The New Face of Government: Citizen-Initiated Contacts in the Era of E-Government

John Clayton Thomas
Georgia State University

Gregory Streib
Georgia State University

ABSTRACT

Dramatic developments in information technology are transforming society, challenging our nation's many governments to keep pace. As e-governance grows in popularity, Web pages could well become the new face of government. But how are citizens responding? We suggest that government Web sites may provide a new vehicle for citizen-initiated contacts with government, and, drawing from the literature on those traditional contacts, we propose a number of hypotheses on citizen interaction with government via the Web. To test those hypotheses, we examine data from a survey concerning how Georgians are contacting government via the Web. We find that citizen visits to governmental Web sites are increasingly common, and as such appear to have become a major new form of the traditional citizen-initiated contact. To date, however, most of these Web contacts have been made only to obtain information, thus lacking the interactive quality crucial to other citizen-initiated contacts. As an encouraging finding for government, visitors to governmental Web sites appear to be mostly pleased with their experiences, rating those sites as at least comparable in quality to other Web sites. A discouraging finding, however, is that the demographics of these visitors suggest cause for concern, since the digital divide is even more pronounced among government Web site visitors than among Internet users in general. In the concluding section, we discuss the implications of the findings for government and for future research.

One of the most remarkable and dramatic changes in recent decades has been the explosion of interest in the Internet, with the phenomenon of e-commerce—unheard of only a decade ago—becoming in just a few years a principal growth area in the American economy. As use of the Web by the private sector has grown, the public sector has followed closely behind, and virtually all large U.S. governments and their agencies—federal, state, and local —now having their own Web sites.

As public-sector Web sites proliferate and expand in function, they are rapidly becoming a new aspect of government. Many citizens who previously would visit or call gov-

ernment offices, often only to wait in line or on hold, increasingly choose instead to contact government online to request information, to register complaints, or to communicate their opinions on current issues.

Thanks to recent research, we have some idea of the quality of the sites that citizens find when they go online to government (e.g., LaPorte et al. 2000; Norris and Demeter 1999; Stowers 1999). However, we know relatively little about who goes online to governmental Web sites and why. In particular, what proportion of the population uses governmental Web sites, why do they use those Web sites, and how do they assess their experience? Nor do we have much idea whether the much-lamented *digital divide*—the split in the American population between predominantly wealthy, white, urban computer users and low-income, minority, and rural nonusers—extends to the use of government Web sites (e.g., Lieberman 1999).

It is the purpose of this article to address these questions. To do so, we will draw on survey data from January 2000 on Internet usage by a sample of Georgia residents. Although it is not representative of the United States as a whole, Georgia does have a diverse population, including substantial numbers of most of the groups of interest relative to the digital divide—whites and African-Americans, wealthy and poor, urban and rural. Furthermore, since Georgia has been ranked by the Center for Digital Government (Holsendolph 1999) as first among the fifty states in the use of technology, where Georgia is today suggests where other states will be in the future.

THEORIES AND EXPECTATIONS

Since we had little data or theory to draw upon, we wanted to know what kinds of patterns might be expected in citizen use of governmental Web sites. As a starting point, we posited that almost no behavior, including Internet use, is entirely new or without precedent. As such, we assumed that we might be able to draw from what is known about similar behavior that preceded the rise of the Internet.

Citizen-Initiated Contacts and the Internet

Citizen connections with government via the Internet could parallel a variety of behaviors with which we are familiar. Take, for example, public meetings, which are a common means for involving citizens in the process of governance. Virtual public meetings can be convened where citizens use their computers to comment on current issues without having to leave their living rooms. Well before the Internet revolution, Benjamin Barber (1984, p. 274) anticipated how technology could change public meetings:

> The capabilities of the new technology can be used to . . . tie individuals and institutions into networks that will make real participatory discussion and debate possible across great distances. Thus for the first time we have an opportunity to create artificial town meetings among populations that could not otherwise communicate.

Similarly, citizen surveys, another popular means for gaining citizen input, might now be conducted via e-mail or through a Web site survey where citizens are asked to voice policy preferences or evaluate governmental performance electronically.

But the behavior with the closest parallel to our concern here is likely to be the so-called citizen-initiated contacts with public administrators (e.g., Sharp 1986; Jones et al. 1977). These are contacts citizens initiate with a government agency, usually to request a

service or to lodge a complaint about a government service. Typically, the citizen asks for a specific response in the near future, such as filling a pothole in a nearby street.

Citizen use of governmental Web sites appears to represent a new form of citizen-initiated contact. As with those contacts and in contrast to public meetings and citizen surveys, the individual citizen initiates the activity—by going to a governmental Web site or, with traditional contacts, by telephoning a governmental office. In addition, the reasons citizens go to those Web sites may be very similar to the reasons behind traditional citizen-initiated contacts; in both cases, the catalyst is likely to be a specific need for information or assistance. As Sharp (1986, p. 3) has observed, traditional citizen-initiated contacts tend to be "geared toward matters of everyday service delivery rather than large-scale policy issues." The same could be true of citizen use of governmental Web sites.

There are likely, however, to be at least two important differences between these Web contacts and traditional citizen-initiated contacts. First, contacting via the Web may be easier and quicker than contacting by phone or in person, especially as use of the Internet becomes increasingly widespread and Web sites become more user friendly. Indeed, the ease of online connections raises the possibility that many contacts that historically have been made by phone or in person could eventually instead be made, to the extent government allows, via the Internet.

The other important difference between Web contacts and traditional contacts is the likely greater personal component of the latter. A phone call to a government office is currently much more likely to result in a personal contact—talking with a real person in real time—than is an online contact. That personal quality could prove to be a crucial difference by lending a sense that one actually has made contact and by permitting interaction and explanation rather than only one-way reporting of a complaint or request. While the Web can certainly support meaningful two-way communication, the realization of that potential appears to be a long way off. For the moment, the potentially greater personal component of phone and in-person contacts could slow the movement of citizen contacts toward the Web.

These differences not withstanding, the similarities between the two types of contacts are still enough that what we know about citizen-initiated contacts could prove to be useful in regard to citizen connections with government via the Web. We know, for instance, that those traditional contacts have reached high levels in recent decades, both in the United States and abroad. Estimates put the proportion of U.S. citizens who contact their local governments in a given year in the range of 40–55 percent, well above the rate of voter turnout for most municipal elections (see Thomas and Melkers 1999; Zuckerman and West 1985; Vedlitz and Veblen 1980, p. 33). Those rates might lead us to expect substantial contacting of government via the Web, too, although these latter rates could be depressed by the still limited utilization of computers by the American public and by the probable lack of either a personal or an interactive component to Web contacting.

We also know that citizen-initiated contacts have proved to be a relatively effective means by which individual citizens can obtain help on service-related problems. Surveys show that most citizens report satisfaction with public administrators responses to their requests (see, for example, Thomas 1986; Goodsell 1994; Katz et al. 1975). Whether that success will be duplicated with current Web contacting of government is an open question, of course. The ease of Web contacts could promote positive evaluations of the experience, but the lack of either a personal or an interactive component could work in the opposite direction.

As for what prompts citizen-initiated contacts, a large body of research points to several factors. To begin with, these contacts are "usually prompted by a need for a relatively

specific governmental service or modification of service, with that need being why someone would think about initiating a contact in the first place" (Thomas and Melkers 1999, p. 668). As a consequence, more needs—especially more *perceived* needs—tend to lead to more contacts (e.g., Sharp 1986, p. 54–55; Thomas 1982). Contacts are also more likely by those citizens who have a greater stake in governmental services. With local governments, for example, parents and homeowners are more likely to initiate these contacts due, presumably, to their concern for their children and their property investment (Sharp 1986, p. 71).

The reasons for these contacts also appear to be similar to the reasons for other political behavior. Thus both psychological engagement in politics and actual involvement with government and public affairs underlie the contacts (e.g., Vedlitz and Veblen 1980). As a by-product of the various factors, traditional citizen-initiated contacts tend to increase with socioeconomic status, though not as sharply as is the case with most other political behavior (e.g., Thomas and Melkers 1999; Sharp 1986, p. 44).

Here the parallels to Web-based governmental contacts could be close. Web contacts seem likely to be prompted by a relatively specific need, and they seem more likely to come from those who have greater stakes and greater interests in government. As is true for traditional contacts, Web-based governmental contacts may embody a socioeconomic bias—due to the same reasons and also due to the current socioeconomic bias of computer and Web usage (see, for example, Norris and Demeter 1999).

Preliminary Predictions

Much more is known about citizen-initiated contacts, but these basic findings suggest some lines of inquiry and some possible expectations for this initial exploratory research on visits to governmental Web sites. An obvious first line of inquiry concerns the volume of these visits: How many people visit governmental Web sites? How does the volume of those visits compare to other kinds of behavior?

There are at least two possible standards of comparison for assessing the volume: as a fraction of the population as a whole—that is, what proportion of the full population contacts government via the Web—or as a fraction of Internet users only—that is, what proportion of Internet visitors have visited governmental Web sites? Although we will make both comparisons, the latter may be the better gauge. Estimates of traditional contacting rates are usually made relative to the entire population, but for a population with essentially 100 percent access to telephones. Since access to computers is far short of universal, it seems more reasonable to assess the volume of governmental Web site visitors as a proportion of Internet users only.

As for what that volume might be, the uncertain comparability between Web site visits and traditional contacting provides a weak basis for a prediction. Perhaps the one relevant finding from research on traditional contacts is that governmental services arouse substantial citizen interest, suggesting this prediction:

H_1 At least a substantial minority, if not a majority, of Internet users will also report visiting governmental Web sites.

Since we will look at Web visits for all levels of government, there is also the question of how citizen interest will vary by governmental level. For two reasons, we suspect that higher levels of government will draw more interest. First, higher levels of government, and

larger units of government, are likely to have the resources to develop better Web sites earlier, encouraging more visits. Second, higher levels of government also have the larger-scale programs—for example, federal taxes, Social Security—which are likely to draw more citizen interest. As a result, we predict:

> H_2 The proportion of Internet users who visit governmental Web sites will be greatest for the federal government, second highest for state governments, and least for local governments.

Even if it is accurate, that prediction eventually might lose its accuracy as smaller units of government develop better Web sites.

A next question asks why citizens visit governmental Web sites. For this preliminary research, we are interested in only a few broad categories: citizens seeking information, making service requests, and voicing opinions and complaints. We suspect that the impersonal nature of governmental Web sites will result in visits that are designed more to obtain information than to voice opinions or complaints. Those latter purposes are better served through personal interactions, which are unlikely through Web sites. Thus, we predict:

> H_3 Citizens will report accessing government Web sites more often to obtain information than to make requests, express opinions, or voice complaints.

If it is valid, this pattern, too, could change in the future. The considerable interest of citizens in communicating information when they contact government, as evidenced by the volume of traditional citizen-initiated contacts, may drive governments toward software that will permit such communication.

If citizen assessments of traditional contacts provide any guide, people may evaluate governmental Web sites positively. Most citizens report that their traditional contacting of government officials is a positive experience. It is possible, however, that those assessments might not offer a good guide since traditional contacts include the personal component that is likely to be absent from Web site visits. We lean toward the former argument, and so we expect to find mostly positive evaluations.

But what is the appropriate form for these evaluations? Traditional citizen-initiated contacts are usually evaluated in terms of either the respondent's satisfaction with the response to the contact or the respondent's perception of how courteously he or she was treated (e.g., Thomas 1986). The likely impersonal and noninteractive nature of governmental Web site visits casts doubt on the value of both criteria. For that reason, we choose as alternative evaluative standards (1) how the respondent compares the governmental Web site(s) visited to other, nongovernmental Web sites and (2) whether the respondent expects to return to the governmental Web site(s). We predict:

> H_4 Citizens who visit governmental Web sites will evaluate those sites more positively than nongovernmental Web sites they visit.

> H_5 Most citizens who have visited governmental Web sites will report the intent to visit those Web sites again.

Citizen assessments may be more positive on the latter standard than on the former when government Web sites are pitted against many commercial, often entertainment-oriented Web sites.

Finally, there are questions about who will visit governmental Web sites. Some of these concern the so-called digital divide, the well-documented division between society's haves and have-nots in the access to and utilization of computers and the Internet. We see no reason not to expect such a divide in the Georgia population. Thus:

H_6 Citizens who report that they access the Internet will have higher incomes and include lower proportions of minorities, lower proportions of rural residents, and lower proportions of the young than will be true of those who do not use the Internet.

But how should that divide be expected to play out with citizen use of governmental Web sites? Will there be a larger divide, a smaller divide, or the same divide? Several observations may help to shape predictions here. To begin with, since citizen-initiated contacts—like other forms of political participation—usually show a socioeconomic bias, a similar bias indicative of a digital divide probably should be expected with Web contacts. There is already evidence of a digital divide on the question of who uses the Internet for political purposes. Users are better educated and wealthier than nonusers and have fewer African-Americans among their numbers than does the population as a whole (Norris and Demeter 1999, pp. 87–88). On the other hand, the young, those who are most interested in computers and the Internet, are also the segment of the population that is the most turned-off to government and so might be least likely to use the Web to access government. That bias could also be more pronounced with governmental Web sites than with other Web sites since many of the latter sites are entertainment oriented and thus perhaps of broader interest. Combining those several points leads to this prediction:

H_7 Among Internet users, citizens who report accessing governmental Web sites will have higher incomes, lower proportions of minorities, lower proportions of rural residents, and lower proportions of the young.

These two patterns could follow different paths in the future. The broader societal digital divide could well fade if diffusion makes Internet access as ubiquitous as the ownership of phones and televisions (see, for example, Ray 1999). Should this happen, however, a socioeconomic bias to governmental Web site visits might remain, just as it has remained with traditional citizen-initiated contacts and with political behavior in general.

Beyond the issue of the digital divide, there is also the question of whether the same factors that appear to motivate traditional citizen-initiated contacts will also underlie Web contacts. We cannot specify a measure of needs that could apply across three levels of government, but we can examine selected measures of stakeholding and political interest to test this prediction:

H_8 Citizens who report accessing governmental Web sites will have higher stakes in governmental services (i.e., will be more likely to be homeowners and parents) and will show more interest in government and politics.

METHODOLOGY

To test these predictions, we asked several questions in a January 2000 phone survey of a random sample of Georgia residents. The questions were asked about use of the Internet in

Table 1
Reported Use of Different Forms of Electronic Communication

	Valid Respondents	Frequency of Use			
		Every Day	At Least Once Each Week	Less than Once Each Week	Never
Cell phone	804	24.2%	29.2%	11.1%	35.5%
E-mail	819	26.1%	21.8%	4.7%	47.5%
Internet	824	24.9%	23.0%	5.9%	46.2%

general, use of the governmental Web sites on the Internet, and evaluation of those Web sites. Respondents were also asked for the usual demographic information.

This telephone survey, as conducted by the Applied Research Center at Georgia State University, was of adults age eighteen and over who live in Georgia. The sample consisted of 827 residents, randomly selected and interviewed from January 19 through February 10, 2000, on a variety of public policy issues. The results were weighted using the most recent U.S. Census data on the state of Georgia.

All adults who lived in Georgia and had a working telephone (including new and unlisted numbers) were eligible for the survey. The interviewing took place on Mondays from 10:00 A.M. to 9:15 P.M., on Saturdays from 11:00 A.M. to 7:00 P.M., and on Sundays from 1:00 P.M. to 9:00 P.M. All interviews were conducted by trained interviewers. The ARC Survey Research Lab utilizes a twenty station state-of-the-art computer assisted telephone interviewing (CATI) system. CATI tracks contacts and schedules callback dates and times to increase interviewing efficiency and productivity. Interviewers are continuously supervised. When a household is contacted, a respondent is selected randomly from the eligible adults in that household so as to avoid selection bias. Interviewers make return calls, by appointment, to any respondents who are unavailable at the time of the first call. Each telephone number in the sample receives several calls in a diligent effort to contact hard-to-reach households.

The survey findings are expected to have some error. Ninety-five percent of the time, error due to the random selection process will be no more than 3.4 percentage points plus or minus the reported percentage. Error can also occur when it is not possible to contact the selected individuals or when contacted individuals refuse to participate in the interview. The cooperation rate for this survey was 57 percent.

FINDINGS

In order to provide a standard of comparison, respondents were first asked about their use of several new communications technologies, including cell phones, e-mail, and the Internet. Overall, the usage levels for these three communication tools were about the same. As Table 1 shows, cell phones had the highest usage levels; nearly 65 percent of the respondents reported use of a cell phone. Use of both e-mail and the Internet fell short of this level. Those reporting accessing the Internet totaled 53.8 percent, with 47.9 percent of those respondents reporting at least weekly use of the Internet. These figures are consistent with other national survey data showing that the proportion of Americans who use the Internet increased from 14 percent in 1995 to 41 percent in 1998 (Norris and Demeter 1999, p. 75).

Figure 1
Percentage of Internet Users Who Visited Government Web Sites in the Last 12 Months (n = 459)
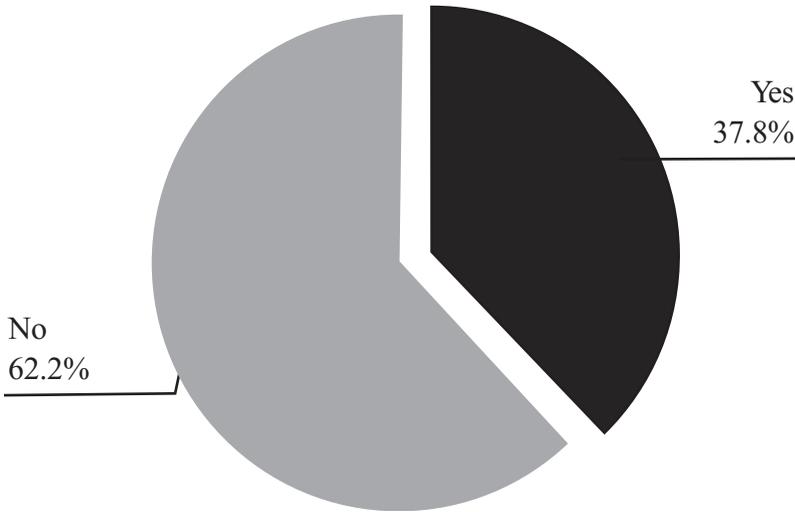
Turning to governmental Web sites, Figure 1 shows that 38 percent of the Internet users reported visiting a government Web site sometime during the previous twelve months. That 38 percent translates to 168 of the survey respondents or 20 percent of the full sample. Stated differently, although roughly half of the respondents use the Internet, only about one in five has used the Internet to access government. These figures tend to confirm the prediction in hypothesis H_1 of substantial use of governmental Web sites, although the use is more limited than it is for nongovernmental Web sites.

Consistent with the second hypothesis, Figure 2 shows that federal government sites were the most frequently visited, with state government sites not far behind and local government sites the least frequently visited. This pattern may reflect the relative size and sophistication of the different levels of government, with the larger governments offering greater accessibility and visibility to computer users. At the same time, the differences in usage by level of government are not large. Of the respondents who reported visiting government Web sites, 71 percent visited a federal site, 68 percent visited a state site, and 61 percent visited a local site. Additionally, 32 percent had visited only one level of government, 29 percent had visited two levels of government, and 39 percent had visited all three levels of government.

The Reasons for Visiting Government Sites

As Figure 2 shows, the most common reason respondents visited governmental Web sites was to obtain information. Sixty-four percent of the respondents wanted to obtain some kind of information, and another 47 percent indicated that they were looking for information about whom to contact, which is really just a specific type of information gathering. Smaller percentages visited government Web sites with a service request (38 percent), to express an opinion (32 percent), or to make a complaint (16 percent). Thus, as predicted, citizens access governmental Web sites more often to obtain information than to communicate infor-

Figure 2
Types of Governments Visited (n = 168)
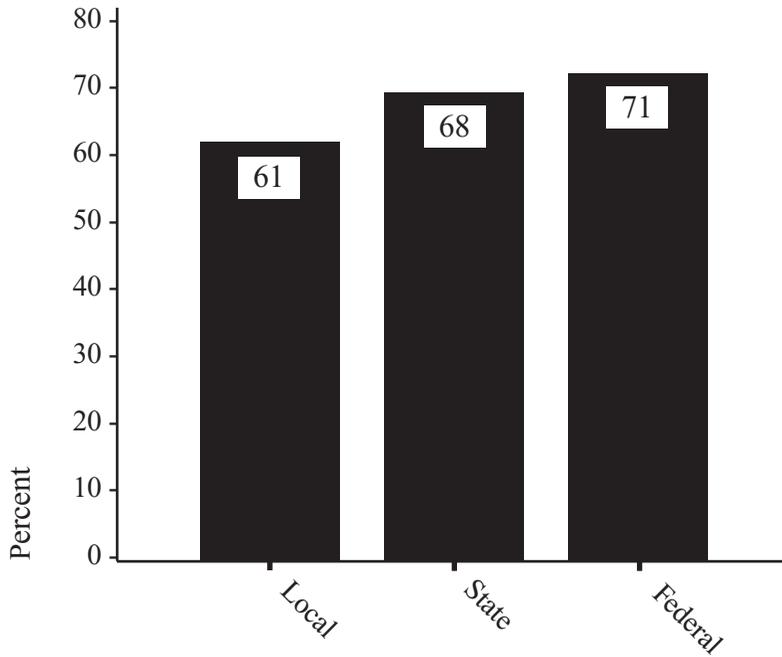
Figure 3
Reasons for Visiting Government Web Sites in the Last 12 Months (n = 168)
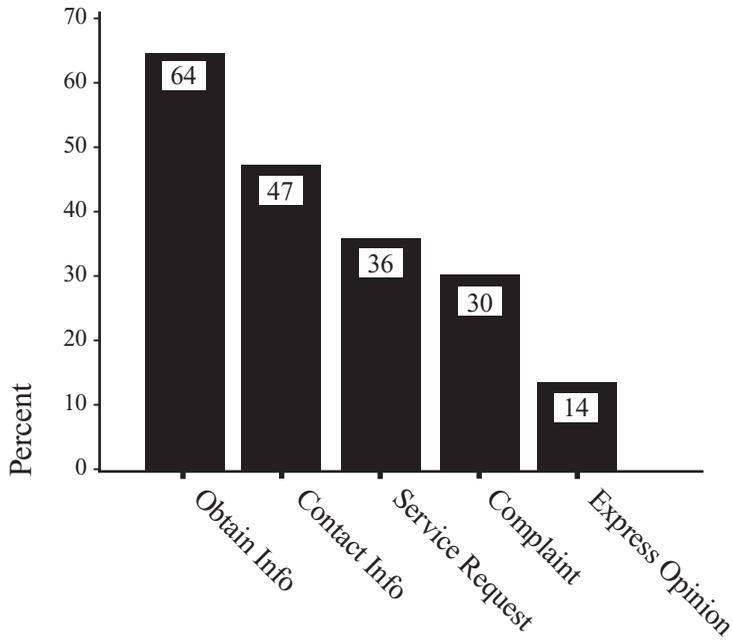
Table 2
Respondent Evaluations of Government Web Sites

		Response Categories			
	N	Excellent	Good	Fair	Poor
Compared with all other Web sites you have visited, how would you rate the governmental Web sites for ease of use?	163	14.4%	53.1%	27.6%	4.8%
Compared with all other Web sites you have visited, how would you rate governmental Web sites for usefulness of information?	168	18.1%	58.2%	20.2%	3.5%

mation. For the moment anyway, the Internet is largely a one-way communication tool relative to government.

A number of respondents offered many specific reasons for visiting governmental Web sites. The reasons included obtaining tax forms, getting directions, getting weather reports, reading about the Hubble project, looking for a job, reading the Starr report, and helping kids with their schoolwork. Notably, all of these—and most of the other specific reasons—constitute some form of information gathering.

