

2009

Resident Survey Report

Part of City of Seattle's IT Indicators Project

Information Technology Access and Adoption in Seattle



**Community Technology Program
Department of Information Technology**



City of Seattle

The 2009 Seattle Information Technology Access and Adoption Report

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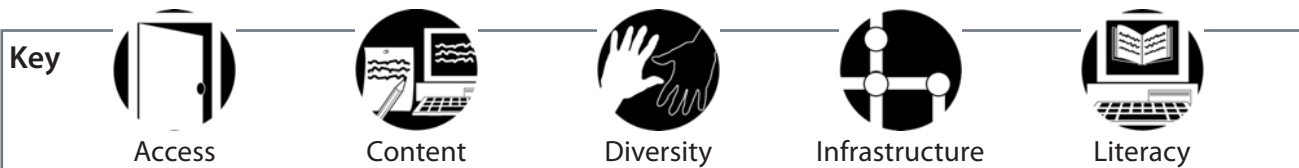
The Information Technology Indicators Project was developed by the Community Technology Program of the City of Seattle Department of Information Technology with the Citizens Telecommunications and Technology Advisory Board (CTTAB, seattle.gov/cttab).

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Background and methodology

This report presents the third in a series of data collection efforts by the City of Seattle intended to measure the state of information technology use and inclusion for Seattle residents. This research examines:

- How extensively our residents use information technology (IT), including computers, the Internet, cable TV, and cell phones;
- What barriers to technology adoption residents face and what would reduce those barriers;
- How they use IT to interact with government and community;
- How residential use supports local economic development;
- How essential information technologies and broadband are; and
- How much confidence residents have in online financial transactions and other uses.

The topics covered in the survey and report are based on an initial set of “Information Technology Indicators for a Healthy Community” developed by the city prior to the 2000 survey. It also tracks to the key elements of our digital inclusion strategy: access, literacy, and meaningful content and services.¹ Where possible, the new data has been compared with the first two surveys conducted in 2000 and 2004, providing a valuable longitudinal tracking of technology adoption in Seattle. The measures have been updated to reflect social networking and other trends in technology. This data is used to plan for city service delivery and public engagement, including our digital inclusion and broadband deployment strategies. Based on past experience, this data is also a valuable resource for the education, workforce training, business and social service sectors.

For the first time, the survey was also conducted in Spanish and additional focus groups were conducted. There was deliberate telephone survey oversampling of ethnic minorities and Hispanic households to ensure enough respondents for a valid sample. Cell phone only households were not included in the telephone survey, but focus groups collected some data from cell only users. Ten targeted focus groups were conducted to enable a snapshot of technology and online government use from immigrant/refugee groups, African Americans, and cell only users.



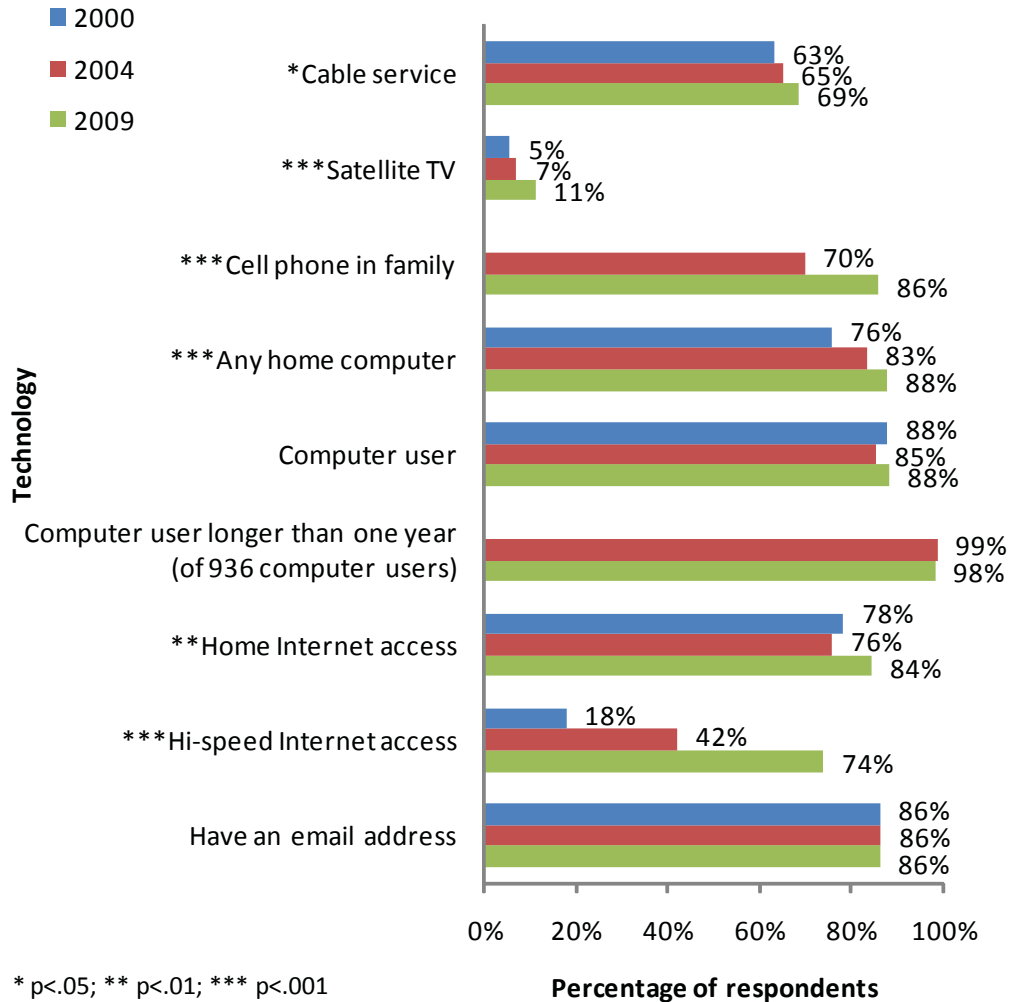
The City of Seattle Department of Information Technology (DoIT) Community Technology Program contracted with Elizabeth Moore at Applied Inference with assistance provided by Professor Andrew Gordon of the University of Washington to design and analyze the research, conduct the focus groups and write the full report of findings. The random telephone surveying of 1,064 Seattle residents was conducted by Pacific Market Research.

