Urban E-Government, 2002

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Executive Summary

This report presents the second annual update on urban e-government in the United States. E-government refers to the delivery of information and services online through the Internet. Many city governmental units have placed a wide range of materials on the web from publications to databases. Using a detailed analysis of 1,567 city government websites in the 70 largest metropolitan areas, we measure the information and services that are online, chart the variations that exist across cities, and discuss how urban e-government can be improved.

In general, we found that cities have made major strides toward placing information and services online. There has been a substantial increase in the number of city sites that have online services, disability access, and foreign language translation. Urban officials also have made strides in figuring out how to incorporate technology such as webcams, geographic information systems, and interactive features into their websites. However, at the same time, there is growing reliance on user fees and premium service areas that limits access. Some cities also are creating "restricted areas" requiring user names and registration for accessibility. These features need to be assessed very carefully in order to determine how they will affect the ability of ordinary people to access electronic government.

Among the more important findings of the research are:

1) 49 percent of websites offer services that are fully executable online, up from 25 percent last year

2) the most frequent services are requesting services, requesting information, paying traffic tickets, and filing complaints

3) 93 percent of websites provide access to publications (up from 64 percent in 2001) and 77 percent have links to databases (up from 38 percent last year)

4) 38 percent show privacy policies (up from 14 percent in 2001), while 25 percent have security policies (up from 8 percent last year)

5) 82 percent of government websites have some form of disability access, which is up from 11 percent last year

6) 2 percent of sites have commercial advertising, about the same as last year

7) 11 percent of websites charge user fees for the ability to execute particular online services, while 2 percent have premium sections requiring payment for entry

8) 8 percent of city government websites had restricted areas requiring user names and passwords to access

9) 17 percent of city government websites have foreign language translation features (up from 7 percent last year)

10) cities vary enormously in their overall e-government performance based on our analysis. The most highly ranked city governments include Minneapolis, Seattle, Denver, San Diego, Boston, Kansas City, Dallas, Washington, D.C., Houston, and Tampa. Most cities showed improvements in their scores over 2001

11) the lowest ranked cities in our study include New Orleans, Norfolk, Raleigh, and Detroit

12) on our email responsiveness test, 62 percent of agencies replied to our sample query, while 38 percent did not.

A Note on Methodology

In our analysis of websites, we looked for material that would aid an average citizen or business person logging onto a governmental site. This included contact information that would enable a citizen or business person to find out who to call or write at an agency to resolve a problem, material on information, services, and databases, features that would facilitate e-government access by special populations such as the disabled and non-native language speakers, interactive features that would facilitate outreach to the public, and visible statements that would reassure citizens worried about privacy and security over the Internet.

The data for our analysis consisted of 1,567 city government websites for the 70 largest cities in America. The list of cities assessed was based on the most populous metropolitan areas as assessed by the U.S. Census Bureau in 2000. Among the sites analyzed in each city were those of executive offices (such as a mayor or city manager), legislative offices (such as city councils), and major agencies serving crucial functions of government, such as health, human services, taxation, education, economic development, administration, police, fire, transportation, tourism, and business regulation. We looked at an average of 22 websites per city. The analysis was undertaken during June and July, 2002 at Brown University in Providence, Rhode Island. Tabulation for this project was completed by Dylan Brown and Julie Petralia.

Websites were evaluated for the presence of various features dealing with information availability, service delivery, and public access. Features assessed included type of site, name of city, branch of the world, office phone number, office address, online publications, online database, external links to non-governmental sites, audio clips, video clips, non-native languages or foreign language translation, commercial advertising, user payments or fees, premium fees, restricted areas, various types of disability access, various measures of privacy policy, security features, presence of online services, number of different services, links to a government services portal, digital signatures, credit card payments, email address, search capability, comment form or chat-room, broadcast of events, automatic email updates, and personalization of website.

For e-government service delivery, we looked at the number and type of online services offered. Features were defined as services only if the entire transaction could occur online. If a citizen had to print out a form and then mail it back to the agency to obtain the service, we did not count that as a service which could be fully executed online. Searchable databases counted as services only if they involved accessing information that resulted in a specific government service response. The remainder of this report outlines the detailed results that came out of this research.

We also undertook an email responsiveness test in order to determine the extent to which city agencies would respond to a simple request for information. We sent an email to the human services department (or its equivalent) in each city. The message was short, asking the question, "I would like to know what hours your agency is open during the week. Thanks for your help." Email responses from agencies were recorded based on whether the office responded and how long it took to respond in days.

Overview of City E-Government

In general, the last year has seen a flourishing of e-government activity at the urban level. More and more cities are putting services online, providing disability access, and making publications and data bases available for online viewing. There also has been improved service to people with special needs. For example, the Houston Aging Department uses larger fonts (size 13.5) on its site compared to that of other government websites in the city (size 10). This helps older Americans with declining eyesight to be able to read issues related to aging. Syracuse has a "How Do I?" section that instructs visitors on how to do a variety of online things, such as renewing licenses to obtaining tax forms.

A number of cities are making progress at using the power of technology to deal with urban issues that frustrate ordinary people. For example, cities such as San Jose and Seattle are using live webcams at key intersections so that visitors can check for themselves how crowded certain highways are at various points during the day. Other places such as Louisville and Detroit are using geographic information system maps that are color coded to show the average traffic speed along various parts of major highways. These e-government features help people use the Internet to make decisions on what are the best routes to travel around the city. However, some sites (such as Greensboro, North Carolina) take new technology to an annoying degree and program pop-up screens that appear every time you enter the portal page. Although they advertise upcoming events or special messages from the city (such as the need to conserve water), they require visitors to close them or sit through a lengthy presentation before being able to see the entire website.

Reflecting the status of many cities as tourist destinations, a number of websites offer virtual tours of parks, major buildings, gardens, and town halls so that people can get a 360 degree panoramic view of those areas. This allows potential visitors to see whether they would be interested in visiting those attractions. Examples of sites doing this include the Oakland Fire Department as well as the Seattle, Tacoma, and Miami portals.

