, prohibiting discrimination against persons with disabilities. The act mandates equal access for

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[10] For example, GIMP is a very popular open-source image editing program that is comparable to Adobe Photoshop in its functionality. See http://www.gimp.org/

[11] For more information, see A List Apart's discussion of CSS switching: http://www.alistapart.com/articles/n4switch/.

[12] See http://www.w3c.org/.

[13] For more on the Americans with Disabilities Act, see http://www.ada.gov/.

individuals with disabilities in situations not covered by the Rehabilitation Act, including state and local government as well as private business. Finally, the E-government Act of 2002 specifies that e-government be fully accessible to individuals with disabilities. There may also be state-level legal requirements; therefore, it's a good idea to consult legal counsel to be sure of what requirements apply in your area.

Conclusion

While most planning departments have an internet presence as of 2012, most are limited to static pages rather than direct engagement or interaction. Tools developed in the last decade have created the capacity for more innovative and democratic approaches. While evaluation of e-government systems in terms of their effect on citizen engagement is an on-going question, it can be said that e-government creates the *opportunity* to become more involved in local government and planning processes. The flexibility and adaptability of e-government is likely to become ever more important.

While there are great benefits to developing these applications and services, those benefits must be weighed against the organizational, implementation and social constraints. However, citizens are increasingly feeling more confident with e-government systems, and therefore, governments have a relatively captive audience. Governments which do not capitalize on this opportunity and continue to exclude citizens from their communication strategies will not only increase the divide among them and their residents but also risk losing some of their legitimacy. As governments look at developing an e-government strategy, they must buy into the notion that these systems must not only prepare citizens for politics but also improve politics. Careful considerations must be taken into account in the areas of accessibility and usability (Jaeger, 2004). Ensuring equal access to the same information is vitally important when implementing e-governance.

Resources

"A Brave New World: How Apps are Changing Planning."
 (http://www.planetizen.com/node/58314)
Jennifer Evans-Cowley and Brittany Kubinski provide a detailed list of apps for mobile devices
 that are useful for urban planners and planning.

Americans with Disability Act, Information and Technical Assistance. (http://www.ada.gov/)
The US Department of Justice provides standards and regulations as regarding the ADA as well
 as assistance programs, including phone hotlines for questions, providing speakers, and
 publications on related material.

Center for Digital Government: (http://www.centerdigitalgov.com/)
The Center is an information clearinghouse and social network hub for IT professionals working
 in local and state governments.

Digital Communities (http://www.digitalcommunities.com/)
Digital Communities is an information clearinghouse for IT professionals and features
 frequently updated blogs on topics related to IT in local and state government.

International City/County Management Association E-government Section
 (http://icma.org/en/icma/knowledge_network/topics/kn/Topic/77/Egovernment)
The E-government section of ICMA provides research, white papers, and discussion on IT topics
 for local and state governments, with an international context.

International Council for Information Technology in Government Administration
 (http://www.ica-it.org/)
The ICA is a non-profit organization established to promote the exchange of knowledge, ideas
 and experiences of central government IT authorities on all aspects of the initiation,
 development and implementation of computer-based systems in and by Government.

Resources for understanding and implementing Section 508 (http://www.section508.gov/)
Section 508 requires that Federal agencies' electronic and information technology is accessible
 to people with disabilities. IT Accessibility & Workforce Division, in the U.S. General
 Services Administration's Office of Government-Wide Policy, has been charged with the
 task of educating Federal employees and building the infrastructure necessary to
 support Section 508 implementation. Using this web site, Federal employees and the
 public can access resources for understanding and implementing the requirements of
 Section 508.

World Wide Web Consortium (http://www.w3c.org/)
 The World Wide Web Consortium is an international body, founded and run by Tim
 Berners-Lee (the creator of the World Wide Web). It makes available online

documentation pertaining to standardized uses of HTML, the language used to create web pages.

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