Might these patterns differ for more experienced as opposed to less experienced Internet users? Although we lacked any direct measure of this experience, we used as a surrogate measure the number of levels of government visited, presuming that the more levels of government accessed, the more experienced the respondent was with the Internet. We found statistically significant relationships between this measure of experience and the citing of reasons number 1 (to get information), number 2 (to get contact information), and number 4 (to express an opinion). In each case, there was a split between the most seasoned users—those who had visited all three levels of government—and the other respondents. The most experienced users were more likely to visit sites to get general information, to get contact information, *and* to express an opinion. These findings hint that, as use of the Internet becomes more extensive, people may also increasingly use government Web sites for more than just information.

Evaluating Government Web Sites

Respondents who reported visiting governmental Web sites were asked how they thought those sites compared to other sites they had visited. As Table 2 shows, respondents gave relatively positive evaluations of government Web sites. On ease of use, 68 percent of the visitors to government Web sites rated them as good or excellent. Similarly, on usefulness of information, 76 percent rated them as good or excellent.

We also asked respondents for an overall evaluation of government Web sites—comparing them to other types of sites that they had visited. As Figure 4 shows, respondents generally rated the governmental Web sites about the same as other Web sites, with 56 percent offering that rating. Of the remaining respondents, a slightly higher proportion rated governmental Web sites as somewhat or much better (24 percent) than as somewhat or much worse (20 percent) than other Web sites. Although they did not fully support the hypothe-

Figure 4
Overall Evaluation of Government Web Sites (n = 168)
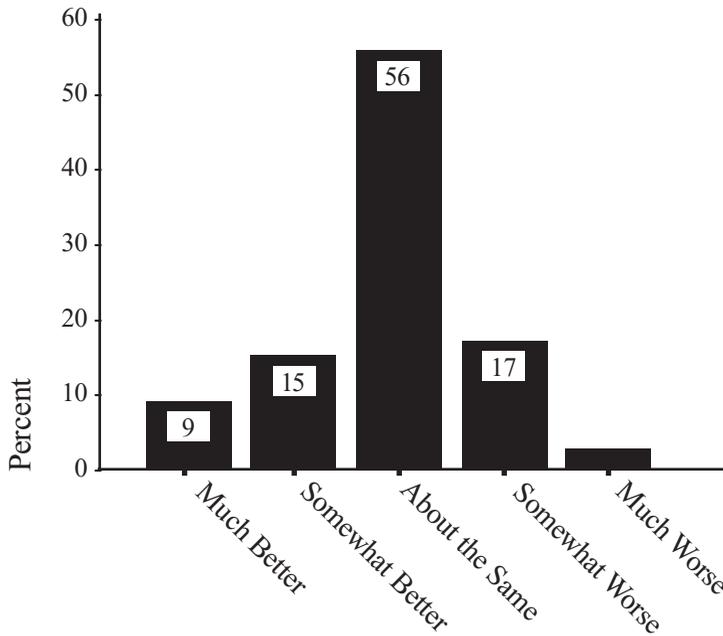
sis, these findings do show that government Web sites are evaluated at least as positively as other Web sites.

As one cautionary note, we did find a slight, though not statistically significant, inverse relationship between the perceived usefulness of government Web sites and the number of governmental levels visited. Respondents who reported visiting more levels were less likely to give a usefulness rating of excellent and more likely to give a rating of good or fair. These findings are displayed in Figure 5.

When we broke down the overall comparison between government and other sites by the number of governmental levels visited, however, we did not observe a similar pattern. As Figure 6 shows, visitors with the least experience were the most likely to feel that government sites were about the same as others. The more experienced users were almost evenly split between seeing government sites as *either* better or worse than other sites, although there was no statistically significant relationship. Combining the results of Figures 4 and 5, there appears to be no consistent pattern of more experienced users rating governmental Web sites as worse than other sites.

The best indication of the assessment of these Web sites, though, may be a respondent's inclination to return. Here governmental Web sites fared very well in the eyes of the respondents. When they were asked if they planned to visit a government site again in the future, virtually all respondents—93.7 percent—said *yes,* supporting hypothesis H_5.

Examining the Digital Divide

To test our hypotheses about the digital divide, we looked first at the comparative demographic profiles of three groups: government Web site visitors, other Internet users, and

Figure 5
This graph measures the usefulness of government Web information as rated by users with different experience levels (n = 168). The experience ratings are based on the levels of government that respondents reported visiting. A visit to one level of government was a (1), two levels was a (2), and so forth.
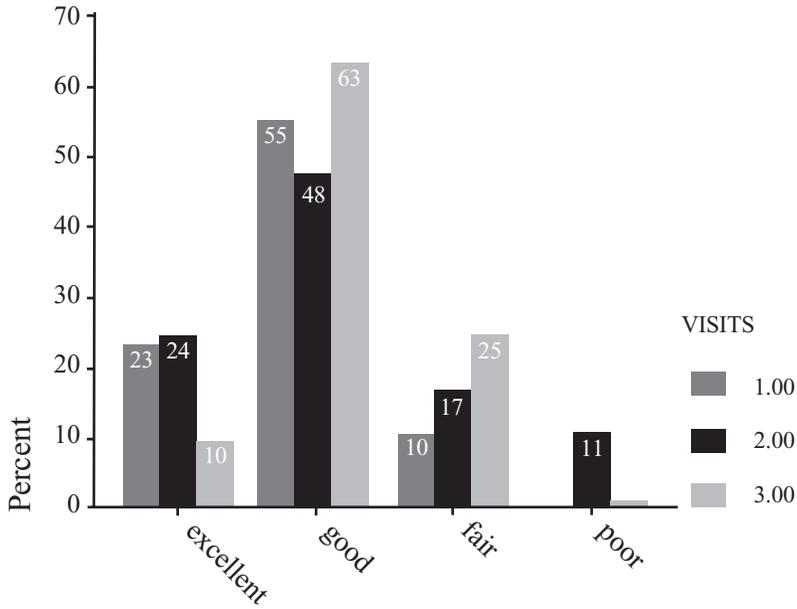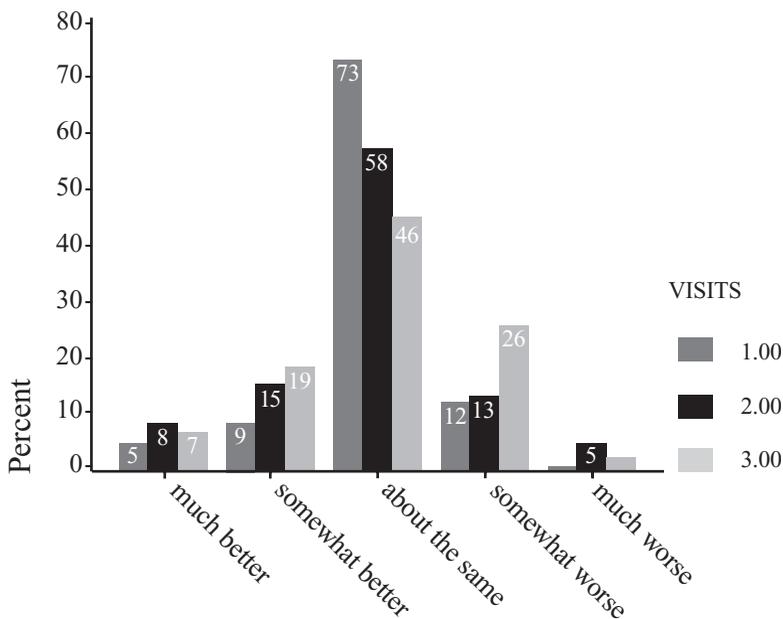

Figure 6
This graph measures the overall evaluation of government Web sites as rated by users with different experience levels (n = 168). The experience ratings are based on the levels of government that respondents reported visiting. A visit to one level of government was a (1), two levels was a (2), and so forth.

non–Internet users (see Table 3). To begin, the comparison of nonusers to the other two groups shows the same basic digital divide among the Georgia respondents as has been documented for the nation as a whole. Internet use increases with both income and education; it decreases with advancing age; it is substantially higher for whites than for nonwhites; and it is higher for metropolitan Atlanta residents than for the rest of Georgia. Gender is the only variable that is not noticeably related to Internet use.

How does this digital divide play out with the use of governmental Web sites? We predicted in hypothesis H_7 that this divide would be more pronounced in the use of government Web sites, and, as the first two columns of Table 3 show, this does appear to be the case. Visitors to governmental Web sites are more likely to be white, to have higher incomes, and to be more educated than are other Internet users. Two relationships, however, ran counter to our predictions. First, though they may be more negative about government, the young are more likely to visit governmental Web sites; usage decreases with age. Some hope might be taken from the fact that, despite their cynicism about government, the young appear to be as interested as any other segment of the population in this new face of government. Second, visits to governmental Web sites are no more common among Atlanta metro residents than among other Georgia residents. There appears to be no urban-rural digital divide among Georgia residents in visits to governmental Web sites. On the whole, though, the findings suggest that the digital divide that already has been documented between Internet users and nonusers becomes even more pronounced with Internet visitors to government Web sites.

These demographic comparisons can be no more than suggestive, however. To provide a stronger test of both hypotheses, we examined two multivariate logistic models for the basic digital divide (Internet users, including government Web site visitors, as compared to nonusers) and for the secondary digital divide for government Web site visitors (those visitors as compared to other Internet users). As for the basic digital divide, the results in the first two columns of Table 4 show, as might be expected, that race, education, income, age, and metro status are all important in discriminating Internet users from nonusers. The relatively young, more affluent, better educated, white respondents who live in metropolitan Atlanta are more likely to report being online.

As for the secondary digital divide, the findings for visitors to government sites, as shown in the two right-hand columns of Table 4, are similar to, but less pronounced than, those for Internet use. In particular, race and education stand out as important predictors of which Internet users will also visit government Web sites, with those visitors more likely to be white and better educated. Government Web sites appear to draw an even more exclusive audience than the already somewhat elite audience for the Internet in general.

Finally, this same logistic regression provides partial support for the hypothesis that respondents with a greater stake in government services will be more likely to visit government Web sites. Specifically, homeowners are significantly more likely than renters to visit government Web sites. A similar pattern is not shown, however, for having children under eighteen, the other stakeholder measure. Nor is there any significant relationship for our sole measure of political interest, whether or not the respondent is registered to vote. Still, the finding of one significant stakeholding variable does suggest that Web visits to government sites could follow the pattern of traditional citizen-initiated contacts. The possibility bears further examination with data that include better measures of perceived needs of government, stakeholding, and interest in politics and government.

Table 3
Is There a Digital Divide? Comparing Visitors to Government Sites with Nonvisitors

	Respondent Type		
	Visitors to Government Sites (n = 168)	Nonvisitors, but Internet Users (n = 291)	Respondents Not Using the Internet in Any Way (n = 365)
Race**			
White	85.7%	78.9%	66.6%
African-American	14.3%	21.1%	33.4%
Sex			
Male	53.0%	47.1%	45.8%
Female	47.0%	52.9%	54.2%
Income**			
Less than $25,000	7.6%	9.8%	34.1%
$25,000 to $50,000	39.8%	41.5%	45.6%
$50,000 and above	52.5%	48.6%	20.3%
Age**			
18–29	38.8%	34.4%	18.5%
30–44	39.3%	37.8%	28.0%
45–64	20.2%	23.0%	28.3%
65+	2.5%	4.8%	25.1%
Political affiliation			
Democrat	33.3%	28.0%	36.2%
Republican	27.4%	26.9%	20.6%
Independent	25.6%	26.2%	28.8%
None of the above	10.1%	16.0%	14.4%
Education**			
High school or less	21.0%	33.1%	58.1%
Some college	30.5%	31.3%	25.3%
College degree	48.5%	35.7%	16.5%
Metro status**			
Atlanta metro area	58.3%	56.7%	75.9%
Outside Atlanta metro area	41.7%	43.3%	24.1%
Home ownership			
Own	31.0%	26.3%	26.1%
Rent	69.0%	73.7%	73.9%

* = Significant at the .05 level, **= Significant at the .01 level

DISCUSSION

The technological changes that are currently in process are breathtaking in their scope and rapidity. For the cost of the cheapest computer and a local phone connection, individual citizens can access what stands to become something close to the entirety of documented human knowledge.

One has to wonder what the eventual impact of these extraordinary changes will be on government and public administration. Will government be able to adapt the new technologies in ways that make e-government, to coin a civic analogue for user friendly, more citizen friendly? Will these adaptations allow for greater citizen involvement, perhaps even arresting or reversing the long-standing deterioration of public confidence in government?

Table 4
Logistic Regression Models for Using the Internet and Visiting Government Sites

	Internet Users		Internet Users Who Visit Government Web Sites	
	B	Standard Error	B	Standard Error
Race (AA = 0, Whites = 1)	1.039**	0.324	1.163*	.455
Sex (Females = 0, Males = 1)	−0.458	0.249	.185	.282
Income				
Less than $15,000	−2.015**	0.653	−.173	.877
$15,000–$24,999	−2.196**	0.568	−.497	.712
$25,000–$34,999	−1.941**	0.514	−.481	.556
$35,000–$49,999	−1.019*	0.461	.445	.422
$50,000–$74,999	−0.413	0.465	.261	.396
$75,000 or more (reference)				
Age				
18–29	3.340**	0.545	−.313	.898
30–44	2.630**	0.519	−.270	.897
45–64	1.730**	0.517	−.321	.889
65+ (reference)				
Political affiliation				
Democrat	−0.879	0.492	.509	.471
Republican	−0.929	0.494	.260	.460
Independent	−1.408**	0.484	.101	.459
None of the above (reference)				
Education				
Less than a high school graduate	−3.403**	0.834	−.140	1.270
High school graduate	−1.239*	0.579	−1.525**	.567
Some college, associate degree	−0.854	0.572	−.618	.528
College graduate	−0.319	0.602	−.637	.519
Some graduate school	0.913	1.067	−1.260	.889
Professional/graduate (reference)				
Metro status				
(nonmetro = 0, metro = 1)	0.557*	.278	.051	.291
Children under 18 (no = 0, yes = 1)			.433	.330
Own residence (no = 0, yes = 1)			-.920*	.356
Registered to vote (no = 0, yes = 1)			-.350	.430

Goodness of fit for Internet users, −2 log likelihood = 436.721; goodness of fit for Internet users who visit government Web sites, −2 log likelihood = 345.662.
Nagelkerke R^2 for Internet users, .486; Nagelkerke R^2 for Internet users who visit government Web sites, .149.
Percentage of Internet users classified correctly, 78.3 percent; percentage of Internet users who visit government Web sites classified correctly, 66.9 percent.
*Significant at the .05 level; **significant at the .01 level.

Our study offers an early glimpse at how things are beginning to shake out. Although we are constrained because our data are limited to the state of Georgia, we suspect that similar patterns would be observed in other parts of the United States. Overall, governmental Web sites appear to be emerging as an increasingly important vehicle for citizen-initiated contacts with government. Slightly more than one-half of the respondents in our sample report having gone on line recently and slightly less than 40 percent of those who have gone online—or 20 percent of the sample as a whole—reported visiting governmental Web sites. Should 20 percent be considered a substantial number? As one standard of comparison, it

falls well below the documented rates of citizen-initiated contacts via traditional phone or in-person contacts. Still, we are impressed because one-fifth of the population or almost two-fifths of Internet users contacted government in this manner at this relatively early point in the development of the Web.

To date, those survey respondents who reported using government Web sites have been mostly seeking information rather than attempting to communicate information to government. This pattern no doubt reflects in part that government has been slow to adapt the Web to facilitate communication *from* citizens. As government Web sites evolve to permit more communication and interaction, the pattern could change. Extensive anecdotal reports already suggest that governments are moving rapidly to permit interaction on many routine e-commerce transactions (e.g., licenses, permits).

It seems likely, however, that there will prove to be limits on how much citizens will want to communicate with government via the Web. First, contrary to sometimes bold predictions of an Internet-induced surge in direct citizen engagement with government (e.g., Grossman 1995); historical evidence suggests that technological innovations seldom spark increased interaction with government. As Bimber (1998, p. 139) has observed, "In the historical aggregate, increases in access to information about politics have not been connected with increased engagement."

Second, there will likely also be limits to what citizens want to communicate via the Web as opposed to in person or by phone in real time with a real person. Citizens who are angry about inadequate public services, for example, may not be satisfied with venting their anger via e-mail. Nor does the Web seem likely to become an adequate vehicle for communicating needs for emergency police or fire assistance. It will be an important question for both research and practice to see how these limits are defined in the coming years.

These comments should not be read as downplaying the importance of government Web sites as information sources. To the contrary, the increasing availability of governmental information on the Web can by itself promote governmental openness and transparency, and in the process no doubt will facilitate the achievement of democratic values (see, for example, LaPorte et al. 2000). The extensive use of government Web sites for information might already be having these effects.

Our survey respondents were slightly more likely to contact federal than state or local Web sites, but the differences are modest. Indeed, the differences are small enough that one might wonder if they will disappear or even reverse themselves as local government Web sites catch up with their counterparts at higher levels of government.

As perhaps the most encouraging part of this story—for American governments anyway—respondents reported generally favorable evaluations of the governmental sites they have visited. No more than a fair rating for government sites might have been expected, given that these sites might suffer by comparison to better-funded commercial sites. Instead, most survey respondents rated government sites as at least good on such aspects as ease of use and usefulness. Even more notably, most governmental Web site visitors rated those sites as at least as good as—and maybe better than—other Web sites they had visited.

On the other hand, the most discouraging part of the story is the lack of representativeness of the visitors to government Web sites. There is, of course, a well-documented digital divide between Internet users and nonusers wherein the former are generally wealthier, better educated, younger, more urban, and whiter. Those patterns were evident among the Georgia respondents, too, and the patterns became more pronounced when we narrowed our focus to visitors to governmental Web sites. These visitors are even better educated,

more likely to be white, wealthier, and younger than are Internet users in general. Although, arguably, they only reproduce the typical socioeconomic biases of political participation, these tendencies may warrant special concern by governments, as they most likely will engage more and more of their interactions with citizens via the Web.

These findings suggest a number of implications for government:

- Government must continue to move rapidly to adapt its activities to the Web because its constituents increasingly demand the ability to engage important interactions on the Web.

- Adapting governmental activities to the Web will require an increase in the options for citizens to communicate with and to interact with government on the Web (e.g., Milward and Snyder 1996). The initial informational presence of government on the Web is helpful and will remain important, but it is only a beginning.

- American governments should join with other actors to accelerate the bridging of the digital divide. That divide may be an even greater concern for government because, although government is supposed to represent all segments of the population, the digital divide appears to be more pronounced for use of governmental Web sites than for use of the Internet in general. Moreover, although the continuing diffusion of computers and Internet access across the population may be eroding the basic digital divide (e.g., Ray 1999), the digital divide for government Web site visitors might persist.

- To the extent that the digital divide cannot be bridged, government must be careful not to devote so many resources to its Web presence that other vehicles for interacting with government are compromised. If less-advantaged segments of the population are less able to access government on the Web, their other channels to government must not be closed off or contracted.

The implications for research are equally important:

- Assuming we are correct in conceptualizing Web interactions with government as a new form of citizen-initiated contacts, researchers should examine how this new form of contacting compares to the traditional forms. For example, are the reasons for the two types of contacting similar? To what extent can the same kinds of concerns be addressed by this new form as were addressed by the old? To what extent can some traditional concerns not be addressed by the Web? Are there other concerns that can be better addressed by the Web?

- There are also important questions about how interacting with government via the Web will affect perceptions of the responsiveness of government and public confidence in government. Will the Web expedite responses to citizen requests, thereby improving responsiveness, or might the ease of contacting government via the Web bring so many more requests that government will not be able to keep pace? Will these interactions—or simply the greater availability of information about government via the Web (see Bimber, 1998, p. 141)—nurture increased confidence in government, or might the Web instead further depersonalize government, undermining public confidence?

- Finally, looking beyond this research's limited concern with Web-based, citizen-initiated contacts, there is the larger question of whether the Internet may be revolutionizing citizen-government connections, perhaps greatly strengthening those connections. At first glance, we see nothing to suggest such a revolution. Citizens instead appear to be using the Internet, much as Bimber (1998) and Ray (1999) have speculated, to pursue ends they previously pursued by other means. But it is early in the Internet revolution, and much more research is needed in this area.

We are in an era in which the information revolution is transforming government, just as it is transforming other aspects of our lives. The directions these changes take demand the full attention of elected officials, public managers, and academic researchers. Elected officials and managers must work to ensure that the Web is used to enhance the effectiveness, efficiency, and responsiveness of government—to ensure, in other words, that the Web is used to improve the democratic process. Academicians for their part must be prepared —often on short notice and with short turnaround—to undertake the research to determine whether these gains are being realized and, if not, how the gains can be achieved. It is a daunting, but intriguing, challenge for all parties.

REFERENCES

Barber, Benjamin R. 1984. *Strong Democracy: Participatory Politics for a New Age.* Berkeley: University of California Press.

Bimber, Bruce. 1998. "The Internet and Political Transformation: Populism, Community, and Accelerated Pluralism." *Polity* 31: 1: 133–60.

Goodsell, Charles T. 1994. *The Case for Bureaucracy: A Public Administration Polemic,* 3d ed. Chatham, N.J.: Chatham House.

Grossman, Lawrence K. 1995. *The Electronic Republic: Reshaping Democracy in the Information Age.* Washington, D.C.: Aspen Institute.

Holsendolph, Ernest. 1999. "Georgia Is Top State in Online Government." *Atlanta Journal-Constitution,* 24 November, sec. A.

Jones, Bryan D.; Greenberg, Saadia; Kaufman, Clifford; and Drew, Joseph. 1977. "Bureaucratic Response to Citizen-Initiated Contacts: Environmental Enforcement in Detroit." *American Political Science Review* 71: 1: 146–65.

Katz, Daniel; Gutek, Barbara; Kahn, Robert L.; Barton, Eugenia. 1975. *Bureaucratic Encounters: A Pilot Study in the Evaluation of Government Agencies.* Ann Arbor: Institute for Social Research, University of Michigan.

LaPorte, Todd M.; Demchak, Chris C.; de Jong, Martin; and Friis, Christian. 2000. "Democracy and Bureaucracy in the Age of the Web: Empirical Findings and Theoretical Speculations." Paper presented at the annual meeting of the International Political Science Association, Quebec. August.

Lieberman, David. 1999. "Net Hangs out of Reach of Have-Nots Web Study Shows; Educated, Affluent Widening Gap." *USA Today,* 9 July, sec. B.

Milward, H. Brinton, and Snyder, Louse Ogilvie. 1996. "Electronic Government: Linking Citizens to Public Organizations through Technology." *Journal of Public Administration Research and Theory* 6: 02: 261–75.

Norris, Donald, and Demeter, Lori. 1999. "Information Technology and City Government. *Municipal Yearbook.* Washington, D.C.: International City/County Management Association.

Ray, Marcella Ridlen. 1999. "Technological Change and Associational Life." In Theda Skocpol and Morris P. Fiorina, eds. *Civic Engagement in American Democracy.* Washington, D.C.: Brookings.

Sharp, Elaine B. 1986. *Citizen Demand-Making in the Urban Context.* Tuscaloosa: University of Alabama Press.

Stowers, Genie. 1999. "Becoming Cyberactive: State and Local Governments on the World Wide Web." *Government Information* 16: 2: 111–27.

Thomas, John Clayton. 1982. "Citizen-Initiated Contacts with Government Agencies: A Test of Three Theories." *American Journal of Political Science* 26: 3: 504–22.

———. 1986. "The Personal Side of Street-Level Bureaucracy: Discrimination or Neutral Competence?" *Urban Affairs Quarterly* 22: 1: 84–100.

Thomas, John Clayton, and Melkers, Julia. 1999. "Explaining Citizen-Initiated Contacts with Municipal Bureaucrats: Lessons from the Atlanta Experience." *Urban Affairs Review* 34: 5: 667–90.

Vedlitz, Arnold, and Veblen, Eric. 1980. "Voting and Contacting: Two Forms of Political Participation in a Sub Urban Community." *Urban Affairs Quarterly* 16: 1: 31–48.

Zuckerman, A. S., and West, D. M. 1985. "The Political Bases of Citizen Contacting: A Cross-National Analysis." *American Political Science Review* 79: 1: 117–31.