In the interest of promoting responsiveness and accountability, Denver city government has a blank email form on its portal site with a pull-down screen that allows citizens to drag down the names of various public officials in that area for email contact. This makes it easier for citizens to figure out which government person they should contact for various types of issues.

However, as we discuss in this report, there has been an increase in the percentage of sites relying on user fees and premium fees. This risks the creation of a "two-class" e-government society where those who can afford online services pay to access them, while other citizens are not able to take advantage of premium features. In addition, some city government sites have created "restricted areas" requiring user names and passwords in order to be able to access material in that area. There needs to be careful thought about the broader ramifications of each of these developments for the future of e-government.

Online Information

In looking at specific features of government websites, we found that contact information is quite prevalent. The vast majority of sites provide their department's telephone number (97 percent) and mailing address (95 percent). These are materials that would help an ordinary citizen needing to contact a government agency reach that office. In terms of the content of online material, many agencies have made extensive progress at placing information online for public access. Ninety-three percent (up from 64 percent in 2001) of government websites around the country offered publications that a citizen could access, and 77 percent provided databases, up from 38 percent last year. Ninety-eight percent had links to other sites where a citizen could turn for additional information, which was higher than the previous year.

Percentage of City Websites Offering Publications and Databases

	2001	**2002**
Phone Contact Info.	92%	97%
Address Info	83	95
Links to Other Sites	67	98
Publications	64	93
Databases	38	77
Audio Clips	1	6
Video Clips	3	16

Most public sector websites do not incorporate audio clips or video clips on their official sites. Despite the fact that these are becoming much more common features of e-commerce and private sector enterprise, six percent of government websites provided audio clips and 16 percent had video clips. A common type of audio or video clip was a greeting or speech by the mayor.

Services Provided

Fully executable, online service delivery benefits both government and its constituents. In the long run, such services have the potential to lower the costs of service delivery and make services more widely accessible to the general public, because they no longer have to visit, write, or call an agency in order to execute a specific service. There has been a substantial increase in city sites having fully executable, online services. Of the websites examined around the country, 49 percent offered some

service, up from 13 percent last year. Of this group, 12 percent offer one service, 4 percent have two services, 2 percent offer three services, and 31 percent have four or more services.

	2001	**2002**
None	87%	51%
One Service	9	12
Two Services	2	4
Three Services	1	2
Four or More Services	1	31

The most frequent services found online included requesting services, requesting information, paying traffic tickets, and filing complaints.

Top Online Urban Services, 2002

Request Service	346 websites
Request Information	287
Pay Traffic Ticket	248
File Complaint	180
Apply for Job	167
Register for Service	131
Pay Taxes	112
Report Information	98
Report Crime	71
Report Abandoned Autos	70

One feature that has aided the development of online services has been the ability to use credit cards and digital signatures on financial transactions. Twenty-five percent of city government websites are able to process credit card payments, which is up from 4 percent last year. Only one percent, though, allow digital signatures for financial transactions, about the same as last year.

Services by Top Cities

Of the 70 cities analyzed, there is wide variance in the percentage of government sites with online services. San Diego and Tampa are first, with 100 percent of their websites providing some type of service, followed by Denver (97 percent), San Antonio (96 percent), Seattle (96 percent), and San Francisco (96 percent).

Percent of City Sites Offering Online Services

San Diego	100%	*Tampa*	100%
Denver	97	*San Antonio*	96
Seattle	96	*San Francisco*	96
Houston	95	*Dallas*	95
Minneapolis	95	*Pittsburgh*	95

Privacy and Security

Public opinion surveys place privacy and security at the top of the list of citizen concerns about e-government. Having visible statements outlining what the site is doing on privacy and security are valuable assets for reassuring a fearful population and encouraging citizens to make use of e-government services and information. There has been an increase in the percentage of city e-government sites that

offer policy statements dealing with these topics. For example, 38 percent post some form of privacy statement on their site, up from 14 percent last year. Twenty-five percent have a security statement, up from 8 percent in 2001.

We also assessed the quality of privacy and security statements. In looking at the content of privacy policies, 29 percent prohibited the commercial marketing of visitor information, 5 percent prohibit the creation of cookies or individual profiles of visitors, 30 percent prohibit sharing personal information without the prior consent of the user, and 27 percent share information with law enforcement authorities. On security statements, 6 percent indicated they use computer software to monitor network traffic.

Some cities, such as Indianapolis, have a privacy policy on the portal page that "informs you about the types of information the city of Indianapolis and Marion County gathers online when you visit Indy.gov or any associated web sites." However, no other agency link for that locale shows the privacy policy. This means if visitors enter an agency website directly rather than going through the portal, they will not see a privacy policy.

Quality of Privacy and Security Statements

	2001	**2002**
Prohibit Commercial Marketing	10%	29%
Prohibit Cookies	2	5
Prohibit Sharing Personal Information	9	30
Share Information with Law Enforcement	--	27
Use Computer Software to Monitor Traffic	4	6

Security by Top Cities

There are wide variations across cities in the percentage of websites showing a security policy. Albany, Austin, and Memphis were the places most likely to show a visible security policy, with 100 percent of their sites including a statement. They were followed by Richmond (96 percent), Dallas (95 percent), Albuquerque (95 percent), and Minneapolis (95 percent).

Top Cities in Security Policy

Albany	100%	*Austin*	100%
Memphis	100	*Richmond*	96
Dallas	95	*Albuquerque*	95
Minneapolis	95	*Virginia Beach*	93
Louisville	91	*San Diego*	88

Privacy by Top Cities

Similar to the security area, there are widespread variations across cities in providing privacy policies on their websites. The cities with the highest percentage of websites offering a visible privacy policy were Albany, Austin, Buffalo, Memphis, Phoenix, Richmond, and Virginia Beach (100 percent), followed by Denver (97 percent), Dallas (95 percent), Albuquerque (95 percent), and Minneapolis (95 percent).