¹ See www.seattle.gov/tech/digitalinclusion.htm

Seattle continues to be a leading technology city

Seattle residents are online and becoming increasingly computer experienced. Seattle's residential phone survey found that most households have a home computer (88%) with Internet access (84%), and almost three-fourths (74%) of all residents have higher speed Internet service, faster than dial up.² These figures are well above the national average of 79% of adults with Internet access and 63% with high speed access.³ The percentage of Seattleites with computers and Internet at home, and especially high speed home Internet access, has increased significantly over the years. The overall percentage of those with email addresses has remained stable at about 86% since 2000; currently almost 98% of computer users have an email address.

Seattle Information Technology Use Over Time



Source: 2000, 2004, 2009 City of Seattle IT Survey (fig.3)

High speed access in Seattle has increased steeply, from 18% in 2000, to 42% in 2004,

to 74% in 2009. Only fifteen percent of Seattle households subscribe to the faster premium or business class Internet access, despite a desire for more speed. Analysis shows that income is the only demographic related to subscriptions to premium or business class high-speed Internet access.

The adoption of other technologies is also increasing, but more slowly. Cable service subscription has increased from 63% in 2000, to 65% in 2004, and 69% in 2009.

² The 74% total amounts to 88% of Internet users and includes cable, dsl, paid wireless, and wi-fi.

³ April 2009 survey by the Pew Research Center's Internet & American Life Project; <http://www.pewinternet.org/Reports/2009/10-Home-Broadband-Adoption-2009.aspx>

Cell phones and smart phones⁴

Among households with a landline (vs. cell only households), the percentage of Seattle households with cell phones has increased from 70% in 2004 to 86% in 2009. Adoption of smart phones, or mobile devices with Internet access, is now at 35% for Seattle residents with landlines.

Overall, the number of cell phones per household very closely tracks the number of adults per household with an average of two cell phones in those households. About a quarter of the non cell phone users have had a cell phone in the past and about one-third of these cited the high cost of service as the reason for dropping it.

Certain demographic groups are less likely to have cell phones, including people with disabilities, seniors 65 and older, people who do not work at a paying job, people with household incomes of less than \$40,000, people with no more than a high school education, and people living in Spanish-speaking households.

A comparison of our telephone survey with cell only users in the focus groups showed that, with few exceptions, those who use only a cell phone and do not have a landline were similar to those with a landline in terms of their technology access, though they may differ in their technology use. They are equally likely to have cable TV, be computer, Internet and email users, and have a computer and Internet access at home and Internet access on a mobile device. They are equally likely to indicate using computers for the variety of tasks we surveyed for, and they are as varied as others in where they use computers. Some differences suggest they may be more technology oriented on their interactions with others, being more likely to contribute to a blog or wiki, more likely to use a social networking site, more likely to want to make contact with the government on the web or via email and less likely to make contact by telephone, in person, or in a letter. From our focus groups, cell phone only users prefer a web or email survey for communicating their opinions to the City.



Seattle still has significant disparities in technology adoption

It is tempting to conclude that the digital divide is closed in a city with such a high level of technology adoption. However, both the survey and focus group results confirm that some – and often the most vulnerable or marginalized residents – still struggle with digital inclusion. In an increasingly digital culture, the gap in adoption threatens greater exclusion or marginalization, and sharper disparities in opportunities for education, civic participation, jobs and economic success.

⁴ According to a 2008 National Health Interview Survey by the Centers for Disease Control and Prevention, 17.5% of American homes had cell phones only and another 13.3% have both a cell phone and a land line but take calls only on their cell phones. See Wireless substitution. National Center for Health Statistics. Available from: <http://www.cdc.gov/nchs/nhis.htm>. December 17, 2008.

Many factors were associated with technology access and lack of access. Overall, income and education were the largest factors, but significant differences in technology adoption were found based on age, ethnicity, language spoken, and disability status. Focus groups conducted with immigrant communities also affirmed that those with language barriers are more disconnected.

The Seattle survey identified these disparities and associated factors:



Income – People making under \$30,000 are only two-thirds as likely to have home Internet as those with household income above \$40,000. Income is positively associated with, and the most powerful predictor of, access to most information technology. As income goes up, so does access to and use of technology. However, living in a Spanish-speaking household outweighed income on being a computer user. Even Latinos with higher incomes are less likely to be computer users.

Education – People with no college education are a third less likely to have home Internet service. Education is also a powerful positive predictor of being a computer user, having an email address, and having a home computer and Internet access. This effect was separate from the effect of income, meaning that respondents with more education are more likely to be computer users and have home access, regardless of income.



Race/ethnicity - African American computer users and Hispanic/Latino computer users reported using the computer for fewer things and having less computer experience overall. Less than half (44.6%) of the Latino/Hispanic households and only about two-thirds (66.6%) of African Americans have Internet at home compared to almost 90% of Caucasians.

- African American respondents are less likely to have home computers or home Internet access, especially high-speed access.
- Latino households are even less likely than African Americans and other households to have access to most technology except cell phones and satellite TV. This pattern is more extreme among Latinos who speak Spanish at home, although even among primarily English-speaking respondents, Latinos are less likely to have a home computer or Internet access, an email address, or have been a computer user for longer than one year. This finding is growing in significance with a growing Hispanic/Latino population.
- It is possible that other limited English ethnic subpopulations may have similar results to Spanish speakers, but we were only able to offer the phone survey in English and Spanish. The results from focus groups confirm lower use in some immigrant/refugee groups.

Age – More seniors are connected but still less likely to have home Internet (73% of seniors 65 and over) or an email address (69%), or have a cell or Internet capable phone. Seniors who are already computer users are about as likely as others to have an email address. Seniors are a group that could particularly benefit from improved Internet adoption and computer literacy so that those with limited mobility can retain independence and family connections.

Disability – People with disabilities are 25 percentage points less likely to have a computer or Internet at home. The survey found that those with disabilities are also less likely to have access to cell phones (25% less likely), and among computer users, they tend to use computers for fewer things and express less comfort with several computer tasks. They are also less likely to use computers and email on a daily basis. This ongoing digital exclusion is magnified for a community where computers, the Internet and assistive technologies can be critical enablers of greater independence, productivity and mainstream integration.



Immigrants/Refugees – Separate focus groups conducted with immigrants and refugees who may have been prevented from participating in the telephone survey due to a language barrier reveal that these residents are less connected. More is written about this in the focus group section below.

Computers, the Internet and email are being used daily

In 2009, three-fourths of computer users use computers daily, especially if home is where they do most of their computing. Eight in ten with email check their email daily. Daily computer and email use increases with both education and income. Daily use of both computers and email is higher among Caucasian respondents, lower among African Americans, and lowest among Latino respondents who speak Spanish at home, even if they have home access.

Residents value high speed Internet service and want more, but affordability is an issue



Three-fourths of those surveyed said that significantly faster Internet access would be somewhat or very valuable. Responses reflected both a desire for faster Internet service and concern over affordability of Internet service. The value of high speed service can be seen across the spectrum of current access speed; even those that don't have high speed service declared its importance. Households with children thought high speed access was more important than those with no kids (54% vs. 44%).

About half of the respondents in the survey said that improving the cost of their Internet service is the one thing that would improve it the most, and 26.7% named speed first. The focus groups yielded a similar result. Of those currently with high speed access, half are concerned about its cost and about a quarter want even faster access. Cost was also an issue for those who no longer have access. Forty percent of those who have had home computer or Internet access in the past, but not currently, identified cost as the barrier.

Is high speed Internet an essential service? Nearly half say that it is “very important” for all Seattle households to have high-speed Internet access and another 40% say it is “somewhat important.” Those with high-speed access and those with no access gave this item higher rating. African American and Latino respondents gave the highest importance ratings to high-speed access for Seattle households which, as a group, they were less likely to have. Current computer users and employed respondents rated high-speed service as more important than non-users and unemployed residents.

Computer skills and use has grown. Gaps show up too.



The level of computer experience for Seattle residents has significantly increased. In 2009, nearly all computer users have installed new software and eight of ten computer users have used the Internet to find health information, an increase of more than ten percentage points since 2004. Two-thirds have used social networking sites, such as Facebook, MySpace, or LinkedIn, with about 60% being quite comfortable using social networking sites (42% very comfortable and 19% at level 4 of a 5 point scale). Use for finding legal or consumer information has also risen.

More computer users are “very comfortable” searching the Internet than they are sending and receiving email attachments, or opening and saving a file, suggesting that Internet applications are the most common use of computers today. This finding was consistent across many subgroups with the following exceptions:

- Computer-using seniors, with the most room for improvement across the age groups, improved the most in their computer experience. This could be due to increased learning by seniors and/or more experienced computer users aging into the senior group.
- People with less than a high school education seem to be losing ground with computer experience. Although this demographic group is far likelier to be computer users than their counterparts nationwide (61% vs. 18%)⁵, they are far less likely to be computer users than Seattle’s most educated respondents (96%).
- Overall, African American computer users and Hispanic/Latino computer users reported using the computer for fewer things, and having less computer experience overall.

Here are a few other findings on differences of use by ethnicity:



- African American computer users are least likely to **download a podcast** (18%), while Asian/Pacific Islander and Caucasian computer users are most likely (37% and 38% respectively); African American computer users are also least likely to **post a video online** (5%), followed by Caucasians (18%), while Asian/Pacific Islanders are most likely (37%).

⁵ http://www.usatoday.com/tech/news/2009-06-03-internet-use-broadband_N.htm

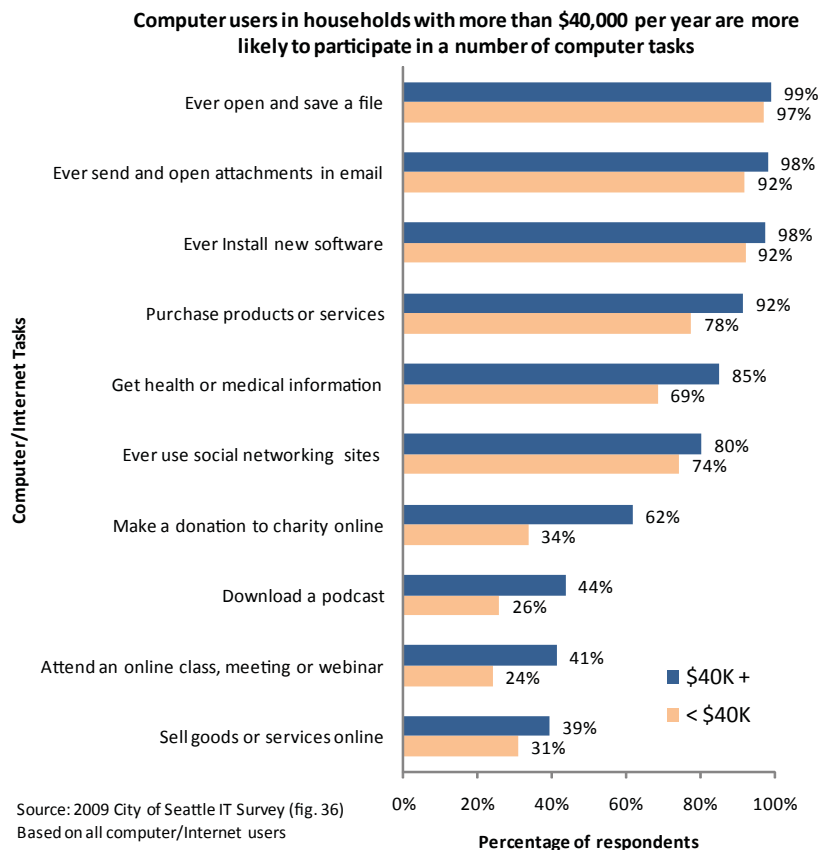
- African American, Hispanic/Latino, and Asian/Pacific Islander computer users are less likely to **make a donation to a charity online** (30% to 37%), while Caucasian users are most likely (57%).
- African American computer users are least likely to **sell goods or services online** (13%) compared with the other groups (32% to 43%); Hispanic/Latino and African American computer users are least likely to **purchase products and services online** (70% and 73% respectively), compared with other Asian/Pacific Islander and Caucasian computer users (89%).
- Asian/Pacific Islander and African American computer users were less likely to use the computer to **get health or medical information** (68% and 75%), compared with the other groups (82% or more).
- African American computer users are also least likely to use the computer to **keep in touch with friends and family** (78%) compared with at least 93% of the other groups.

Disabled residents showed fewer uses and comfort in use



Computer users with disabilities use fewer applications than their non-disabled counterparts, and expressed less comfort with some tasks, such as sending and receiving email attachments (41% are “very comfortable” compared with 74% of computer users without disabilities) and searching on the web (58% “very comfortable” compared with 83% of other computer users).

Differences in use are also very visible between those with an income of more or less than \$40,000 per year.



Confidence in online buying has gone up somewhat, but computer safety and security remain a large concern



Respondents are divided about the adequacy of precautions for children to access the web safely. About half do not believe they are adequate, and 16% don't know. Men are more confident than women in the precautions, and younger respondents are more confident in them than older respondents.

Confidence in the privacy and security of online financial transactions has increased somewhat since 2000, but respondents are cautious with only 21% of respondents saying they are "very confident" in the privacy and security of these transactions, up from 15% in 2004 and 12% in 2000. The average confidence rating in 2009 was just past the midpoint of the scale in the positive direction.

In 2000, women's confidence in this aspect of Internet use was lower than men's, but it has increased since then to nearly equivalent levels.

Demographic subgroups have different opinions about this issue. Groups with less confidence include African American and Latino respondents, people with disabilities, seniors, respondents with less education, those not employed at paying jobs, and those with less income. Along with Asian/Pacific Islander respondents, these are the same groups that are more interested in receiving information from the City about protecting themselves and their computer against unsolicited ads, viruses, and other computer threats. Concerns about Internet safety and security were voiced in nearly all of the focus groups, indicating it remains a significant issue for at least some residents.

Computers, Internet and training for all are important to Seattleites



Seattle residents value access to computers and the training to use them - not just for their own households, but for adults and Seattle households in general. This was also true for access to high speed Internet service, as explained earlier. Seattleites see access to computers and Internet as more important than they did in 2004.

The importance ratings for children's and adults' computer and Internet access and high-speed access for households increase with both income and education. Current computer users and employed respondents rated computers, Internet and high-speed service as more important than non-users and unemployed residents.

Access for adults: About as many respondents in 2004 and 2009 think adults' access to computers and the Internet is important, but 2009 respondents think it is *more* important, with 78% giving it the highest importance rating in 2009, up from 64% in 2004. An additional 19% said somewhat important. The importance rating for adults' access increased more among the older respondents,

perhaps reflecting increased awareness. Latino respondents, with less access than other groups, gave lower importance ratings to adults' computer and Internet access.

Access for children: The majority of those surveyed felt access to computers and the Internet for children was important, but less so than adults and the number has not changed significantly since 2004. Fifty percent indicated it was very important and 37% said somewhat important. Computer users felt much stronger about the importance of access for children than non-users. Caucasians and those who speak English at home rated children's access as more important than others, suggesting a potential cultural divide in perceived importance.

Training: Three-fourths of the respondents believe that Seattle residents need access to free or low cost training on how to use computers or the Internet. Fewer Caucasian respondents (73%) agreed that Seattle residents need access to free or low cost training on using computer or the Internet, as compared to African American respondents (89%) or Latino respondents (92%). Latinos and African Americans, as well as other immigrant/refugee participants in the focus groups, also affirmed the need for affordable and accessible computer training. Non computer users surveyed are as likely as or more likely than computer users to agree that Seattle residents need access to free or low cost computer and Internet training.

Business and economic development

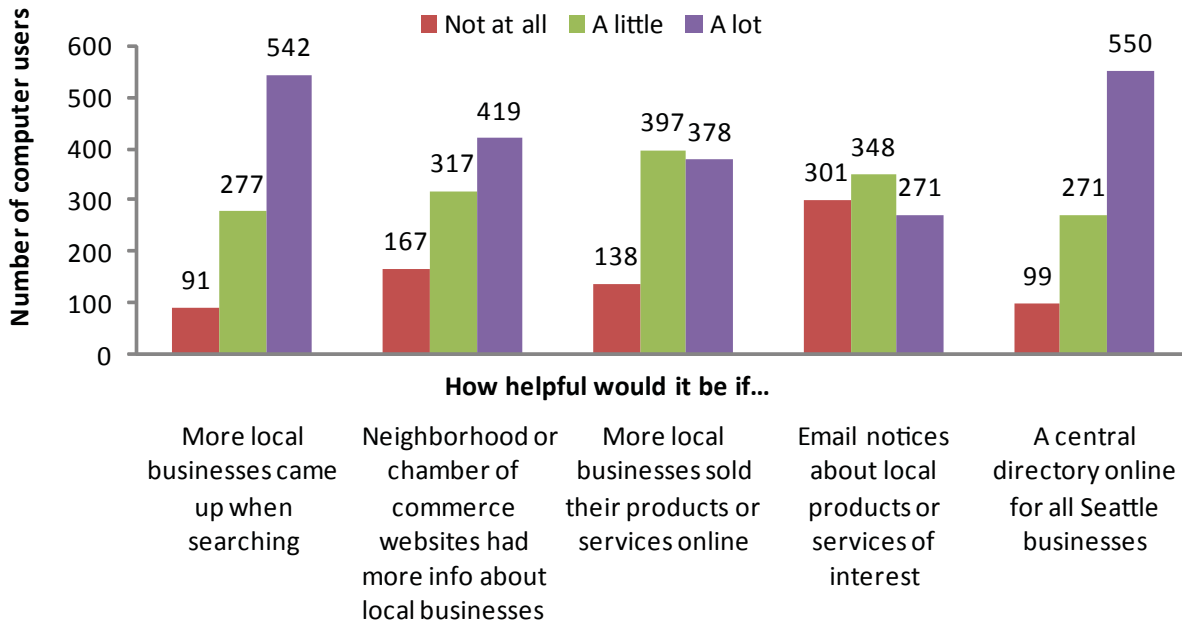
More look for local businesses online, just over half buy local



Computer users were asked questions about using the computer and Internet to do business locally. An increasing number of computer users (80%) have used the Internet in the past year to find information about local businesses, up from 2000 (61%) and 2004 (71%). More than half (55%) said they had purchased goods or services from local businesses over the Internet in the past year. Use of the Internet to find information about or to purchase from local businesses increases with education and also varies considerably by ethnicity, with Caucasian respondents about twice as likely as African American respondents to use the Internet to purchase from local businesses.

Residents want more convenient access to information about local businesses. When asked what would make it easier to find or purchase from local businesses on the Internet, people were most favorable about the ideas of a central directory online for all Seattle businesses and having more local businesses come up on Internet searches. They were least positive about the idea of receiving email notices about local products or services of interest.

A central online directory of all Seattle businesses and web search results showing more local businesses would be most helpful



Asked of all computer users

Source: 2009 City of Seattle IT Survey (fig. 40)

Seattle residents telecommute and it saves them driving. Those who work from home are more likely to have higher speed Internet.



Two-thirds (66%) of the computer users who work at a paying job reported that they use the Internet to work from home. This includes working from home for an employer, or using the Internet to operate a business from home. Telecommuting increases with income and education, and is less common among African American and Latino respondents, who are also less likely to name “work” as a location where they do “most of their computing” and who are less likely to have home computer or Internet access. About a quarter of telecommuters (compared to 16% of other respondents) have premium or business class Internet access and 85% say that significantly faster Internet access would be valuable (compared to 70% of other respondents). Thirty-nine percent of those employed indicated their type of job does not allow telecommuting. Other most common reasons given by respondents for not working from home, or for not working from home more often, had to do with needing to work with a team, policies don’t allow it, not interested or too distracting at home.

About four in ten of the computer users said that the Internet saves them “a lot of driving.” This response was more common among telecommuters and people with disabilities, and less common among seniors, who may drive less.

More are accessing government online



More Seattle residents are using the Internet to access information from a city, county, state, or federal website, from 54% in 2000, to 60% in 2004 and 74% in 2009. The use of the Internet to obtain government information rises with education. Use of the Internet has increased for all education groups since 2004 except those with the least education, pointing to a persisting digital divide.

A significant ethnicity gap emerged, with only one third of Latino respondents – and only 15% of those who speak Spanish at home – who have used the Internet in the past year to access government websites. This finding dovetails with focus group participants who highlighted the two debilitating challenges of lack of computer and Internet access and insufficient English proficiency.

Respondents with disabilities are also less likely (by 21 percentage points) to use electronic means to get government information or to prefer electronic means to make contact with the government. These disparities could reflect a range of barriers, including cost of equipment and Internet, access to assistive technology, lack of training or awareness of relevant government information, and/or challenges with the functionality of government online services.

Unemployed residents were 26 percentage points less likely than those who are employed to have obtained information from a city, county, state, or federal website in the past year.

Seattle.gov use grows steeply

The percentage of residents using the City’s website, Seattle.gov, has increased steeply since 2000 when about one-third said they had visited the website, to 56% in 2004, and now to 78% in 2009. About two-thirds of the visitors say they use the website at least occasionally. The most common reason given for not using the website more often is because of having no need for it.



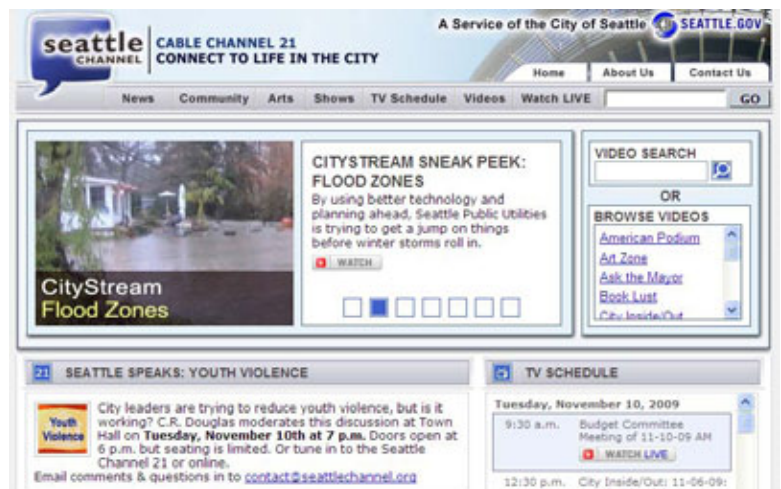
The subgroups more likely to use the website and/or likely to use it more often include employed respondents; those with more education; those with more income; those who speak English at home; and those in the middle age groups. Groups that are less likely to use the website include people with disabilities, African American or Latino respondents, and seniors. Though still lower than other age groups, the percentage of seniors 65 and older visiting Seattle.gov has increased from 19% in 2000 to 24% in 2004 and is now up to 35% in 2009.

The Seattle Channel is viewed by the majority of cable viewers



Over half of Seattle cable viewers (58%) have seen the Seattle Channel. Cable subscribers were significantly more likely to have seen the Seattle Channel than non-subscribers (58% vs. 22%), which is understandable since the Seattle Channel is only available on cable and not as a broadcast station. Among the cable subscribers, no differences in viewing were found for different income levels or by employment status.

Men were slightly more likely to have seen the Seattle Channel than women (63% vs. 52%), and in unweighted analysis, people with disabilities were as likely as others to have seen the Seattle Channel. African American and Caucasian respondents were more likely to have seen the Seattle Channel than Latino and Asian/Pacific Islander respondents (67% and 61% respectively vs. 35% and 46%). Older respondents were also significantly more likely to have seen the channel and respondents with less education were less likely.



What residents want to see on Seattle.gov and the Seattle Channel

Nearly two-thirds of respondents offered ideas for information that they would like to get from the City via Seattle.gov or the Seattle Channel. Some suggestions included activities, interests, and events around the city; information to enable them to monitor City business, both in terms of tracking the progress of public projects and in terms of budget transparency; information about how the City is improving its functioning and its preparedness for events such as the snowstorm that hit the City around the time of the telephone interviews; services provided by the City; information specific to local neighborhoods or communities; information about transportation, such as road closures, traffic accidents, and realtime transit tracking. There was enough difference in interests between different demographic groups to warrant attention to targeted content. For instance, women were more likely to express interest in human service related issues, African American respondents were more likely to mention an interest in local neighborhood information, and Asian/Pacific Islander respondents and Latinos expressed more interest in local news. This was echoed by participants in our focus groups

who expressed interest in neighborhood, local and government news, an events calendar, employment and educational information, computer and ESL classes, crime and safety updates and alerts, and ways to become involved in their communities.

Confidence has grown in communicating opinions electronically and with elected officials



Residents are growing in their belief that the Internet and email are effective ways to communicate opinions. There is also a more positive assessment about using technology to communicate with elected officials. However, confidence in use with elected officials remains below the general assessment of the Internet and email for communicating opinions. About a quarter of respondents think it's a "very effective" way of communicating with elected officials, up from 18% in previous surveys; some of the midrange opinion has

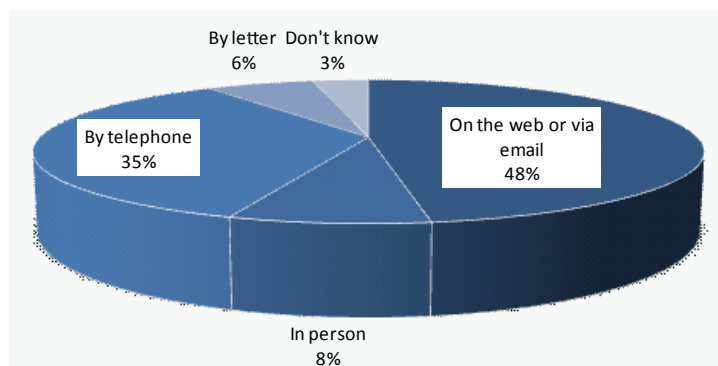
resolved into higher levels of confidence in using the Internet and email as a way to express an opinion to elected officials. The biggest increase was among those with some college education, and the least increase was seen for those with less than a high school diploma. From our focus groups, cell phone only users indicated a preference for a web or email survey for communicating their opinions to the City.

E-Government contact preferred, but varies

As education or income increases, so does the preference to make contact with the government electronically via the web or email. Caucasian and Asian/Pacific Islander respondents prefer making contact with the government electronically, while African American and Latino respondents prefer telephone, written or in person contact. Focus group participants indicated a need for more training in how to effectively reach government online, and for some, how to find multilingual help.

Preference for making contact with the government via the web or email increases steeply as income increases, from a low of 34% of those in the lowest income group to 65% of those in the highest income group. Preference for using the telephone decreases fairly steadily as income increases, from 42% of the lowest income group to 30% of the highest income group.

Most residents want to contact government via web, email or telephone, but this varies by income, education and ethnicity



Source: 2009 City of Seattle IT Survey

As education increases, so does preference for e-government contacts. Only about a quarter of those with the least education prefer to use the Internet, with as many preferring to make contact with the government in person and even more preferring to use the telephone.

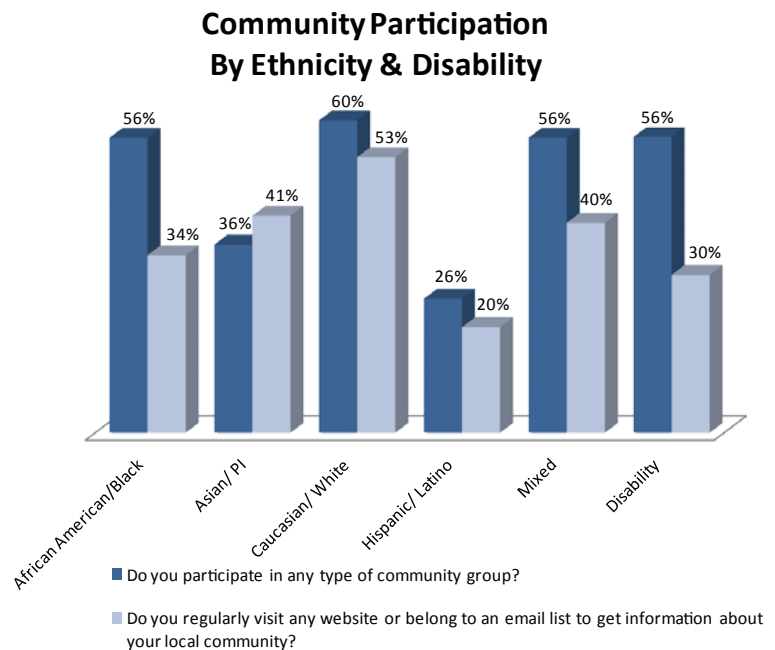
Seniors over 65 preferred telephone. Overall, of those under age 65, about a third preferred telephone and slightly more than half preferred web or email, except for those 18-25, of whom 42% wanted web or email and the difference in preferences was split between telephone and letters.



Community building and civic participation

Just over half of the respondents participate in any type of community group and not quite as many (49%) get information about their local community via a website or email list.⁶ Those who participate in community groups are more likely (about two-thirds of them) to get information about the local community via a website or email list. The survey also found an interest in community information among residents who are not participating in community groups.

Participation in a community group, either in person or electronically, increases with education and with income. Participation in a community group increases with income from one third of those in the lowest income group to two thirds of those in the highest income group. