Urban E-Government, 2003

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Executive Summary

This report presents the third 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, such as publications and databases. Using a detailed analysis of 1,933 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 has changed over time.

In this study, we examine the readability level and disability accessibility of city government websites as well as the number of services that are online, how issues of privacy and security are handled, and the extent to which these sites are relying on ads and user fees. In general, we found that cities are writing their sites at a much higher grade level than is read by many city residents. Disability access also is a problem, as city governments are lagging behind state and national governments in providing access to the disabled. We close our report by making specific recommendations on how government agencies can improve their websites.

Among the more important findings of the research are:

1) 70 percent of city government sites read at the 12th grade level, which is far higher than the reading comprehension of many city residents, according to national literacy statistics.

2) Using the automated, online "Bobby" test, only 20 percent of city sites are compliant with the W3C standard of disability access and 13 percent comply with the Section 508 legal standard. These numbers are below the comparable figures for states and the federal government. For example, 47 percent of federal sites meet the W3C standard, while 33 percent of state sites do.

3) 48 percent of websites offer services that are fully executable online, about the same as the 49 percent last year.

4) 41 percent show privacy policies (up from 38 percent in 2002), while 27 percent have security policies (up from 25 percent last year).

5) 1 percent of sites have commercial advertising, about the same as last year.

6) 7 percent of websites charge user fees for the ability to execute particular online services, while less than one percent have premium sections requiring payment for entry.

7) 4 percent of city government websites have restricted areas requiring user names and passwords to access.

8) 16 percent of city government websites have foreign language translation features (up from 7 percent last year).

9) Cities vary enormously in their overall e-government performance based on our analysis. The most highly ranked city governments are Denver, Charlotte, Boston, Louisville, Nashville, Houston, Salt Lake City, Dallas, Oklahoma City, and Tucson.

10) The lowest ranked cities in our study are Greenville, Atlanta, Tacoma, Miami, and Dayton.

A Note on Methodology

In our analysis, we looked for material that would aid an average citizen or business person logging onto a governmental site. This included information, services, 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 1,933 city government websites for the 70 largest cities in America. The list of cities assessed is based on the most populous metropolitan areas determined by the U.S. Census Bureau. The sites analyzed in each city are those of executive offices (such as a mayor or city manager), legislative offices (such as city councils), judicial (such as municipal court) 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 27.6 websites per city. The analysis was undertaken during June and July, 2003 at Brown University in Providence, Rhode Island. Tabulation for this project was completed by Emily Boness and Carrie Bersak.

Websites were evaluated for the presence of various features dealing with information availability, service delivery, and public access. Features assessed included online publications, online database, audio clips, video clips, non-native languages or foreign language translation, commercial advertising, user payments or fees, premium fees, restricted areas, two types of disability access (W3C and Section 508), various measures of privacy policy, security features, presence of online services, number of different services, digital signatures, credit card payments, email address, comment form or chat-room, automatic email updates, personalization of website, personal digital assistant or handheld access, and readability level. The remainder of this report outlines the detailed results that came out of this research.

Readability

About half of the American population reads at the eighth grade level or lower, according to national literacy statistics. Low literacy rates are particularly problematic in urban locations because people who live in metropolitan areas tend to have lower income and speak a language other than English. In this situation, there has been concern that government documents and information sources are written at too high of a level for many citizens to comprehend.

To see how city government websites fared, we undertook a test of the grade-level readability of the front page of each website. Our procedure was to use the Flesch-Kincaid program to evaluate each site's readability level. The Flesch-Kincaid test is a standard way to test reading level and is the one used by the United States Department of Defense. The test is computed by dividing the average sentence length (number of words divided by number of sentences) by the average number of syllables per word (number of syllables divided by the number of words).

As shown below, the average grade readability level of American city websites was at a 11.2 grade level, well above the comprehension of many urban residents. Seventy percent of city government sites read at the 12th grade level. Just eight percent of metropolitan sites read at the eighth grade level or below.

	Percentage Falling within Each Grade Level
Third or Fourth Grade	1%
Fifth Grade	1
Sixth Grade	1
Seventh Grade	2
Eighth Grade	3
Ninth Grade	5
Tenth Grade	8
Eleventh Grade	9
Twelve Grade	70
Mean Grade Level	11.2 Grade Level

Readability levels vary significantly across individual cities. The cities with the highest grade level (meaning the least accessible) are San Antonio and Atlanta (11.9 for each), followed by Tampa (11.8), Greenville (11.8), Louisville (11.8), and Honolulu (11.8). The cities showing the lowest grade levels (meaning the most accessible) are Salt Lake City (8.7), Denver (9.8), and Jacksonville (10.3).

Average Grade-Level Readability of City Government Sites

San Antonio	11.9	*Atlanta*	11.9
Tampa	11.8	*Greenville*	11.8
Louisville	11.8	*Honolulu*	11.8
Oklahoma City	11.7	*Virginia Beach*	11.7
West Palm Beach	11.6	*Albany*	11.6
Baltimore	11.6	*San Diego*	11.6
Orlando	11.6	*Syracuse*	11.6
Dallas	11.5	*Birmingham*	11.5
Sacramento	11.5	*Austin*	11.5
Cleveland	11.5	*Minneapolis*	11.5
Memphis	11.5	*Norfolk*	11.5
Greensboro	11.4	*Louisville*	11.4
Fort Worth	11.4	*Phoenix*	11.4
Detroit	11.3	*Houston*	11.3
Tucson	11.3	*Washington DC*	11.3
Grand Rapids	11.2	*Richmond*	11.2
Hartford	11.2	*Knoxville*	11.2
Dayton	11.2	*Columbus*	11.2
Kansas City	11.2	*Chicago*	11.2
Nashville	11.2	*St. Louis*	11.2
Seattle	11.1	*Cincinnati*	11.1
Miami	11.1	*Rochester*	11.0
Omaha	11.0	*Boston*	11.0
Tulsa	11.0	*San Francisco*	11.0
Pittsburgh	11.0	*Portland*	11.0
Philadelphia	10.9	*Indianapolis*	10.9
Providence	10.9	*Charlotte*	10.9
Los Angeles	10.9	*El Paso*	10.9
Raleigh	10.9	*Fresno*	10.9
Oakland	10.9	*New York City*	10.8
Buffalo	10.8	*San Jose*	10.8
Long Beach	10.6	*New Orleans*	10.5
Albuquerque	10.4	*Jacksonville*	10.3
Denver	9.8	*Salt Lake City*	8.7

Disability Access

This year, we altered our test of disability access by examining the actual accessibility of government websites, not just claims of accessibility. In the past, we looked at whether sites displayed TTY (Text Telephone) or TDD (Telephonic Device for the Deaf) phone numbers which allow hearing-impaired individuals to contact the agency by phone, provided text labels for graphics, or claimed that they were disability-accessible. This approach has the obvious disadvantage of not providing an actual test of accessibility so this year we used the automated, online "Bobby" service at http://bobby.watchfire.com to check accessibility.

We used two different standards of website accessibility: compliance with the Priority Level One standards recommended by the World Wide Web Consortium (W3C) and compliance with the legal requirements of Section 508 of the U.S. Rehabilitation Act of 1973. For each test, we entered the URL of the particular agency being evaluated and used the "Bobby" analysis to determine whether the website

complied with either the W3C or the Section 508 guidelines. Sites were judged to be either in compliance or not in compliance based on the results of these two tests.

In looking at these two kinds of disability accessibility for 2003, we find that 20 percent of city sites are Bobby compliant using the W3C standard and 13 percent are on the Section 508 standard. These numbers are below the comparable figures for states and the federal government. For example, 47 percent of federal sites meet the W3C standard, while 33 percent of state sites do. In general, cities lag behind states and the federal government in providing disability access to government websites, probably due to budget reasons.

	Federal Sites	**State Sites**	**City Sites**
W3C Accessibility	47%	33%	20%
Section 508 Accessibility	22	24	13

There are variations in how extensively cities provide access. The top city is Buffalo with 100 percent of its sites meeting the Bobby test for W3C accessibility. It is followed by San Diego (87 percent), Denver (87 percent), Oklahoma City (83 percent), Knoxville (78 percent), and St. Louis (73 percent).

W3C Disability Accessibility by City

Buffalo	100%	*San Diego*	87%
Denver	87	*Oklahoma City*	83
Knoxville	78	*St. Louis*	73
Sacramento	72	*Austin*	69
Tampa	63	*El Paso*	61
Louisville	56	*Honolulu*	52
Baltimore	50	*Washington DC*	40
Cincinnati	39	*San Francisco*	37
Seattle	32	*Richmond*	32
Nashville	30	*Fresno*	27

There are some cities that claimed to be disability compliant and posted "Bobby-approved" icons on their website, but upon verification turned out not to be accessible. For example, Columbus, Ohio has a Bobby icon on its portal site, but does not pass the online Bobby test. Washington, D.C. has an accessibility statement at the bottom of many of its pages that says it complies with Section 508 guidelines. Its portal page does pass the Bobby 508 test, but some of the other pages, that also have the accessibility statement at the bottom, do not pass the test. Phoenix has an accessibility statement at the bottom of many sites, articulating its commitment to complying with 508 guidelines, but none of its sites pass the Bobby test. Most of Tampa's websites pass both 508 and W3C, but it has an accessibility statement that claims that all pages pass both, and the portal page does not. The Orlando portal page has a W3C icon at the bottom, yet does not pass Bobby tests. The City of Las Vegas has a publication linked at the bottom of its portal page written by the mayor in July of 2002 stating that 80 percent of the sites comply with 508 legal standards. However, not one of the pages tested passes. Fresno's policy states that "Pages on this website are reviewed and produced to the best of our abilities" to pass the provisions of Section 508. But only a few Fresno sites actually pass the W3C, and none of the sites meet Section 508 standards. Honolulu's accessibility policy states "The City and County of Honolulu maintains its website to allow general accessibility using standards set forth in Worldwide Web Consortium (W3C)." But only 14 of that city's 25 sites checked are in fact following W3C standards.

On these sites, it is possible that at some point in time the website was accessible to the disabled but that changes made on the site made them less accessible. This suggests that governments should post a date on their site for when it was found to be accessible and then repeat the test at periodic intervals.

Online Information

The vast majority of sites provide online information. Seventy-nine percent (down from 93 percent in 2002) of city government websites offered publications that a citizen could access, and 41 percent provided databases. 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, only two percent of government websites provided audio clips and eight percent had video clips. A common type of audio or video clip was a greeting or speech by the mayor or the ability to watch City Council meetings live.

Percentage of City Websites Offering Publications and Databases

	2001	**2002**	**2003**
Phone Contact Info.	92%	97%	--
Address Info	83	95	--
Links to Other Sites	67	98	--
Publications	64	93	79
Databases	38	77	41
Audio Clips	1	6	2
Video Clips	3	16	8

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 to make services more widely accessible to the general public, because a citizen no longer has to visit, write, or call an agency in order to execute a specific service. Of the websites examined around the country, 48 percent offered some service, about the same as the 49 percent last year. Of this group, 10 percent offer one service, three percent have two services, two percent offer three services, and 33 percent have four or more services.

	2001	**2002**	**2003**
None	87%	51%	52%
One Service	9	12	10
Two Services	2	4	3
Three Services	1	2	2
Four or More Services	1	31	33

Common services found online include paying parking tickets, traffic citations, utility bills, and city taxes; reporting a problem, such as a dead animal, pothole, or abandoned vehicle; asking for graffiti removal, and renewing library books online.

Some cities with novel services include a New Orleans site that allows a person to file a police report online, as long as the incident occurred in the city limits and one cannot identify any of the suspects. A Tucson site allows a visitor to register online for golf tee time. An Oklahoma City website has a service that matches citizens for car-pooling based on responses from an online form. The Albuquerque Animal Services website contains a searchable database of its animals for possible adoption from the shelter. New York and Austin allow visitors to apply for a copy of a birth certificate online, while Boston and Providence have online city stores and Los Angeles gives public officials the opportunity to file ethics reports online. Washington, D.C. provides a sample driving test online and also lets its residents get a copy of their driving record and schedule a driving road test. San Francisco lets people register domestic union or sign up for civil wedding times online.

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-nine percent of city government websites are able to process credit card payments, which is up from 25 percent last year. Less than 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 average number of online services. Milwaukee had the largest number, with an average of 27.9 services across its websites, followed by Denver (23.1 services), Oklahoma City (22.2 services), and Louisville (22.0 services). Cities with the lowest average of online services were Knoxville, Detroit, and Raleigh, each with an average of 0.1 services for their various websites.

Average Number of Online Services at City Sites

Dallas	87.6	*Boston*	36.0
Milwaukee	27.9	*Denver*	23.1
Oklahoma City	22.2	*Louisville*	22..0
Nashville	16.3	*Jacksonville*	15.3
Charlotte	14.6	*Syracuse*	13.4
Houston	13.3	*Phoenix*	10.0
Rochester	9.7	*Kansas City*	8.7
Salt Lake City	8.7	*Cincinnati*	8.2
New Orleans	7.0	*Tucson*	6.6
St. Louis	6.1	*San Francisco*	6.0
Fresno	4.7	*Birmingham*	4.1
Honolulu	4.1	*Buffalo*	3.9
Indianapolis	3.8	*Richmond*	3.7
Washington DC	3.3	*Tulsa*	3.0
Tampa	2.3	*Los Angeles*	2.2
New York City	2.1	*San Antonio*	1.9
Albuquerque	1.8	*Virginia Beach*	1.6
Columbus	1.5	*Greensboro*	1.4
Memphis	1.4	*Tacoma*	1.4
Chicago	1.3	*Seattle*	1.3
Fort Worth	1.2	*Philadelphia*	1.0
Cleveland	.9	*Providence*	.9
Norfolk	.9	*San Diego*	.8
Austin	.8	*Minneapolis*	.7
Oakland	.7	*Long Beach*	.6
Las Vegas	.6	*Portland*	.5
Orlando	.4	*Pittsburgh*	.4
Sacramento	.4	*San Jose*	.4
El Paso	.4	*Grand Rapids*	.4
Baltimore	.4	*Omaha*	.3
Atlanta	.3	*Miami*	.3
Albany	.3	*Dayton*	.3
West Palm Beach	.3	*Greenville*	.2
Hartford	.2	*Raleigh*	.1
Detroit	.1	*Knoxville*	.1

Privacy and Security

National public opinion surveys place privacy and security at the top of the list of citizen concerns about e-government. Having visible statements outlining the site's policies on privacy and security are valuable 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, 41 percent post some form of privacy statement on their site, up from 38 percent last year. Twenty-seven percent have a security statement, up from 25 percent in 2002.

We also assessed the quality of privacy and security statements. In looking at the content of privacy policies, 31 percent prohibit the commercial marketing of visitor information, 12 percent prohibit the creation of cookies or individual profiles of visitors, 31 percent prohibit sharing personal information without the prior consent of the user, and 29 percent will share information with law enforcement authorities if necessary. On security statements, 14 percent indicate they use computer software to monitor network traffic.

Quality of Privacy and Security Statements

	2001	**2002**	**2003**
Prohibit Commercial Marketing	10%	29%	31%
Prohibit Cookies	2	5	12
Prohibit Sharing Personal Information	9	30	31
Share Information with Law Enforcement	--	27	29
Use Computer Software to Monitor Traffic	4	6	14

Security by Top Cities

There are wide variations across cities in the percentage of websites showing a security policy. Austin and Charlotte have a visible security policy on 100 percent of their sites. They are followed by Virginia Beach (93 percent), Richmond (91 percent), and San Diego (90 percent).

Top Cities in Security Policy

Austin	100%	*Charlotte*	100%
Virginia Beach	93	*Richmond*	91
San Diego	90	*Albuquerque*	89
Seattle	87	*Dallas*	87
Boston	83	*Houston*	83
Louisville	81	*Memphis*	81
Tampa	81	*Salt Lake City*	80
Washington DC	80	*Albany*	77
Detroit	70	*Minneapolis*	66
San Francisco	60	*Portland*	54

Privacy by Top Cities

Similar to the security policy, 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 are Austin, Charlotte, and Phoenix (100 percent), followed by Richmond (95 percent), Buffalo (93 percent), Denver (93 percent), Virginia Beach (93 percent), and San Antonio (93 percent).

Top Cities in Privacy Features

Austin	100%	*Charlotte*	100%
Phoenix	100	*Richmond*	95
Buffalo	93	*Denver*	93
Virginia Beach	93	*San Antonio*	93
San Diego	90	*Albuquerque*	89
Seattle	87	*Dallas*	87
Washington DC	87	*Knoxville*	85
Boston	83	*Houston*	83
Louisville	81	*Memphis*	81
Tampa	81	*Salt Lake City*	80

Foreign Language Access

Sixteen percent of city government websites have foreign language features that allow access to non-English speaking individuals (about the same as the 17 percent last year). By foreign language feature, we mean any accommodation to the non-English speakers, such as text translation into a different language. The cities having the highest proportion of websites with foreign language access include Denver (100 percent of its sites), Orlando (100 percent), Kansas City (85 percent), and Memphis (78 percent).

Top Foreign Language Access by Cities

Denver	100%	*Orlando*	100%
Kansas City	85	*Memphis*	78
Birmingham	76	*Columbus*	68
Tucson	64	*Portland*	33
Hartford	26	*El Paso*	25
Los Angeles	23	*Providence*	22
Austin	21	*Fort Worth*	20
Houston	20	*Phoenix*	20
Greensboro	19	*Charlotte*	17
Albuquerque	15	*Indianapolis*	15

Ads, User Fees, and Premium Fees

Overall, use of ads to finance government websites is not prevalent. Only 1 percent of sites (about the same as the 2 percent last year) have commercial advertisements on their sites, meaning non-governmental corporate and group sponsorships. 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.

Percentage of Sites with Ads, User Fees, and Premium Fees

	2001	**2002**	**2003**
Ads	1%	2%	1%
User Fees	0	11	7
Premium Fees	--	2	0.3

Examples of city sites that have ads include the Fresno Airport (an ad for Ricondo & Associates, an aviation consulting firm), the Los Angeles Convention and Visitors Bureau (ads for Amtrak Vacations, Universal Studios, and LA Organizations such as Cruise LA and Dine LA), the Oakland Office of Information Technology (ads for Oracle, Sun Microsystems, Cisco Systems and HP Invent), the Columbus Veterans Affairs Office (ads for Lowe's Home Improvement, US Bank, Nationwide Insurance and Ricart Auto Sales), the Indianapolis Fire Department (an ad for Allstate), a Tulsa Parks website (ads for Amazon.com and America Online), and the San Jose Chamber of Commerce (an ad for Office Depot).

There has not been a big change in reliance on user fees, which are small charges added to services executed online. Seven percent of city e-government sites had user fees, down slightly from 11 percent in 2002. These are transaction fees over the actual cost of the government service.

Examples of sites that rely on user fees include Columbus's portal page and Public Utilities page (a service fee of $2 for online water/sewer bills), Orlando ($2 to pay parking tickets online), Rochester ($1 for water bills and $3 for parking tickets), Jacksonville (a fee to pay Real Estate Taxes and Tangible Personal Property taxes online using a credit card), Richmond (a $2 convenience fee to pay parking violations online plus at least $3 to pay personal property taxes on the website), the city of Tulsa (a charge of $50 on its Parks website to register for summer classes at Tulsa Parks Community Centers), El Paso (a 2.9 percent charge for credit card processing to pay taxes on-line), the Long Beach Planning and Building department (a processing fee of $28 to set up a credit card account), Milwaukee (a $1 transactional fee on credit cards when paying parking citations), Kansas City's Animal Control division (a $1 fee to renew a pet's license on-line), Tampa ($3 convenience fee to hire an off-duty police officer online through a credit card), St. Louis (a graduated fee for payment of taxes online), San Francisco ($6 to pay a traffic citation online, plus a $5-300 convenience fee for paying property taxes), Baltimore (a fee for online payments of parking fines, real property taxes, personal property taxes, and metered water bills), and New York City (a $2 convenience fee for paying parking tickets).

Less than one percent of city government sites have premium fees in order to enter particular sections of the website. Examples of cities with premium sections include Indianapolis Police and Clerk's office websites (which charges $4.50 to search through the criminal justice database), Albuquerque (which has the option for vendors to have access to competitive solicitation issued by the Purchasing Division by paying a $35 fee that allows vendors to view current Requests for Bids and Requests for Proposals), and the New Orleans Civil District Court page (which has a Civil District Court Remote Access section costing $300 annually for unlimited access to online records including all cases since 1988).

Restricted Areas

Four percent of city government websites have restricted areas requiring user names and passwords to access, down from eight percent in 2002. Examples of commonly restricted areas are sites for contract bid and proposal viewing (such as Albuquerque's Business Services Department, and Denver's, Houston's, and Portland's Purchasing Departments), passwords to complete online services (such as San Jose's Building Division, which requires a password to complete permit forms and Portland's Portal Site, which requires a username and password to file service requests), online job applications requiring a username and password (the Austin and Jacksonville Human Resources Department site and the Portland Portal Site), Police Departments sites for sex offender databases or recovered property lists (found in cities such as Albany, Austin, Indianapolis, and Nashville), and cities requiring the user to enter library card information in order to access databases, card catalogs and Internet resources from a library site (found in Dallas, Greensboro, Rochester, Tucson, and West Palm Beach).

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 find that 71 percent of government websites offer email contact information so that a visitor can email a person in a particular department other than the Webmaster.

Percentage of City Government Websites Offering Public Outreach

	2001	**2002**	**2003**
Email	69%	74%	71%
Search	54	69	--
Comments	17	36	35
Email Updates	2	13	8
Broadcast	2	9	--
Personalized Sites	0	3	4
PDA Access	--	--	0.2

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 35 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.

Eight 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. For example, the information can be in the form of alerts notifying citizens whenever a particular portion of the website is updated. Four percent of websites allowed the users to personalize the site to their particular interests and less than one percent provide PDA accessibility to the website.

Top E-Government Cities

In order to see how the 70 cities ranked overall, we created a zero to 100 point e-government index and applied it to each city's websites. Four points were awarded to each website in a city for the following 20 features: publications, databases, audio clips, video clips, foreign language access, not having ads, not having user fees, not having premium fees, not having restricted areas, W3C disability access, having privacy policies, security policies, allowing digital signatures on transactions, an option to pay via credit cards, email contact information, areas to post comments, option for email updates, allowing for personalization of the website, PDA or handheld device accessibility, and readability levels below grade 10. These features provided a maximum of 80 points for particular websites.

Each site then qualified for up to 20 additional points based on the number of online services executable on that site (zero for no services, one point for one service, two points for two services, three points for three services, four points for four services, and so on up to a maximum of 20 points for 20 services or more). The e-government index therefore ran along a scale from zero (having none of these features and no online services) to 100 (having all 20 features plus at least 20 online services. This total for each website was averaged across all of the city's websites to produce a rating out of 100 for that city. On average, we assessed 27.6 government websites in each city across the executive, legislative, and judicial branches of government. Many cities showed drops in their overall score compared to the 2002 results because having online services was weighted more heavily in this year's index and we added new measures for readability and disability access. Online services constituted 20 percent of the overall index this year, compared to four percent last year. This change is in keeping with the effort of many cities to put more and more services online. The Appendix lists each city's ranking for 2002 and 2003.

The top city in our ranking is Denver at 64.8 percent. This means that every website we analyzed for that city has nearly two-thirds percent of the features important for information availability, citizen access, and service delivery. Other cities which score well on e-government include Charlotte (57.4

percent), Boston (55.6 percent), Louisville (53.5 percent), Nashville (53 percent), Houston (49.3 percent), Salt Lake City (48.7 percent), Dallas (48.5 percent), Oklahoma City (47.4 percent), and Tucson (46.8 percent).

The lowest ranked cities in our study included Greenville (22.2 percent), Atlanta (22.5 percent), Tacoma (23.9 percent), Miami (25.1 percent), and Dayton, Ohio (25.3).

Top E-Government Cities

Denver	64.8%	*Charlotte*	57.4%
Boston	55.6	*Louisville*	53.5
Nashville	53.0	*Houston*	49.3
Salt Lake City	48.7	*Dallas*	48.5
Oklahoma City	47.4	*Tucson*	46.8
Jacksonville	45.5	*Kansas City*	44.3
Austin	44.1	*Virginia Beach*	43.0
Washington DC	41.2	*Phoenix*	40.8
Memphis	40.0	*San Diego*	40.0
Milwaukee	39.8	*Richmond*	38.8
Tampa	38.4	*New Orleans*	38.2
San Francisco	38.0	*Buffalo*	37.4
Syracuse	36.5	*Fresno*	36.2
Seattle	36.0	*Albuquerque*	35.7
Honolulu	35.6	*Cincinnati*	35.5
Minneapolis	35.2	*Rochester*	34.8
Tulsa	34.6	*Indianapolis*	34.3
Portland	33.7	*Los Angeles*	33.4
El Paso	33.0	*New York City*	33.0
San Antonio	32.5	*Columbus*	32.1
Orlando	31.8	*Louisville*	31.4
Birmingham	30.1	*San Jose*	30.0
Chicago	29.9	*St. Louis*	29.7
Fort Worth	29.6	*Norfolk*	29.5
Knoxville	29.4	*Providence*	29.4
Sacramento	28.9	*Pittsburgh*	28.6
Long Beach	28.6	*Omaha*	28.5
Detroit	28.4	*Grand Rapids*	28.3
Greensboro	28.0	*Cleveland*	27.8
Baltimore	27.6	*Philadelphia*	27.3
West Palm Beach	27.0	*Albany*	27.0
Raleigh	26.7	*Hartford*	26.1
Oakland	25.6	*Dayton*	25.3
Miami	25.1	*Tacoma*	23.9
Atlanta	22.5	*Greenville*	22.2

Differences by Branch of Government

In this study, 91 percent of our sites are executive branch or executive agencies, three percent are legislative, two percent are judicial, and four percent are portal sites. In looking at the differences by branch of government, we find few differences in e-government features. Legislative sites have more

publications than judicial sites. Court-related sites are the least likely of all the branches to include email addresses for its employees on the website.

	Executive	Legislative	Judicial
Publication	78%	90%	65%
Database	40	36	30
Audio Clip	2	0	0
Video Clip	7	21	8
Foreign Lang	15	11	10
Ads	1	0	0
Premium Fees	0	0	0
Restricted Areas	4	0	0
User Fees	7	8	8
Privacy	40	40	42
Security	27	24	22
W3C Disability	21	21	15
Sec508Access	14	8	10
Services	46	47	42
Credit Cards	27	32	32
Digital Sign	0	0	0
Email	70	87	48
Comment	34	39	42
Updates	7	8	0
Personalization	4	3	5
PDA Access	0	0	0

Differences by Agency Type

There are interesting differences by agency type in e-government performance. Tax departments are most likely to offer online services, while education departments are the least likely. Budget agencies are more likely to provide W3C disability access, while health departments are less likely to do so. Agencies working with health also are the least likely to have a privacy policy.

	Elem Educ	Hum Serv	Health	Hous	Budget	Tax	Econ Dev
Publication	89%	74%	97%	81%	91%	83%	85%
Database	70	29	41	35	41	44	36
Audio Clip	4	0	0	3	0	2	0
Video Clip	0	4	3	11	3	2	0
Foreign Lang	37	12	31	11	12	10	6
Ads	0	0	0	0	0	0	0
Premium Fee	0	0	0	0	0	0	0
Restricted Area	15	4	0	3	0	2	2
User Fees	0	6	7	3	6	17	4
Privacy	30	51	28	35	53	46	38
Security	11	39	17	24	35	31	28
W3C Disability	15	18	10	24	29	19	19
Sec508Access	11	10	10	14	18	10	15
Services	30	47	31	32	41	50	36

Digital Sign.	0	0	0	0	0	0	0
Credit Cards	15	33	24	19	32	41	26
Email	70	74	72	54	50	69	74
Comment	30	43	17	22	32	27	30
Updates	15	4	7	11	0	4	6
Personalization	0	2	0	5	6	4	4
PDA Access	0	0	0	0	0	0	0

Conclusions

To summarize, we find several areas where more progress needs to be made. The readability level of many city government websites is way above the grade level of many urban residents. Public officials need to work to make sure the language used on government sites is simple and that sentence structure is not too complex for possible visitors. City agencies should use the Flesch-Kincaid test (or other comparable standard) to evaluate the grade-level readability of sites and make sure sites are around the eighth grade reading level.

Much more progress also needs to be made on disability access. Four out of every five city government websites do not pass the W3C standard of accessibility, as determined by the automated, online Bobby service. This denies accessibility by people who are visually or hearing impaired. Cities should put a date on their accessibility claims so that visitors know at what point the site passed the Bobby test. If changes are made to a page, new accessibility tests should be run so as to make sure the site remains accessible to the disabled.

A number of sites need to work on the clarity of their website presentation. For example, a clear e-services link is extremely helpful, and many sites, such as Rochester and Albany have this feature. Sites like Atlanta, that have an "Online Services" list right on the portal page, aid citizen usage of online services.

Some sites claim services are online while in reality they are not fully executable online. Instead, citizens have to download forms and then mail the completed document to a city agency. This does not allow citizens the full ease and convenience of online government.

Every city should have the option of emailing the mayor. It is convenient that one can click on an icon and have an email server pop-up, but for people who do not have an email server like Outlook, it is also important to actually display the address on the website so people using email services like Hotmail or Yahoo can type in the address.

It is important to make websites clear and organized, with links to different departments clearly identified. Citizens should be able to access services without knowing the name of the sponsoring department (information that is beyond the knowledge level of many citizens). Some cities attempt to put too much material on one page, which could end up confusing citizens. Websites should have a uniform header and footer that make it easy to return to the homepage and to the e-services page.

Some city websites have search options, but the index for these search engines need to be updated frequently so citizens can find what they are looking for. As sites become more complex, the need for effective search engines rise. A good search engine is invaluable to the ordinary visitor who is unsure where to look for particular information.

With cities being home to people from different backgrounds, it is important to have the foreign language translation link written in the language for which it translates. For example a button that says "En Espanol" is more useful than one that reads "In Spanish." By making these types of changes, urban e-government can began to realize its goals of improved service delivery.

Appendix

Table A-1 Overall City E-Govt Rating in 2003 (with previous year's rating in parentheses)

Rank	City	Rating Out of 100 Pts.	Rank	City	Rating Out of 100 Pts.
1.(3)	Denver	64.8(89.5)	2.(27)	Charlotte	57.3(60.9)
3.(5)	Boston	55.6(77.6)	4.(30)	Louisville	53.5(60.2)
5.(33)	Nashville	53.0(57.9)	6.(9)	Houston	49.3(73.8)
7.(37)	Salt Lake City	48.7(55.7)	8.(7)	Dallas	48.5(74.6)
9.(61)	Oklahoma City	47.4(48.3)	10.(34)	Tucson	46.8(57.5)
11.(43)	Jacksonville	45.5(52.7)	12.(6)	Kansas City	44.3(75.0)
13.(28)	Austin	44.1(60.3)	14.(19)	Virginia Beach	43.0(64.6)
15.(8)	Washington, DC	41.2(74.3)	16.(17)	Phoenix	40.8(67.3)
17.(22)	Memphis	40.0(62.0)	18.(4)	San Diego	40.0(79.3)
19.(24)	Milwaukee	39.8(61.7)	20.(32)	Richmond	38.8(58.1)
21.(10)	Tampa	38.4(72.9)	22.(70)	New Orleans	38.2(44.8)
23.(18)	San Francisco	38.0(66.7)	24.(39)	Buffalo	37.4(54.6)
25.(65)	Syracuse	36.5(46.7)	26.(57)	Fresno	36.2(49.4)
27.(2)	Seattle	36.0(85.9)	28.(21)	Albuquerque	35.7(62.9)
29.(26)	Honolulu	35.6(61.1)	30.(45)	Cincinnati	35.5(52.2)
31.(1)	Minneapolis	35.2(89.5)	32.(40)	Rochester	34.8(54.0)
33.(56)	Tulsa	34.6(49.4)	34.(14)	Indianapolis	34.3(69.9)
35.(36)	Portland	33.7(56.3)	36.(35)	Los Angeles	33.4(57.2)
37.(58)	El Paso	33.0(49.3)	38.(31)	New York City	33.0(59.4)

39.(12)	San Antonio	32.5(71.9)	40.(11)	Columbus	32.1(72.2)
41.(48)	Orlando	31.8(51.4)	42.(59)	Las Vegas	31.4(49.0)
43.(47)	Birmingham	30.1(51.7)	44.(13)	San Jose	30.0(71.5)
45.(25)	Chicago	29.9(61.3)	46.(64)	St. Louis	29.7(47.3)
47.(41)	Fort Worth	29.6(53.2)	48.(69)	Norfolk	29.5(45.0)
49.(52)	Knoxville	29.4(49.9)	50.(53)	Providence	29.4(49.8)
51.(29)	Sacramento	28.9(60.3)	52.(16)	Pittsburgh	28.6(69.5)
53.(62)	Long Beach	28.6(47.3)	54.(50)	Omaha	28.5(50.7)
55.(67)	Detroit	28.4(46.4)	56.(51)	Grand Rapids	28.3(50.0)
57.(54)	Greensboro	28.0(49.7)	58.(20)	Cleveland	27.8(64.2)
59.(23)	Baltimore	27.6(61.9)	60.(38)	Philadelphia	27.3(55.7)
61.(55)	West Palm Beach	27.0(49.5)	62.(60)	Albany	27.0(48.7)
63.(68)	Raleigh	26.7(45.0)	64.(44)	Hartford	26.1(52.4)
65.(42)	Oakland	25.6(53.1)	66.(46)	Dayton	25.3(51.8)
67.(63)	Miami	25.1(47.3)	68.(15)	Tacoma	23.9(69.9)
69.(49)	Atlanta	22.5(51.3)	70.(66)	Greenville	22.2(46.5)

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

Table A-2 Individual City Profiles for Selected Features, 2003

	Pubs	*Data*	*For Lang*	*Audio*	*Video*	*PDA*
Albany	47%	33%	0%	0%	0%	0%
Albuquerque, NM	74	44	15	0	7	0
Atlanta	47	7	3	0	3	3
Austin	93	69	21	3	21	0
Baltimore	83	30	0	7	3	0
Birmingham, AL	95	24	76	5	5	0

Boston	67	30	0	0	3	0
Buffalo	47	23	7	0	0	0
Charlotte	77	57	17	0	0	0
Chicago	90	27	7	0	10	0
Cincinnati	70	30	4	0	0	0
Cleveland	40	20	7	3	0	0
Columbus	92	68	68	0	24	0
Dallas	63	10	10	0	0	0
Dayton	92	25	4	8	8	0
Denver	77	23	100	3	3	0
Detroit	63	23	0	0	0	0
El Paso	75	36	25	4	11	0
Fort Worth, TX	100	40	20	0	0	0
Fresno, CA	96	42	8	4	4	0
Grand Rapids, MI	72	97	3	0	3	0
Greensboro, NC	89	56	19	0	11	0
Greenville, SC	69	23	0	0	0	0
Hartford	81	41	26	0	0	0
Honolulu	100	26	0	4	11	0
Houston	77	23	20	0	7	0
Indianapolis	96	89	15	0	4	0
Jacksonville	79	52	14	0	0	0
Kansas City	56	48	85	7	78	0
Knoxville	59	22	0	0	0	0
Las Vegas	100	46	14	0	29	0
Long Beach	93	33	4	0	7	0
Los Angeles	93	57	23	7	10	0
Louisville	93	78	4	0	7	0
Memphis	96	26	78	4	11	0
Miami	60	28	8	0	4	0
Milwaukee	70	33	7	0	4	0
Minneapolis	69	52	3	0	17	3
Nashville	90	77	7	3	20	0
New Orleans	85	54	8	0	8	0
New York	97	60	10	3	13	0
Norfolk, VA	83	50	0	3	3	0
Oakland	83	20	3	3	7	0
Oklahoma City	92	38	0	0	0	0
Omaha	72	24	14	3	24	0
Orlando	100	100	100	0	0	0
Philadelphia	77	40	10	17	17	0
Phoenix	77	27	20	3	0	0
Pittsburgh	72	24	0	4	0	0
Portland	75	21	33	0	33	0
Providence	74	48	22	0	4	0
Raleigh	93	59	7	4	0	0
Richmond	82	55	9	0	0	0

Rochester	81	30	7	0	0	0
Sacramento	88	40	12	0	4	0
Salt Lake City	97	100	3	0	0	0
San Antonio	81	81	4	0	0	0
San Diego	87	29	3	6	19	0
San Francisco	73	17	10	0	3	0
San Jose	83	37	3	0	0	0
Seattle	94	23	6	3	13	0
St. Louis	53	37	0	0	7	0
Syracuse	67	7	4	7	7	0
Tacoma, WA	64	16	4	0	4	0
Tampa	48	41	7	4	4	0
Tucson	89	46	64	0	50	0
Tulsa	86	43	17	5	5	0
Virginia Beach	83	40	0	3	20	0
Washington, DC	93	33	10	0	13	3
West Palm Beach	96	52	4	8	0	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, and online services.

Table A-3 Individual City Profiles for Selected Features, 2003							
	Ads	*Prem Fee*	*Restrict Area*	*User Fee*	*Has Services*	*Number of Services*	*Ave. Readabil.*
Albany	0%	0%	7%	0%	17%	.3	11.6
Albuquerque, NM	0	7	11	0	52	1.8	10.4
Atlanta	3	0	3	3	17	.3	11.9
Austin	0	0	7	0	31	.8	11.5
Baltimore	0	0	7	7	10	.4	11.6
Birmingham, AL	5	0	5	0	24	4.7	11.5
Boston	0	0	0	0	90	36.0	11.0
Buffalo	0	0	0	0	97	3.9	10.8
Charlotte	0	0	3	0	100	14.6	10.9
Chicago	0	0	7	0	27	1.3	11.2
Cincinnati	0	0	4	0	65	8.2	11.1
Cleveland	0	0	0	0	83	.9	11.5
Columbus	4	0	4	12	60	1.5	11.2
Dallas	0	0	7	0	90	87.6	11.5
Dayton	4	0	17	0	25	.3	11.2
Denver	0	0	7	0	100	23.1	9.8
Detroit	0	0	3	0	10	.1	11.3
El Paso	0	0	0	7	18	.4	10.9
Fort Worth, TX	0	0	4	0	24	1.2	11.4
Fresno, CA	4	0	12	0	92	4.7	10.9

Grand Rapids, MI	0	0	3	0	14	4	11.2
Greensboro, NC	0	0	7	0	19	1.4	11.4
Greenville, SC	0	0	4	0	23	.2	11.8
Hartford	0	0	4	0	15	.2	11.2
Honolulu	0	0	0	0	89	4.1	11.7
Houston	0	0	3	0	93	13.3	11.3
Indianapolis	4	11	22	11	44	3.9	10.9
Jacksonville	3	0	14	76	83	15.3	10.3
Kansas City	0	0	4	4	96	8.7	11.2
Knoxville	0	0	0	0	4	.1	11.2
Las Vegas	0	0	0	0	21	.6	11.8
Long Beach	0	0	0	4	26	.6	10.6
Los Angeles	3	0	3	0	33	2.2	10.9
Louisville	0	0	4	4	93	22.0	11.4
Memphis	0	0	0	15	81	1.4	11.5
Miami	0	0	4	0	8	.3	11.1
Milwaukee	0	0	0	63	67	27.9	11.0
Minneapolis	0	0	3	0	21	.7	11.5
Nashville	0	0	10	0	97	16.3	11.2
New Orleans	0	4	15	0	58	7.0	10.5
New York	0	0	10	10	47	2.1	10.8
Norfolk, VA	0	0	0	3	27	.9	11.5
Oakland	3	0	0	0	23	.7	10.9
Oklahoma City	0	0	4	0	100	22.2	11.7
Omaha	0	0	0	0	17	.3	11.0
Orlando	0	0	0	16	28	.4	11.6
Philadelphia	0	0	7	0	17	1.0	10.9
Phoenix	0	0	0	0	100	10.0	11.4
Pittsburgh	0	0	0	0	36	.4	11.0
Portland	0	0	8	0	29	.5	11.0
Providence	0	0	0	0	17	.9	10.9
Raleigh	0	0	4	0	15	31	10.9
Richmond	0	0	5	91	95	3.7	11.2
Rochester	0	0	0	85	93	9.7	11.0
Sacramento	0	0	4	0	20	.4	11.5
Salt Lake City	0	0	7	0	87	8.7	8.7
San Antonio	0	0	4	0	30	1.9	11.9
San Diego	0	0	10	3	23	.8	11.6
San Francisco	0	0	3	73	80	6.0	11.0
San Jose	3	0	10	3	20	.4	10.7
Seattle	0	0	0	0	29	1.3	11.1
St. Louis	0	0	0	7	17	6.1	11.2
Syracuse	0	0	0	0	93	13.4	11.6
Tacoma, WA	0	0	8	0	20	1.4	11.3
Tampa	0	0	4	15	26	2.3	11.8
Tucson	0	0	4	0	89	6.6	11.3
Tulsa	5	0	0	10	62	3.0	11.0

Virginia Beach	0	0	0	0	27	1.6	11.7
Washington, DC	0	0	7	0	23	3.3	11.3
West Palm Beach	4	0	4	0	20	.3	11.6

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, 2003

	Digital Sign	*Credit Card*	*Privacy*	*Security*	*W3C Disabil Access*	*508 Disabil Access*	*Comment*
Albany	0%	3%	77%	77%	0%	0%	3%
Albuquerque, NM	0	4	89	89	0	0	15
Atlanta	0	13	10	0	3	3	7
Austin	0	3	100	100	69	0	97
Baltimore	0	3	10	3	50	53	0
Birmingham, AL	0	14	5	0	0	0	5
Boston	0	90	83	83	3	0	83
Buffalo	0	93	93	0	100	3	3
Charlotte	0	100	100	100	3	3	100
Chicago	0	7	17	0	10	7	83
Cincinnati	0	9	0	0	39	0	48
Cleveland	0	83	3	3	3	3	80
Columbus	0	16	8	0	0	0	28
Dallas	0	87	87	87	0	0	7
Dayton	0	0	4	4	4	4	17
Denver	0	100	93	0	87	87	97
Detroit	0	3	73	70	3	3	17
El Paso	0	11	0	0	61	4	82
Fort Worth, TX	0	4	12	0	0	0	16
Fresno, CA	0	92	0	0	27	0	19
Grand Rapids, MI	0	0	0	0	0	0	7
Greensboro, NC	0	0	0	0	7	7	11
Greenville, SC	0	0	0	0	0	0	4
Hartford	0	0	0	0	7	7	15
Honolulu	0	4	74	0	52	19	15
Houston	0	83	83	83	17	17	7
Indianapolis	0	11	4	4	0	0	89
Jacksonville	0	76	76	0	3	3	14
Kansas City	0	81	4	7	7	7	7
Knoxville	0	0	85	0	78	78	0
Las Vegas	0	14	14	0	0	0	100

Long Beach	0	4	4	4	7	7	33
Los Angeles	0	10	7	7	17	10	57
Louisville	0	7	81	81	56	56	11
Memphis	0	19	81	81	0	0	89
Miami	0	4	8	4	0	0	0
Milwaukee	0	56	74	0	11	11	4
Minneapolis	0	7	72	66	10	3	69
Nashville	0	93	7	0	30	3	97
New Orleans	0	50	27	23	12	8	62
New York	0	30	17	7	20	13	40
Norfolk, VA	0	13	77	0	0	0	10
Oakland	0	7	0	0	7	7	3
Oklahoma City	0	4	4	4	83	83	4
Omaha	0	10	7	3	17	3	17
Orlando	0	16	0	0	0	0	4
Philadelphia	0	3	10	3	10	3	10
Phoenix	0	100	100	0	0	0	3
Pittsburgh	0	8	8	4	0	0	76
Portland	0	0	54	54	8	4	0
Providence	0	4	13	13	0	0	61
Raleigh	0	7	0	0	4	4	7
Richmond	0	91	95	91	32	32	5
Rochester	0	85	4	4	4	4	26
Sacramento	0	0	4	4	72	68	4
Salt Lake City	0	73	80	80	0	0	13
San Antonio	0	26	93	0	0	0	7
San Diego	0	6	90	90	87	74	90
San Francisco	0	73	60	60	37	3	67
San Jose	0	0	33	27	20	17	90
Seattle	0	10	87	87	32	3	16
St. Louis	0	10	3	3	73	73	7
Syracuse	0	0	0	0	0	0	0
Tacoma, WA	0	4	12	4	0	0	0
Tampa	0	15	81	81	63	63	0
Tucson	0	82	46	46	11	4	75
Tulsa	0	10	43	38	0	0	57
Virginia Beach	0	3	93	93	0	0	97
Washington, DC	0	13	87	80	40	30	100
West Palm Beach	0	0	0	0	4	4	36

Table A-5 Best Practices in Top Cities, 2003

1) DENVER http://www.denvergov.org/

Denver moved up from a ranking of third to the top ranked city in the 2003 e-government study. Earning this spot, the Denver portal page is well organized and clearly laid out. From the portal it is easy to navigate to city departments, online services, elected officials or whatever else a citizen may need. In addition to offering 23 fully executable online services, all of sites within the domain offer translation into eleven languages, including Greek, two forms of Chinese, and Dutch. Publications and a detailed privacy policy can be found on most pages, as can email addresses to contact departments and a comment form to provide input about the websites. Denver sites also tended to have a lower Flesch-Kincaid reading level, making the sites accessible to citizens of varied levels of education.

2) CHARLOTTE http://www.charmeck.nc.us/Home.htm

The city of Charlotte ranked second in the 2003 e-government study with a score of 57.3%. The plethora of fully executable services combined with a thorough privacy and security policy helped it earn this spot. With an e-services link at the bottom of most pages, the ability to pay taxes and submit a resume for city jobs online is just a click away. Also readily available are searchable databases, such as one in which entering an address allows a user to access property information and demographic information about a given location. Charlotte's privacy policy promises to not rent, sell or give away personally identifying information, as well as has warning users that information received online might be shared with law enforcement. Finally, every page has a link to a feedback/comments page that provides users the opportunity to express their opinion about the website.

3) BOSTON http://www.cityofboston.gov/

Boston ranked third in the 2003 e-government survey, moving up two spots from last year. The uncluttered portal page is both aesthetically pleasing and user-friendly. Information is organized into sections for residents, businesses and visitors. 43 online services, including online parking ticket payment, access to personalized property tax information, and a form to report a number of public works needs, can be accessed from most sites. Citizens can contact most departments by email and can submit their comments about the sites. It is also possible to personalize the site and receive email updates on a variety of subjects. Most sites have thorough privacy and security policies and there are no restrictions or premium fees to view information.

4) LOUISVILLE http://www.loukymetro.org/

The city of Louisville moved up significantly, placing fourth in this year's e-government ranking, up from thirtieth last year. The website is easy to navigate and many of its pages pass Section 508 disability requirements as well as W3C disability standards. The privacy and security statement, which is at the bottom of most pages, is clearly broken up into sections that makes it obvious that the site does not share personal information and has Secure Sockets Layer protocol to safeguard personal information. Requesting a service is also easy on the website. Using a dropdown list, a user can request over twenty services, varying from snow removal to drainage problems. City officials, including the mayor, display email addresses prominently, making it easy to contact appropriate officials. Additionally, any interested user can watch an online video of the Mayor's budget address. All of these features combine make Louisville's website strong.

5) NASHVILLE http://www.nashville.gov/flashpgs/flashhome.htm

Nashville moved up significantly from its place at 33rd last year to this year's place as the fifth ranked e-government city. The abundance of publications and databases and the 17 online services available on most sites helped push Nashville up in the ranking. The portal page displays a wealth of information, including press releases, maps, a video about the city, and the current temperature. From the

drop down menu, citizens can easily navigate to over 50 city departments. Most sites offer a way to contact the department by email and an online form citizens can use to comment on the website. All of the sites within the domain have the same heading, making it easy to link to the portal, the mayor's office, the metro council, online services or a help form from any page.