Top Cities in Privacy Features

Albany	100%	*Austin*	100%
Buffalo	100	*Memphis*	100
Phoenix	100	*Richmond*	100
Virginia Beach	100	*Denver*	97

Dallas	95	*Albuquerque*	95
Minneapolis	95		

Disability Access

There has been a dramatic increase in disability access. Whereas last year, 11 percent of government websites had some form of access, this year 82 percent did. To be recorded as accessible to the disabled, the site had to display any one of the following features that would be helpful to the hearing or visually impaired. For example, TTY (Text Telephone) or TDD (Telephonic Device for the Deaf) phone numbers allow hearing-impaired individuals to contact the agency by phone. Second, the site could be "Bobby Approved," meaning that the site has been deemed disability-accessible by a non-profit group that rates Internet web sites for such accessibility (http://www.cast.org/bobby/). Third, the site could have web accessibility features consistent with standards mandated by groups such as the World Wide Web Consortium (W3C) or local legislative acts. Finally, if the site provided text labels for graphics or text versions of the website, it was counting as having some degree of accessibility.

In looking at particular kinds of disability accessibility, there were variations in how cities provided access. Fourteen percent provided TTY/TDD phone lines, 2 percent were Bobby approved, 1 percent met the standards of the World Wide Web consortium or local legislative acts, and 79 percent had text versions or text labels for graphics.

Types of Disability Accessibility

	2001	**2002**
TTY/TDD	4%	14%
Bobby Approved	2	2
World Wide Web Consortium	2	1
Text Version or Labels	6	79

Foreign Language Access

Seventeen percent of city government websites have foreign language features that allow access to non-native speaking individuals (although this is up from 7 percent last year). By foreign language feature, we mean any accommodation to the non-native speakers, such as text translation into a different language. The cities having the highest proportion of websites with foreign language access included Denver (97 percent of its sites), Dallas (95 percent), Cleveland (91 percent), Cincinnati (74 percent), and Hartford (70 percent).

Top Foreign Language Access by Cities

Denver	97%	*Dallas*	95%
Cleveland	91	*Cincinnati*	74
Hartford	70	*Orlando*	58
Houston	55	*Phoenix*	50
Providence	38	*Chicago*	32

Using a company called WorldLingo, the Dayton portal has eight different languages (Spanish, Italian, German, Portuguese, Korean, Chinese, Japanese, and French) accessible through its site. Cincinnati also offered six languages (French, German, Spanish, Chinese, Korean, and Russian) through its portal site as well as through several of its specific agencies and departments. The Albuquerque site had translations and the contact name in various departments of staff members who spoke Spanish.

Ads, User Fees, and Premium Fees

Overall, use of ads to finance government websites is not very prevalent. Only 2 percent of sites (up from 1 percent last year) had commercial advertisements on their sites, meaning non-governmental corporate and group sponsorships. In general, tourism and transit authority sites were most likely to have ads. For example, these websites had banners or "fly-by" ads for hotels, travel agents, or special travel packages. When defining an advertisement, we eliminated computer software available for free download (such as Adobe Acrobat Reader, Netscape Navigator, and Microsoft Internet Explorer) since they are necessary for viewing or accessing particular products or publications. Links to commercial products or services available for a fee included as advertisements as were banner, pop-up, and fly-by advertisements.

Cities that had ads on their websites included the Tacoma Parks website (ads for Coke and ATT Broadband as part of its Summer Sounds Concert 2002), the Phoenix portal (an ATT ad for its Education Showcase online form), the Phoenix Human Services page (ads for Yahoo mail and Yahoo maps), San Diego Parks and Recreation (ads for Pepsi and Ralphs for Partners in Play), Columbus portal (an ad for a Channel 10 sponsored event Commit to be Fit), Philadelphia portal (a Citizens Bank ad for Philadelphia Marathon 2002), Virginia Beach portal (ads for golf courses, business counseling, and children's summer programs), Providence portal (ads for a clothing store and weather.com), and New Orleans portal (an ad for weather.com).

There has been a growth of reliance on user fees. Eleven percent of city e-government sites had user fees. These are transaction fees over the actual cost of the government service. This contrasts with the fact that no sites had user fees in 2001. Examples of sites that relied on user fees include the Indianapolis City website (through its premium site CivicNet, with user fees of $5/case for a Civil Case Summary, $2/license for a marriage license, and $3/application for plumbing permits"), the Houston website (an online ticket payment service that charges a $5 convenience fee per ticket), the San Francisco site (ordering Birth and Death certificates for a $5 convenience fee and an online parking ticket payment system with a convenience fee of $2.75 per citation paid"), Baltimore city website (which uses an online company called Official Payment Corp. to process online miscellaneous, parking fines/red light citations, personal property tax, and real property taxes), the San Antonio City website (tickets for the 2003 Division I Men's Championship South Regional could be purchased online for $4/ticket), the Orlando city website (uses a site called remit-online for online parking ticket payments and charges a $2 convenience fee for each ticket), the Columbus City website (allows for utility bill payment online at a charge of $2 or 2%, whichever is greater), the St. Louis City website (uses Official Payment Corp. to process personal property and real estate taxes online for a convenience charge), Tampa (which offers online ticket payment for $1.50 to $5), the Richmond portal, finance, and utilities pages (a fee to pay utilities, taxes, and parking tickets online for $2 to $3), Jacksonville portal, courts, and taxation (a fee to pay parking tickets and taxes online run by Official Payments Corp.), Salt Lake City environment, utility, and transportation (a user fee to pay parking tickets and water bills online), Austin Human Service ($9 to $11 for Birth and Death Certificates run via Vital Check), Buffalo (pay parking tickets online for a users fee; run via VeriSign), Rochester ($3 user fee for paying parking ticket and $1 for utilities), Memphis (pay taxes online through Official Payments Corporation), and Raleigh (pay parking tickets online through VeriSign).

Two percent of city government sites had premium fees in order to enter particular sections of the website. This included the Cincinnati City website (linked to a $30 premium bid site called BidWire run by Demandstar; companies also can "Target government opportunities specifically to your business," "view new bids AND past bids to help you compete," "Download, print, or request bid documents be mailed directly to you," and "View blueprints online or download blueprints"), and the Kansas City website (access to the premium BidWire for local companies).

In addition, the Indianapolis City website had an extensive premium area called the CivicNet which required a $50/year fee to be accessed. There also were other fees for most services. For example, the user had to pay $5/case for a "Civil Case Summary," $2/license for a marriage license, and $3/application for plumbing permits. There also was a user fee to undertake a database search in addition to the $50/year

fee. Users were charged to do a criminal justice search, which "Identifies an individual who has been accused of a criminal offense within the Marion County Circuit Court System. Information available from 1988-present." For the annual subscription, CivicNet furthermore provides individual passwords for up to 10 people in the organization (which would access all online services at the site), toll-free technical support hotline, and detailed management reports regarding account usage. Finally, for a $75 annual subscription fee, citizens could access all these CivicNet services plus all the premium services offered by Access Indiana for the state of Indiana. This was the only city/state premium area combination that we found anywhere around the country.

Restricted Areas

Eight percent of city government websites had restricted areas requiring user names and passwords to access. For example, sites with restricted areas included the Houston site (where there is a restricted area for people who sign up for the Department of Public Works & Engineering, and then they can take part in the "street cut permit system."), Atlanta Police Department website (a restricted area for officers and retired officers), Seattle Community College (an online report tool for teachers to access who is taking their class; restricted to teachers only), the Minneapolis Human Resources website (a restricted area for employment information and enrollment forms that only city employees can access), the San Diego Unified School District (a restricted job application area), the San Diego Community College (a restricted area for online applications), the Los Rios Community College (services restricted to students with student ID numbers), the Milwaukee Municipal Court website (a restricted case information area for "authorized users") Milwaukee Neighborhood Services site (a restricted are for the internal DNS phone list), the San Antonio City website (a restricted area for telecommuting support), the Tidewater Community College website (a restricted area for student email accounts), the Pittsburgh City website (a restricted "Career Link" area for board members and staff"), the School District of Hillsborough County in Tampa (an area called "IDEAS" that was restricted), Long Beach School Department (restricted area for students and teachers), El Paso Tax Office (restricted area for tax information), Greenville Motor Vehicles, Treasurer, and Planning (restricted areas for authorized users), Louisville Education (job search and application requires social security number and password registration), Louisville Revenue and Taxes (requires account and password to enter), Jacksonville library and utility page (require name and pin number to access certain information), Nashville Finance page (requires a name and password in order to make a bid), Salt Lake City (business page requires a business license identification number to access services, the purchasing department requires a password for services, and the education page requires a password to access the online library), and Charlotte Sheriff's page (requires a login and password to research certain documents).

Public Outreach

E-government offers the potential to bring citizens closer to their governments. Email is an interactive feature that allows ordinary citizens to pose questions of government officials or request information or services. In our study, we found that 74 percent of government websites offered email contact material so that a visitor could email a person in a particular department other than the Webmaster.

Percentage of City Government Websites Offering Public Outreach

	2001	**2002**
Email	69%	74%
Search	54	69
Comments	17	36
Email Updates	2	13
Broadcast	2	9

Personalized Sites	0	3

While email is certainly the easiest method of contact, there are other methods that government websites can employ to facilitate public feedback. These include areas to post comments (other than through email), the use of message boards, and chat rooms, which appeared on 36 percent of sites. Websites using these features allow citizens and department members alike to read and respond to others' comments regarding issues facing the department.

Sixty-nine percent of the sites we examined had the ability to search the particular website. This is a feature that is helpful to citizens because it allows them to find the specific information they want. Nine percent of sites offer live broadcasts of important speeches or events ranging from live coverage of the government hearings and broadcasts of public speeches to weekly Internet radio shows featuring various department officials. Thirteen percent of government websites allow citizens to register to receive updates regarding specific issues. With this feature, web visitors can input their email addresses, street addresses, or telephone numbers to receive information about a particular subject as new information becomes available. The information can be in the form of alerts notifying citizens whenever a particular portion of the website is updated. Three percent of websites allowed the users to personalize the site to their particular interests.

Email Responsiveness

It is useful to have email contact information on government websites, but there needs to be staff members who actually read and respond to citizen requests for information. To test agency responsiveness, we sent sample email messages to human service departments in the various cities asking for information on when their government office was open. We monitored responses to see whether anyone responded and how long it took in days.

In general, responsiveness was not very good. Sixty-two percent of agencies responded, while 38 percent did not. Of those which did respond, most did so in one or two days. This clearly is an area where government agencies need to work in order to increase responsiveness to citizen requests.

Response Time	**2002**
No response	38%
One Day	38
Two Days	18
Three Days	2
Four Days	0
Five Days	0
Six Days	0
Seven Days or More	4

Top E-Government Cities

In order to see how the 70 cities ranked overall, we created a 0 to 100 point e-government index and applied it to each city's websites based on the availability of contact information, publications, databases, portals, and number of online services. Four points were awarded to each website for the presence of each of the following 24 features: phone contact information, addresses, publications, databases, links to other sites, audio clips, video clips, foreign language access, not having ads, not having user fees, not having premium fees, not having restricted areas, disability access, having privacy policies, security policies, allowing digital signatures on transactions, an option to pay via credit cards, email contact information, search capabilities, having a link to a portal, areas to post comments, broadcasts of

events, option for email updates, and personalization. These features provided a maximum of 96 points for particular websites.

Each site then qualified for a bonus of four points based on the number of online services executable on that site (1 point for one service, two points for two services, three points for three services, and four points for four or more services). The e-government index therefore ran along a scale from 0 (having none of these features and no online services) to 100 (having all 24 features plus at least four online services). This total for each website was averaged across all of a specific city's websites to produce a 0 to 100 overall rating for that urban area.

The top city in our ranking is Minneapolis at 89.5 percent. This means that every website we analyzed for that city has nearly 90 percent of the features important for information availability, citizen access, portal access, and service delivery. Other cities which score well on e-government include Seattle (85.9 percent), Denver (85.3 percent), San Diego (79.3 percent), Boston (77.6 percent), Kansas City (75 percent), Dallas (74.6 percent), Washington, D.C. (74.3 percent), Houston (73.8 percent), and Tampa (72.9 percent). Most cities showed improvement in their score compared to the 2001 results. The Appendix lists each city's ranking for 2001 and 2002.

The lowest ranked cities in our study included New Orleans (44.8 percent), Norfolk (45 percent), Raleigh (45 percent), and Detroit (46.4 percent).

Top E-Government Cities

Minneapolis	89.5%	*Seattle*	85.9%
Denver	85.3	*San Diego*	79.3
Boston	77.6	*Kansas City*	75.0
Dallas	74.6	*Washington DC*	74.3
Houston	73.8	*Tampa*	72.9
Columbus	72.2	*San Antonio*	71.9
San Jose	71.5	*Indianapolis*	69.9
Tacoma	69.9	*Pittsburgh*	69.5
Phoenix	67.3	*San Francisco*	66.7
Virginia Beach	64.6	*Cleveland*	64.2
Albuquerque	62.9	*Memphis*	62.0
Baltimore	61.9	*Milwaukee*	61.7
Chicago	61.3	*Honolulu*	61.1
Charlotte	60.9	*Austin*	60.3
Sacramento	60.3	*Louisville*	60.2
New York	59.4	*Richmond*	58.1
Nashville	57.9	*Tucson*	57.5
Los Angeles	57.2	*Portland*	56.3
Salt Lake City	55.7	*Philadelphia*	55.7
Buffalo	54.6	*Rochester*	54.0
Fort Worth	53.2	*Oakland*	53.1
Jacksonville	52.7	*Hartford*	52.4
Cincinnati	52.2	*Dayton*	51.8
Birmingham	51.7	*Orlando*	51.4
Atlanta	51.3	*Omaha*	50.7
Grand Rapids	50.0	*Knoxville*	49.9
Providence	49.8	*Greensboro*	49.7
West Palm Beach	49.5	*Tulsa*	49.4
Fresno	49.4	*El Paso*	49.3
Las Vegas	49.0	*Albany*	48.7

Oklahoma City	48.3	*Long Beach*	47.3
Miami	47.3	*St. Louis*	47.3
Syracuse	46.7	*Greenville*	46.5
Detroit	46.4	*Raleigh*	45.0
Norfolk	45.0	*New Orleans*	44.8

Differences by Branch of Government

There are some differences in e-government by branch of government. In general, portal sites that serve as the gateway to many city government websites had more publications, links to external sites, foreign language translation, online services, electronic updates, and credit card payment options than executive, legislative, or judicial sites.

	Executive	**Legislative**	**Judicial**	**Portal**
Phone	98%	97%	97%	90%
Address	95	97	96	78
Publication	92	97	87	100
Database	76	82	57	100
Links	98	98	100	100
Audio Clip	4	9	3	29
Video Clip	14	16	6	48
Foreign Lang	15	16	10	62
Ads	1	0	1	9
Premium Fees	2	3	3	4
Restricted Areas	7	4	7	25
User Fees	10	8	7	30
Privacy	36	39	41	56
Security	25	24	24	38
Disability	81	79	82	90
Services	49	34	28	88
Link to Portal	90	92	79	--
Credit Cards	24	19	22	65
Digital Sign	1	2	0	1
Email	74	92	48	86
Search	68	70	60	87
Comment	34	40	31	70
Broadcast	9	12	4	28
Updates	12	15	10	42
Personalization	3	3	1	9

Conclusions

To summarize, we find that there has been considerable improvement over last year in the amount of online services, disability access, and giving citizens access to online publications and data bases. These improvements show that when mayors and city councils place a priority on introducing technology into government, rapid progress can be made.

However, the growth in the use of user fees and premium service areas limits the ability of all citizens to access these features. While some are able to pay the $50 to $75 charge required to access premium areas, not all can do so. The use of these revenue-generating areas runs the risk of creating a

"two-class" society of information haves and have-nots. Government officials must think carefully about the ramifications of this reliance on for-fee services.

Some cities have been forced to curtail e-government services due to budgetary problems. For example, Atlanta stopped its City Beat newsletter because of "the critical financial issues facing" the city (according to its website). These types of financial problems are becoming more of a problem for the expansion of urban e-government across the country.

In addition, more and more cities are building "restricted access" areas of their websites that require user names and passwords to enter. While some of these restrictions are valid based on the privacy of employee records, officials must be careful not to limit information in areas where there is a legitimate public right to know. In the case of the latter, limited access prevents technology from achieving its full promise in an open society.

City governments need to figure out how to take advantage of features that enhance public accountability. Simple tools such as website search engines are important because such technologies give citizens the power to find the information they want on a particular site. Right now, only two-thirds of government websites are searchable, which limits the ability of ordinary citizens to find information that is relevant to them.

The same logic applies in regard to features that allow citizens to post comments or otherwise provide feedback about a government agency. Citizens bring diverse perspectives and experiences to e-government, and agencies benefit from citizen suggestions, complaints, and feedback. Even a simple feature such as a comment form empowers citizens and gives them an opportunity to voice their opinion about city government services they would like to see. Given the range of services cities deal with, such as garbage collection, police and fire, streets, potholes, and rodent control, it would be especially valuable for city government websites to employ features that facilitate citizen feedback and enhance governmental accountability.

Appendix

Table A-1 Overall City E-Govt Rating in 2002 (with previous year's rating in parentheses)

Rank	City	Rating Out of 100 Pts.	Rank	City	Rating Out of 100 Pts.
1.(11)	Minneapolis	89.5(41)	36.(35)	Portland	56.3(33)
2.(3)	Seattle	85.9(48)	37.(5)	Salt Lake City	55.7(44)
3.(8)	Denver	85.3(43)	38.(49)	Philadelphia	55.7(30)
4.(1)	San Diego	79.3(53)	39.(61)	Buffalo	54.6(27)
5.(16)	Boston	77.6(40)	40.(64)	Rochester	54.0(26)
6.(7)	Kansas City	75.0(43)	41.(38)	Fort Worth	53.2(32)
7.(54)	Dallas	74.6(28)	42.(26)	Oakland	53.1(36)
8.(4)	Washington, DC	74.3(45)	43.(41)	Jacksonville	52.7(32)
9.(36)	Houston	73.8(33)	44.(43)	Hartford	52.4(31)
10.(19)	Tampa	72.9(38)	45.(44)	Cincinnati	52.2(30)
11.(27)	Columbus	72.2(36)	46.(37)	Dayton	51.8(32)
12.(57)	San Antonio	71.9(28)	47.(63)	Birmingham	51.7(26)
13.(9)	San Jose	71.5(42)	48.(25)	Orlando	51.4(36)
14.(10)	Indianapolis	69.9(42)	49.(29)	Atlanta	51.3(35)
15.(14)	Tacoma	69.9(40)	50.(42)	Omaha	50.7(31)
16.(23)	Pittsburgh	69.5(37)	51.(59)	Grand Rapids	50.0(28)
17.(55)	Phoenix	67.3(28)	52.(60)	Knoxville	49.9(27)
18.(20)	San Francisco	66.7(38)	53.(24)	Providence	49.8(37)
19.(6)	Virginia Beach	64.6(43)	54.(50)	Greensboro	49.7(30)
20.(69)	Cleveland	64.2(21)	55.(58)	West Palm	49.5(28)

				Beach	
21.(2)	Albuquerque	62.9(50)	56.(53)	Tulsa	49.4(29)
22.(18)	Memphis	62.0(39)	57.(46)	Fresno	49.4(30)
23.(22)	Baltimore	61.9(37)	58.(65)	El Paso	49.3(25)
24.(52)	Milwaukee	61.7(30)	59.(28)	Las Vegas	49.0(36)
25.(32)	Chicago	61.3(34)	60.(70)	Albany	48.7(17)
26.(12)	Honolulu	61.1(41)	61.(26)	Oklahoma City	48.3(36)
27.(34)	Charlotte	60.9(34)	62.(30)	Long Beach	47.3(35)
28.(21)	Austin	60.3(38)	63.(66)	Miami	47.3(25)
29.(33)	Sacramento	60.3(34)	64.(62)	St. Louis	47.3(26)
30.(68)	Louisville	60.2(24)	65.(40)	Syracuse	46.7(32)
31.(17)	New York	59.4(40)	66.(67)	Greenville	46.5(25)
32.(15)	Richmond	58.1(40)	67.(56)	Detroit	46.4(28)
33.(51)	Nashville	57.9(30)	68.(47)	Raleigh	45.0(30)
34.(39)	Tucson	57.5(32)	69.(48)	Norfolk	45.0(30)
35.(13)	Los Angeles	57.2(40)	70.(45)	New Orleans	44.8(30)

Note: The following table shows the percentage of websites in each city that has the particular feature, such as contact information, publications, databases, links, and foreign language translation.

Table A-2 Individual City Profiles for Selected Features, 2002						
	Phone	*Address*	*Pubs*	*Data*	*Links*	*For Lang*
Albany	100%	83%	78%	48%	100%	0%
Albuquerque, NM	100	95	100	100	100	21
Atlanta	88	88	47	59	88	6
Austin	100	100	100	71	100	13
Baltimore	87	74	100	96	96	9
Birmingham, AL	100	93	100	73	100	0

Boston	100	100	76	64	96	12
Buffalo	100	100	91	43	96	4
Charlotte	100	100	100	44	100	7
Chicago	96	89	86	82	100	32
Cincinnati	95	84	100	79	100	74
Cleveland	96	96	100	100	100	91
Columbus	100	100	88	96	100	0
Dallas	100	100	100	100	100	95
Dayton	100	95	100	58	100	5
Denver	97	97	87	100	97	97
Detroit	100	100	68	79	100	0
El Paso	100	95	100	50	100	9
Fort Worth, TX	100	100	100	82	100	6
Fresno, CA	100	95	100	80	100	0
Grand Rapids, MI	100	100	95	55	95	10
Greensboro, NC	100	100	96	43	100	17
Greenville, SC	100	100	95	53	100	0
Hartford	100	100	93	63	100	70
Honolulu	100	94	100	78	100	0
Houston	95	95	95	100	100	55
Indianapolis	100	96	100	91	100	22
Jacksonville	97	97	100	72	100	0
Kansas City	91	87	100	65	100	9
Knoxville	100	93	100	100	100	0
Las Vegas	100	100	96	26	100	4
Long Beach	89	89	94	56	94	11
Los Angeles	100	100	100	66	100	31
Louisville	100	100	100	91	96	9
Memphis	100	100	100	55	100	5
Miami	91	91	77	86	82	14
Milwaukee	95	90	95	100	95	14
Minneapolis	100	95	100	100	100	5
Nashville	100	100	100	62	97	3
New Orleans	100	100	95	43	100	5
New York	93	93	93	59	96	11
Norfolk, VA	100	97	86	86	97	0
Oakland	100	94	94	100	94	11
Oklahoma City	100	100	100	71	100	0
Omaha	95	91	100	100	100	0
Orlando	100	100	81	100	100	58
Philadelphia	100	96	96	88	100	23
Phoenix	95	86	95	95	95	50
Pittsburgh	100	100	68	100	100	5
Portland	92	88	92	88	100	15
Providence	100	100	94	81	100	38
Raleigh	94	100	94	50	100	0
Richmond	96	96	100	64	100	0

Rochester	100	100	93	64	100	7
Sacramento	100	92	88	92	96	13
Salt Lake City	100	100	93	44	100	7
San Antonio	100	100	100	100	100	14
San Diego	96	92	88	100	100	25
San Francisco	100	92	83	92	100	13
San Jose	95	95	86	91	95	14
Seattle	93	89	100	100	100	19
St. Louis	94	81	63	63	94	0
Syracuse	100	100	91	50	100	0
Tacoma, WA	94	76	94	76	100	6
Tampa	91	83	91	74	100	13
Tucson	96	100	100	75	100	17
Tulsa	86	64	100	79	93	0
Virginia Beach	93	93	100	100	100	7
Washington, DC	100	100	96	92	96	12
West Palm Beach	100	100	100	77	100	0

Note: The following table shows the percentage of websites in each city that has the particular feature, such as ads, premium fees, restricted areas, user fees, online services, and links to a portal.

Table A-3 Individual City Profiles for Selected Features, 2002						
	Ads	*Prem Fee*	*Restrict Area*	*User Fee*	*Services*	*Portal*
Albany	0%	0%	0%	0%	0%	100%
Albuquerque, NM	0	0	0	0	37	89
Atlanta	0	0	6	0	82	82
Austin	4	0	4	8	21	100
Baltimore	0	0	4	83	83	83
Birmingham, AL	0	0	0	0	20	93
Boston	0	0	0	0	88	92
Buffalo	0	0	0	9	13	100
Charlotte	0	0	4	0	37	85
Chicago	0	0	4	0	64	96
Cincinnati	0	16	11	0	47	89
Cleveland	4	0	0	0	91	100
Columbus	8	0	8	72	88	88
Dallas	5	0	0	95	95	100
Dayton	0	0	0	0	21	100
Denver	0	0	3	0	97	97
Detroit	7	0	0	0	29	96
El Paso	0	0	5	0	14	82
Fort Worth, TX	0	0	0	0	29	100
Fresno, CA	0	0	5	0	30	90

Grand Rapids, MI	0	0	0	0	15	100
Greensboro, NC	0	0	0	0	30	91
Greenville, SC	0	0	16	0	42	100
Hartford	40	0	0	0	15	89
Honolulu	0	0	0	6	50	89
Houston	5	0	9	86	95	86
Indianapolis	4	48	48	35	65	96
Jacksonville	0	0	17	10	28	90
Kansas City	0	91	91	0	91	100
Knoxville	0	0	0	0	0	73
Las Vegas	0	0	0	0	26	100
Long Beach	0	0	6	0	0	100
Los Angeles	0	0	10	7	52	76
Louisville	0	0	9	4	35	96
Memphis	0	0	0	5	25	100
Miami	0	0	14	0	27	59
Milwaukee	0	0	10	0	71	76
Minneapolis	0	0	5	89	95	100
Nashville	0	0	7	0	52	97
New Orleans	5	0	5	0	38	33
New York	0	0	7	11	48	85
Norfolk, VA	3	0	7	0	24	76
Oakland	0	0	6	0	39	94
Oklahoma City	0	0	0	0	21	100
Omaha	0	0	5	0	14	82
Orlando	0	4	0	8	31	100
Philadelphia	4	0	12	0	42	85
Phoenix	14	0	9	0	45	100
Pittsburgh	0	0	5	0	95	100
Portland	8	0	0	0	38	77
Providence	6	0	0	0	25	100
Raleigh	0	0	0	6	19	100
Richmond	0	0	0	12	12	96
Rochester	0	0	7	7	29	100
Sacramento	0	0	13	0	58	63
Salt Lake City	0	0	11	15	48	74
San Antonio	11	0	11	7	96	96
San Diego	8	0	8	0	100	96
San Francisco	0	0	8	92	96	100
San Jose	0	0	0	0	91	82
Seattle	0	0	7	0	96	93
St. Louis	0	0	6	6	34	84
Syracuse	0	0	0	0	18	95
Tacoma, WA	0	0	6	0	94	94
Tampa	0	0	96	91	100	91
Tucson	0	0	4	4	33	79
Tulsa	0	0	0	0	57	100

Virginia Beach	18	0	0	0	7	100
Washington, DC	0	0	4	0	88	77
West Palm Beach	0	0	0	0	15	92

Note: The following table shows the percentage of websites in each city that has the particular feature, such as digital signatures, credit card capabilities, privacy statements, security statements, disability access, and comment sections.

Table A-4 Individual City Profiles for Selected Features, 2002

	Digital Sign	*Credit Card*	*Privacy*	*Security*	*Disabil Access*	*Comment*
Albany	0%	0%	100%	100%	0%	0%
Albuquerque, NM	0	0	95	95	100	32
Atlanta	0	76	6	0	76	12
Austin	0	8	100	100	100	21
Baltimore	0	83	0	0	96	4
Birmingham, AL	0	0	0	0	27	93
Boston	0	4	80	80	96	80
Buffalo	0	9	100	0	100	9
Charlotte	0	11	85	81	100	48
Chicago	0	11	7	0	93	86
Cincinnati	0	26	0	0	68	16
Cleveland	0	91	4	4	26	0
Columbus	0	84	4	0	84	84
Dallas	0	95	95	95	95	25
Dayton	0	0	0	0	100	21
Denver	0	97	97	0	97	97
Detroit	0	7	4	0	21	18
El Paso	0	0	5	9	73	32
Fort Worth, TX	0	0	6	0	100	41
Fresno, CA	0	5	0	0	30	35
Grand Rapids, MI	0	0	0	0	95	10
Greensboro, NC	0	0	0	0	100	9
Greenville, SC	0	0	0	0	0	47
Hartford	0	0	0	0	100	19
Honolulu	0	17	83	83	78	17
Houston	0	86	86	86	68	18
Indianapolis	0	52	4	4	70	87
Jacksonville	0	14	76	0	93	41
Kansas City	0	91	4	9	96	91
Knoxville	0	0	73	0	100	7
Las Vegas	0	4	4	0	100	9
Long Beach	0	6	0	0	17	56

Los Angeles	0	17	28	14	62	52
Louisville	0	4	91	91	96	35
Memphis	0	5	100	100	100	25
Miami	0	5	5	0	32	5
Milwaukee	0	0	62	0	90	10
Minneapolis	0	89	95	95	100	95
Nashville	0	21	7	0	100	97
New Orleans	0	10	10	0	38	33
New York	0	11	26	15	93	22
Norfolk, VA	0	0	7	0	38	14
Oakland	0	11	0	0	94	11
Oklahoma City	0	0	0	0	100	7
Omaha	0	9	0	0	91	18
Orlando	0	8	0	0	96	4
Philadelphia	0	12	4	0	92	15
Phoenix	0	9	100	0	100	100
Pittsburgh	0	11	0	0	100	89
Portland	0	0	0	0	85	15
Providence	0	6	0	0	100	13
Raleigh	0	6	0	0	75	6
Richmond	0	12	100	96	100	16
Rochester	0	14	7	7	100	21
Sacramento	0	8	17	4	96	38
Salt Lake City	0	11	74	74	100	11
San Antonio	0	11	93	00	100	14
San Diego	0	96	92	88	96	13
San Francisco	0	88	33	33	100	00
San Jose	77	77	0	0	95	23
Seattle	0	93	11	11	100	93
St. Louis	0	13	0	0	91	25
Syracuse	0	0	0	5	0	23
Tacoma, WA	0	88	82	0	100	12
Tampa	0	91	87	87	100	52
Tucson	0	4	75	63	100	25
Tulsa	0	0	7	7	14	36
Virginia Beach	0	7	100	93	100	71
Washington, DC	0	12	85	81	92	81
West Palm Beach	0	8	0	0	92	31

Table A-5 Best Practices in Top Cities, 2002

1) Minneapolis: http://www.ci.minneapolis.mn.us/

The city of Minneapolis scored highly on the e-government index because of the availability of contact information, publications, databases, and a number of online services. As seen on the portal page above, the city portal page is clear, easy to navigate, and provides citizens with a variety of services and information. Some features unique to the Minneapolis page were the link for e-subscription updates, and the webcam of live city government. In addition, the page is easy to follow and find what one is looking for because of the "How do I" section, the search option, the list of city services and their contact information, as well as the separation of business, leisure, community, and city hall services. The city of Minneapolis has privacy and security policies, foreign language translation, and viewing options for the disabled. The website does not have restrictions, premium fees, or advertisements. The site allows credit card transactions, and provides opportunities for citizen feedback, and has email updates available. All of these combined factors made Minneapolis the top-ranking city at 89.5%.

2) Seattle: http://www.cityofseattle.net/

The city of Seattle was the second ranked e-government city at 85.9%. The page is easy to navigate and provides citizens with a variety of information and services. As seen on the portal page, Seattle has a large number of services, and contact information, search options, and feedback mechanisms enable citizens to find what they are looking for. The site also offers audio and video clips, privacy and security policies, four foreign language translations and access for the disabled via text only and TTY services. The site does not restrict users or charge premium or user fees. The page separates local citizens, business, and visitors in order to make the site easier to navigate. Also, email updates are available through this site. Overall, there was a lot of information offered to citizens, and it was laid out in a way that was easy to follow.

3) Denver: http://www.denvergov.org/

The city of Denver ranked third in the 2002 e-government city ranking at 85.3%. The site makes contact information, publications, databases, and online services available to users. The portal page is clearly laid out, and in addition to the number of services and the availability of information, the site offers eight foreign language translations. The city has privacy policy and opportunity for feedback, and prohibits advertisements, restrictions, and premium fees. The Denver site is simple to follow because under the heading of information center, the types of services are broken down (elected officials, employment, business, and online services) so it is easy for a citizen to locate what they are looking for. Email updates are available to citizens through this site. All of the factors combined and the number of services available lead to the high ranking in this year's e-government evaluation.

4) San Diego: http://www.sannet.gov/

The city of San Diego was the fourth ranked e-government city at 79.3%. The city scored highly on the e-government index because of the availability of contact information, publications, databases, and a number of online services. San Diego has privacy and security policies, foreign language translation, and viewing options for the disabled. The website does not have restrictions, premium fees, or advertisements. The site allows credit card transactions, and provides opportunities for citizen feedback. As seen on the portal page, there is an extensive amount of information contained on the site and it is well organized, so citizens are able to access and find what services and information they are looking for.

5) Boston: http://www.cityofboston.gov/

The city of Boston ranked fifth in the 2002 e-government study at 77.6%. The site scored highly on the e-government index because of the availability of contact information, publications, databases, and a number of online services. As seen on the portal page above, the city portal page is clear, easy to navigate, and provides citizens with a variety of services and information. Boston laid out the information in three groups- residents, businesses, and visitors so it was easier for citizens to find what they were looking for. The website is comprehensive and all departments share a similar template. The city of Boston has privacy and security policies and viewing options for the disabled. The website does not have restrictions, premium fees, or advertisements. The site allows credit card transactions, and provides opportunities for citizen feedback. Also, the portal page has the ability to be personalized and updates are available.