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## **Urban E-Government, 2004**

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September, 2004

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## Executive Summary

This report presents the fourth annual update on urban e-government in the United States. Using a detailed analysis of 1,873 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 between 2001 and 2004. As summarized in my forthcoming book, Digital Government: Technology and Public Sector Performance (Princeton University Press, 2005), many city governmental units have placed a variety of new materials on the web.

*Among the more important findings of the research are:*

- 1) 21 percent of city sites are compliant with the W3C standard of disability access, about the same as the 20 percent found last year.
- 2) 53 percent show privacy policies (up from 41 percent in 2003), while 32 percent have security policies (up from 28 percent last year).
- 3) 7 percent of sites have commercial advertising, up from 1 percent last year.
- 4) 4 percent of websites charge user fees to execute particular online services, while less than one percent have premium sections requiring payment for entry.
- 5) 17 percent of city government websites have foreign language translation features (similar to the 16 percent last year).
- 6) 40 percent of websites offer services that are fully executable online, down from 48 percent last year..
- 7) 71 percent of city government sites read at the 12th grade level, which is higher than the reading comprehension of many city residents.
- 8) Cities vary enormously in their overall e-government performance. The most highly ranked city governments are Denver, San Diego, New York City, Washington, D.C., Los Angeles, Virginia Beach, Boston, Charlotte, Houston, and Seattle.
- 9) The lowest ranked cities in our study are Cleveland, Pittsburgh, Greenville, Syracuse, and West Palm Beach.

## A Note on Methodology

The data for our analysis consisted of 1,873 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 26.8 websites per city. The analysis was undertaken during June, July, and August, 2004 at Brown University in Providence, Rhode Island. Tabulation for this project was completed by Katie Donovan, Adelaida Vasquez, and Patrick Holmes.

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, disability access, 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.

## Online Information

The vast majority of sites provide online information. Eighty-one percent (up from 79 percent in 2003) of city government websites offered publications that a citizen could access, and 61 percent

provided databases (up from 41 percent in 2003). Ten percent incorporated audio clips onto their official sites and 12 percent provided video clips.

### ***Percentage of City Websites Offering Publications and Databases***

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<i>Phone Contact Info.</i>	92%	97%	--	--
<i>Address Info</i>	83	95	--	--
<i>Links to Other Sites</i>	67	98	--	--
<i>Publications</i>	64	93	79	81
<i>Databases</i>	38	77	41	61
<i>Audio Clips</i>	1	6	2	10
<i>Video Clips</i>	3	16	8	12

### **Electronic Services**

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, 40 percent offered some service, down from 48 percent last year. Of this group, 14 percent offer one service, seven percent have two services, three percent offer three services, and 16 percent have four or more services.

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
None	87%	51%	52%	60%
One Service	9	12	10	14
Two Services	2	4	3	7
Three Services	1	2	2	3
Four or More Services	1	31	33	16

There were some services that most cities offer online: most tended to allow the user to access library records and renew books, pay water bills, and pay parking tickets. Many of the Convention and Tourism sites had links to book hotel rooms or tours; the Port of Houston even had links to book a cruise on Norwegian Cruise Lines. Some cities did have more novel services. For instance, the San Francisco Health Department allows users to get lab slips and confidential test results for syphilis online. Some sites, such as Phoenix, Houston and Dayton, allowed the user to book a tee time online. Richmond automatically alerts users if they have an overdue library book. Virginia Beach features an electronic service in which users can chat online for assistance with someone from the city government.

One feature that has aided the development of online services has been the ability to use credit cards and digital signatures on financial transactions. Fourteen percent of city government websites are able to process credit card payments, which is down from 29 percent last year. Six percent allow digital signatures for financial transactions, up from less than one percent last year.

Of the 70 cities analyzed, there is wide variance in the average number of online services. New York City had the largest number, with an average of 22.1 services across its websites, followed by Los Angeles (18.1 services), Denver (15.0 services), and San Diego (11.3 services).

### **Privacy and Security**

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, 53 percent post some form of privacy statement on their site, up from 41 percent last year. Thirty-two percent have a security statement, up from 28 percent in 2003.

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, Orlando, Phoenix, and Tampa (100 percent), followed by Charlotte (97 percent), Virginia Beach (97 percent), Grand Rapids (97 percent), and Seattle (97 percent).

In addition, there are wide variations across cities in the percentage of websites showing a security policy. Austin and Tampa have a visible security policy on 100 percent of their sites. They are followed by Charlotte (97 percent), Virginia Beach (97 percent), Grand Rapids (97 percent), and Seattle (97 percent).

We also assessed the quality of privacy and security statements. In looking at the content of privacy policies, 42 percent prohibit the commercial marketing of visitor information, 14 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 31 percent will share information with law enforcement authorities if necessary. On security statements, 17 percent indicate they use computer software to monitor network traffic.

#### ***Quality of Privacy and Security Statements***

	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>
<i>Prohibit Commercial Marketing</i>	10%	29%	31%	42%
<i>Prohibit Cookies</i>	2	5	12	14
<i>Prohibit Sharing Personal Information</i>	9	30	31	30
<i>Share Information with Law Enforcement</i>	--	27	29	31
<i>Use Computer Software to Monitor Traffic</i>	4	6	14	17

#### **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 11.1 grade level, well above the comprehension of many urban residents. This is nearly identical to the 11.2 grade level found in 2003. Seventy-one 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.

	<b>Percentage Falling within Each Grade Level</b>
Third or Fourth Grade	1%
Fifth Grade	1
Sixth Grade	1
Seventh Grade	1

Eighth Grade	4
Ninth Grade	5
Tenth Grade	7
Eleventh Grade	9
Twelve Grade	71
Mean Grade Level	11.1 Grade Level

Readability levels vary significantly across individual cities. The cities with the highest grade level (meaning the least accessible) are Minneapolis and Virginia Beach (12.0 for each). The cities showing the lowest grade levels (meaning the most accessible) are Salt Lake City (8.5), Grand Rapids (8.6), New Orleans (9.5), and Denver (9.9).

### Disability Access

This year, we tested disability access using automated “Bobby” software provided by the firm, Watchfire, Inc. (<http://bobby.watchfire.com>). For this test, we judged compliance with the Priority Level One standards recommended by the World Wide Web Consortium (W3C). Sites were judged to be either in compliance or not in compliance based on the results of this test.

In looking at disability accessibility, we find that 21 percent of city sites are Bobby compliant using the W3C standard, similar to the 20 percent found last year. These numbers are below the comparable figures for state and federal government. For example, 42 percent of federal sites meet the W3C standard, while 37 percent of state sites do.

<b>W3C Disability Accessibility, 2003 and 2004</b>		
	<b>2003</b>	<b>2004</b>
Federal	47%	42%
State	33	37
City	20	21

There are variations in how extensively cities provide access. The top city is Cincinnati (with 95 percent of its sites meeting the Bobby test for W3C accessibility). It is followed by San Diego (94 percent), Tampa (87 percent), Denver (83 percent) and Buffalo (79 percent).

The Bobby software measures the number of errors of disability access found on each website. We tabulated these numbers and averaged them across the websites for each city. The metropolitan area having the highest number of errors was Memphis (an average of 292.6 errors per site), followed by Knoxville (51.9), Atlanta (47.9), Portland (35.8), and Long Beach (34.7).

### Foreign Language Access

Seventeen percent of city government websites have foreign language features that allow access to non-English speaking individuals (about the same as the 16 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 Houston (93 percent of its sites), Kansas City (92 percent), Orlando (88 percent), Washington, D.C. (83 percent), and Columbus (65 percent).

## Ads, User Fees, and Premium Fees

Use of ads to finance government websites is growing. Seven percent of sites (up from 1 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	2004
Ads	1%	2%	1%	7%
User Fees	0	11	7	4
Premium Fees	--	2	0.3	0.1

Most city sites do not have advertisements, and those that do tend to be small and discretely placed. However, there are instances of ads with more prominent placements, usually on web sites for Convention Centers or on sites related to the city's Parks & Recreation Departments. For example, the Parks & Recreation site for Memphis and Oklahoma City featured ads for businesses such as Burger King, Pizza Hut, Dr. Pepper, and Southwest Airlines. Some metropolitan sites provided a MapQuest link to certain locations or had a link to Weather.com.

There has not been a big change in reliance on user fees, which are small charges added to services executed online. Four percent of city e-government sites had user fees, down from 7 percent in 2003. These are transaction fees over the actual cost of the government service. Less than one percent of city government sites have premium fees in order to enter particular sections of the website.

The most common user fees were extra charges for paying bills or taxes. This was the case in Jacksonville, Grand Rapids, Louisville, Richmond, Indianapolis, and Baltimore. Other examples of user fees can be found on the Oklahoma City site that charged an extra fee for buying tickets online through the Civic Center website. San Francisco charged an extra \$6 when signing up for traffic school at the Superior Court page. Other websites allowed the user to pay to have their birth certificate sent to them.

## 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 78 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	2004
<i>Email</i>	69%	74%	71%	78%
<i>Search</i>	54	69	--	--
<i>Comments</i>	17	36	35	20
<i>Email Updates</i>	2	13	8	10
<i>Broadcast</i>	2	9	--	--
<i>Personalized Sites</i>	0	3	4	5
<i>PDA Access</i>	--	--	0.2	0.4

Other methods that government websites employ to facilitate public feedback include areas to post comments (other than through email), the use of message boards, and chat rooms. We found that 20 percent of sites have comment areas. Ten 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. Five 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 features: publications, databases, audio clips, video clips, foreign language access, not having ads, not having user fees, not having premium fees, 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, and PDA or handheld device accessibility. These features provided a maximum of 72 points for particular websites.

Each site then qualified for up to 28 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 28 points for 28 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 18 features plus at least 28 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 26.8 government websites in each city across the executive, legislative, and judicial branches of government. The Appendix lists each city's ranking for 2003 and 2004.

The top city in our ranking is Denver at 54.6 percent. This means that every website we analyzed for that city has more than half of the features important for information availability, citizen access, and service delivery. Other cities which score well on e-government include San Diego (52.7 percent), New York City (48.8), Washington, D.C. (44.8 percent), Los Angeles (42.5 percent), Virginia Beach (41.6 percent), Boston (40.0 percent), Charlotte (39.4 percent), Houston (39.1 percent), and Seattle (36.8 percent). The lowest ranked cities in our study included Cleveland (17.1 percent), Pittsburgh (18.3 percent), Greenville (18.7 percent), Syracuse (20.8 percent), and West Palm Beach (21.1 percent).

### Top E-Government Cities, 2004

<i>Denver</i>	54.6%	<i>San Diego</i>	52.7%
<i>New York City</i>	48.8	<i>Washington DC</i>	44.8
<i>Los Angeles</i>	42.5	<i>Virginia Beach</i>	41.6
<i>Boston</i>	40.0	<i>Charlotte</i>	39.4
<i>Houston</i>	39.1	<i>Seattle</i>	36.8
<i>Albuquerque</i>	35.3	<i>Salt Lake City</i>	35.1
<i>Phoenix</i>	34.7	<i>Long Beach</i>	34.7
<i>El Paso</i>	34.7	<i>Austin</i>	34.6
<i>Columbus</i>	34.0	<i>Memphis</i>	33.6
<i>San Francisco</i>	33.5	<i>New Orleans</i>	33.3
<i>Tampa</i>	33.0	<i>Richmond</i>	32.3
<i>Nashville</i>	32.3	<i>Orlando</i>	32.0
<i>Indianapolis</i>	31.9	<i>Cincinnati</i>	31.6
<i>Honolulu</i>	31.3	<i>Jacksonville</i>	31.2
<i>Tulsa</i>	30.8	<i>San Jose</i>	30.5



<i>Dallas</i>	30.4	<i>Minneapolis</i>	30.3
<i>Portland</i>	30.1	<i>Tucson</i>	29.3
<i>Louisville</i>	29.0	<i>Norfolk</i>	28.5
<i>San Antonio</i>	28.4	<i>Grand Rapids</i>	28.3
<i>Fort Worth</i>	28.2	<i>Tacoma</i>	28.1
<i>Baltimore</i>	27.7	<i>Detroit</i>	27.6
<i>Rochester</i>	27.6	<i>Chicago</i>	27.4
<i>Kansas City</i>	27.1	<i>Fresno</i>	26.8
<i>Raleigh</i>	26.1	<i>Las Vegas</i>	26.0
<i>Philadelphia</i>	25.9	<i>Miami</i>	25.8
<i>Atlanta</i>	25.7	<i>St. Louis</i>	25.5
<i>Oakland</i>	25.2	<i>Sacramento</i>	25.2
<i>Greensboro</i>	25.1	<i>Buffalo</i>	24.7
<i>Milwaukee</i>	24.2	<i>Omaha</i>	23.8
<i>Knoxville</i>	23.6	<i>Dayton</i>	22.8
<i>Birmingham</i>	22.8	<i>Albany</i>	22.7
<i>Hartford</i>	21.7	<i>Oklahoma City</i>	21.5
<i>Providence</i>	21.5	<i>West Palm Beach</i>	21.1
<i>Syracuse</i>	20.8	<i>Greenville</i>	18.7
<i>Pittsburgh</i>	18.3	<i>Cleveland</i>	17.1

### Differences by Branch of Government

In this study, 89 percent of our sites are executive branch or executive agencies, four percent are legislative, three percent are judicial, and four percent are portal sites. We looked at differences by branch of government to see if there were any systematic differences. In general, we find few differences based on government branch. Judicial sites (1.1) had the lowest average number of services, compared to executive (2.0) and legislative (1.8) sites. Legislative sites had the smallest number of disability errors (12.7) versus executive (14.7) and judicial (14.7) sites. The branch most likely to offer email addresses and electronic updates was the legislative area.

	<b>Executive</b>	<b>Legislative</b>	<b>Judicial</b>
<i>Publication</i>	80%	91%	57%
<i>Database</i>	60	66	52
<i>Audio Clip</i>	8	20	7
<i>Video Clip</i>	10	18	7
<i>Foreign Lang</i>	16	18	16
<i>Ads</i>	6	4	7
<i>Premium Fees</i>	0.1	0	0
<i>User Fees</i>	4	3	4
<i>Privacy</i>	52	54	46
<i>Security</i>	32	34	25
<i>W3C Disability</i>	21	21	21
<i>Ave Number of Disability Errors</i>	14.7	12.7	14.7
<i>Services</i>	38	38	41
<i>Ave Number of Services</i>	2.0	1.8	1.1
<i>Credit Cards</i>	12	8	29

<i>Digital Sign</i>	5	3	5
<i>Email</i>	78	90	62
<i>Comment</i>	18	26	20
<i>Updates</i>	8	16	2
<i>Personalization</i>	4	5	7
<i>PDA Access</i>	0.2	0	0

### Differences by Agency Type

There are interesting differences by agency type in e-government performance. Education departments are most likely to offer online services, while housing departments are the least likely. Budget agencies are more likely to provide W3C disability access, while economic development departments are less likely to do so.

	<b>Health</b>	<b>Hum Serv</b>	<b>Tax</b>	<b>Elem Educ</b>	<b>Hous</b>	<b>Econ Dev</b>	<b>Budget</b>
<i>Publication</i>	91%	75%	73%	94%	84%	81%	90%
<i>Database</i>	76	54	59	94	53	74	90
<i>Audio Clip</i>	6	10	0	12	4	6	3
<i>Video Clip</i>	6	12	4	19	10	6	0
<i>Foreign Lang</i>	32	22	14	44	16	8	8
<i>Ads</i>	15	4	9	0	2	13	0
<i>Premium Fee</i>	0	0	0	0	0	0	0
<i>User Fees</i>	6	2	18	6	0	2	5
<i>Privacy</i>	44	54	64	38	54	49	58
<i>Security</i>	35	35	54	25	35	34	37
<i>W3C Disability</i>	15	16	23	19	19	13	26
<i>Services</i>	41	38	46	62	26	43	24
<i>Digital Sign.</i>	9	1	14	12	0	8	3
<i>Credit Cards</i>	15	3	36	12	0	8	8
<i>Email</i>	85	87	64	75	77	77	63
<i>Comment</i>	29	19	9	19	19	15	24
<i>Updates</i>	6	8	0	19	4	8	3
<i>Personalization</i>	6	4	4	0	5	6	5
<i>PDA Access</i>	3	0	0	0	0	0	3

### Conclusions

After looking at numerous city websites, there are several characteristics websites had that should be ameliorated and some that other cities should be implementing. City sites that attempted to put everything on one page were often cluttered, daunting and overwhelming. Providing services and different forms to the public is helpful, but not when everything is just thrown on a page and PDF files are mixed in with actual online services. When constructing a website, it is important to remember that clear and simple is best.

Also, it is much easier when websites have a list of all the online services they provide. It reduces the amount of time citizens have to invest in searching for a specific service and is therefore a success on the part of the website. On a separate note, when developing each site one should take into consideration that the appearance of the site has a huge impact on how much an individual can do on that particular site. If a site is hard to read (i.e. black background with blue printing or when cursor is over a

particular paragraph and that paragraph changes font, color and size) it diminishes the efficiency of the site. Citizens will be concentrating more on clarifying what the site says rather than looking for the service or information they need.

## Appendix

**Table A-1 Overall City E-Government Ratings, 2003 and 2004 (2003 rating in parentheses)**

Rank	City	Rating Out of 100 Pts.	Rank	City	Rating Out of 100 Pts.
1.(1)	Denver	54.6(64.8)	2.(18)	San Diego	52.7(40.0)
3.(38)	New York City	48.8(33.0)	4.(15)	Washington, DC	44.8(41.2)
5.(36)	Los Angeles	42.5(33.4)	6.(14)	Virginia Beach	41.6(43.0)
7.(3)	Boston	40.0(55.6)	8.(2)	Charlotte	39.4(57.4)
9.(6)	Houston	39.1(49.3)	10.(27)	Seattle	36.8(36.0)
11.(28)	Albuquerque	35.3(35.7)	12.(7)	Salt Lake City	35.1(48.7)
13.(16)	Phoenix	34.7(40.8)	14.(53)	Long Beach	34.7(28.6)
15.(37)	El Paso	34.7(33.0)	16.(13)	Austin	34.6(44.1)
17.(40)	Columbus	34.0(32.1)	18.(17)	Memphis	33.6(40.0)
19.(23)	San Francisco	33.5(38.0)	20.(22)	New Orleans	33.3(38.2)
21.(21)	Tampa	33.0(38.4)	22.(20)	Richmond	32.2(38.8)
23.(5)	Nashville	32.3(53.0)	24.(41)	Orlando	32.0(31.8)
25.(34)	Indianapolis	31.9(34.3)	26.(30)	Cincinnati	31.6(35.5)
27.(29)	Honolulu	31.3(35.6)	28.(11)	Jacksonville	31.2(45.5)
29.(33)	Tulsa	30.8(34.6)	30.(44)	San Jose	30.5(30.0)
31.(8)	Dallas	30.4(48.5)	32.(31)	Minneapolis	30.3(35.2)
33.(35)	Portland	30.1(33.7)	34.(10)	Tucson	29.3(46.8)
35.(4)	Louisville	29.0(53.5)	36.(48)	Norfolk	28.5(29.5)

37.(39)	San Antonio	28.4(32.5)	38.(56)	Grand Rapids	28.3(28.3)
39.(47)	Fort Worth	28.2(29.6)	40.(68)	Tacoma	28.1(23.9)
41.(59)	Baltimore	27.7(27.6)	42.(55)	Detroit	27.6(28.4)
43.(32)	Rochester	27.6(34.8)	44.(45)	Chicago	27.4(29.9)
45.(12)	Kansas City	27.1(44.3)	46.(26)	Fresno	26.8(36.2)
47.(63)	Raleigh	26.1(26.7)	48.(42)	Las Vegas	26.0(31.4)
49.(60)	Philadelphia	25.9(27.3)	50.(67)	Miami	25.8(25.1)
51.(69)	Atlanta	25.7(22.5)	52.(46)	St. Louis	25.5(29.7)
53.(65)	Oakland	25.3(25.6)	54.(51)	Sacramento	25.2(28.9)
55.(57)	Greensboro	25.1(28.0)	56.(24)	Buffalo	24.7(37.4)
57.(19)	Milwaukee	24.2(39.8)	58.(54)	Omaha	23.8(28.5)
59.(49)	Knoxville	23.6(29.4)	60.(68)	Dayton	22.8(25.3)
61.(43)	Birmingham	22.8(30.1)	62.(62)	Albany	22.7(27.0)
63.(64)	Hartford	21.7(26.1)	64.(9)	Oklahoma City	21.5(47.4)
65.(50)	Providence	21.5(29.4)	66.(61)	West Palm Beach	21.1(27.0)
67.(25)	Syracuse	20.8(36.5)	68.(70)	Greenville	18.7(22.2)
69.(52)	Pittsburgh	18.3(28.6)	70.(58)	Cleveland	17.1(27.8)

	<i>Pubs</i>	<i>Data</i>	<i>For Lang</i>	<i>Audio</i>	<i>Video</i>	<i>PDA</i>
Albany	59%	34%	0%	3%	3%	0%
Albuquerque, NM	100	74	7	15	15	0
Atlanta	67	26	4	19	19	0
Austin	86	46	32	14	18	0
Baltimore	93	76	3	14	14	0
Birmingham, AL	57	38	19	0	0	0

Boston	100	72	10	21	21	0
Buffalo	36	25	7	0	4	0
Charlotte	80	67	30	7	23	0
Chicago	100	53	17	0	7	0
Cincinnati	86	57	5	0	0	0
Cleveland	30	23	13	0	3	0
Columbus	96	87	65	30	30	0
Dallas	86	43	14	7	7	0
Dayton	70	43	13	26	26	0
Denver	90	47	3	3	10	0
Detroit	60	43	3	7	7	0
El Paso	100	89	7	25	29	0
Fort Worth, TX	96	92	12	4	8	0
Fresno, CA	88	56	24	0	4	0
Grand Rapids, MI	66	41	3	7	3	0
Greensboro, NC	72	60	12	4	8	0
Greenville, SC	60	32	0	4	4	0
Hartford	63	52	11	0	0	0
Honolulu	88	73	4	19	27	0
Houston	100	78	93	0	0	0
Indianapolis	100	96	7	7	7	0
Jacksonville	83	62	7	7	10	0
Kansas City	71	54	92	4	8	0
Knoxville	62	42	0	0	0	0
Las Vegas	74	48	26	22	26	0
Long Beach	100	88	8	15	15	0
Los Angeles	77	63	57	23	30	0
Louisville	74	48	7	0	0	0
Memphis	70	59	19	15	15	0
Miami	74	52	9	9	9	0
Milwaukee	70	56	7	4	4	0
Minneapolis	83	76	7	7	7	0
Nashville	87	70	7	17	23	0
New Orleans	92	63	4	4	13	0
New York	97	80	50	43	50	0
Norfolk, VA	59	69	0	10	10	0
Oakland	96	60	20	4	4	0
Oklahoma City	75	33	0	8	8	0
Omaha	81	73	4	8	12	0
Orlando	96	88	88	8	8	0
Philadelphia	90	73	10	10	10	0
Phoenix	90	67	33	10	10	0
Pittsburgh	61	61	0	4	0	0
Portland	83	67	13	8	13	0
Providence	61	39	22	4	9	0
Raleigh	85	52	7	0	4	0
Richmond	82	59	18	5	9	0

Rochester	85	59	11	4	4	0
Sacramento	83	75	13	8	8	0
Salt Lake City	83	79	7	17	4	0
San Antonio	68	84	4	4	4	0
San Diego	87	71	3	19	26	0
San Francisco	97	80	33	10	13	0
San Jose	90	83	14	17	14	0
Seattle	100	59	17	28	31	0
St. Louis	67	37	0	3	3	0
Syracuse	70	48	4	7	7	0
Tacoma, WA	96	35	9	13	13	0
Tampa	61	57	0	9	9	0
Tucson	100	70	30	4	7	0
Tulsa	90	60	15	15	10	0
Virginia Beach	100	97	3	30	30	3
Washington, DC	100	90	83	13	27	13
West Palm Beach	76	44	4	4	16	0

	<i>Ads</i>	<i>User Fees</i>	<i>Privacy</i>	<i>Security</i>	<i>W3C Disabil Access</i>	<i>Services</i>	<i>Ave Num of Disability Errors</i>
Albany	17%	0%	79%	79%	0%	10%	18.3
Albuquerque, NM	7	0	85	85	30	56	6.2
Atlanta	19	0	70	0	7	15	47.9
Austin	0	0	100	100	68	7	3.0
Baltimore	10	3	7	3	41	14	3.7
Birmingham, AL	5	10	5	0	57	19	4.4
Boston	7	0	90	90	0	55	2.4
Buffalo	0	4	89	0	79	18	2.1
Charlotte	7	7	97	97	3	63	9.4
Chicago	20	0	37	7	10	53	10.5
Cincinnati	0	10	0	0	95	38	3
Cleveland	13	3	3	3	0	17	30.3
Columbus	4	0	48	0	4	57	10.6
Dallas	0	0	75	75	4	46	6.7
Dayton	17	9	0	0	0	35	6.1
Denver	0	93	90	90	83	93	1.1
Detroit	3	0	77	73	23	33	3.4
El Paso	11	7	82	0	46	18	6.1
Fort Worth, TX	8	0	4	0	0	40	15.8
Fresno, CA	4	0	28	28	24	28	1.6

Grand Rapids, MI	0	3	97	97	0	34	17.3
Greensboro, NC	0	0	0	0	8	48	9.5
Greenville, SC	8	0	0	0	0	28	10.3
Hartford	4	0	7	0	0	30	6.8
Honolulu	4	8	81	0	42	42	8.0
Houston	7	0	81	81	56	59	4.6
Indianapolis	19	15	11	11	7	52	13.9
Jacksonville	7	3	83	3	3	62	4.0
Kansas City	0	0	4	4	4	17	7.5
Knoxville	4	0	96	0	0	8	51.9
Las Vegas	7	0	11	11	0	37	1.5
Long Beach	0	4	96	96	0	19	34.7
Los Angeles	17	0	10	7	13	87	12.8
Louisville	7	4	70	70	33	41	9.7
Memphis	11	11	85	81	0	59	292.6
Miami	4	0	9	4	4	35	8.2
Milwaukee	4	0	30	4	0	22	11.7
Minneapolis	7	3	72	0	7	31	12.7
Nashville	0	0	7	7	33	67	3.1
New Orleans	0	0	67	63	0	54	14.0
New York	27	13	70	60	13	80	15.2
Norfolk, VA	0	0	93	0	0	10	9.7
Oakland	0	0	4	0	4	36	24.6
Oklahoma City	8	4	13	13	0	33	2.9
Omaha	38	0	4	4	15	19	9.6
Orlando	4	4	100	0	0	28	10.1
Philadelphia	0	0	10	0	7	40	15.9
Phoenix	7	0	100	0	53	57	3.6
Pittsburgh	0	4	0	0	0	22	12.8
Portland	0	0	88	88	4	17	35.8
Providence	22	0	17	13	0	26	25.3
Raleigh	4	4	74	0	4	33	12.3
Richmond	9	14	91	91	32	36	5.6
Rochester	11	4	4	4	26	30	5
Sacramento	0	0	4	0	54	17	2.4
Salt Lake City	3	0	72	72	0	66	12.4
San Antonio	0	0	96	0	48	16	6.2
San Diego	0	16	94	90	94	94	1
San Francisco	3	10	77	10	37	63	6.1
San Jose	10	0	38	38	10	52	11.4
Seattle	7	0	97	97	0	59	15.7
St. Louis	0	3	30	30	70	13	0.6
Syracuse	0	0	0	0	0	7	23.7
Tacoma, WA	30	4	70	4	0	61	4.7
Tampa	0	9	100	100	87	43	2
Tucson	4	4	52	0	4	56	13.7
Tulsa	5	0	35	35	15	55	15.2

Virginia Beach	0	0	97	97	0	27	9.6
Washington, DC	7	7	93	87	70	93	1.5
West Palm Beach	12	0	0	0	4	28	13.2

**Table A-4 Best Practices in Top Cities, 2004**

1) Denver <http://www.denvergov.org/>

Denver maintained its spot as the top ranked city in the 2004 e-government study. The website is clearly laid out and easy to navigate. Its privacy and security statement are in plain view and easily accessible from most of the sites off of the portal. Besides this, Denver's site offers many services to its citizens. These services are prominently displayed on the portal as well as from many other sites and allow the average citizen to easily access many different government services.

2) San Diego <http://www.sannet.gov/>

The San Diego site offers many different services that are prominently displayed on the portal. These services include paying taxes, applying for a government job, and renewing a library book. The site also allows a citizen to enter in his address and access all the government services that are applicable to his neighborhood. This site also features streaming video of the city's television station, up-to-date weather reports, and privacy and security policies on almost every page.

3) New York <http://home.nyc.gov/>

The New York City portal is divided up efficiently in that it made it clear what the page provided. All City Departments are easily accessible through a visible pull-down menu and elected officials are a click away. It also provides direct links to most requested services. In addition, one can sign up to receive email updates directly off the portal page. The privacy statement is prevalent throughout every link as is a link back to the New York City Homepage.

4) Washington, D.C. <http://www.dc.gov/>

The DC website was carefully laid out and easily navigated. The most popular online services had links in the center of the portal page, and there are pull-down menus on the right of the portal that had online services, another for online forms, and still another for online searchable databases. This site also had a clearly laid out privacy and security statement and plenty of audio and video materials. Despite a wealth of information, this site still managed to remain non-intimidating to visitors.

5) Los Angeles <http://www.lacity.org/index.htm>

The City of Los Angeles provided a number of options for people and businesses using their website. The portal itself had the option of converting the site into text-only format and also allows for anyone to sign up for email updates. There are also pull-down menus for City Departments and Boards and Commissions as well as a direct link to the Mayor's page. The site also emphasized service delivery by having options for seeing all the available online services.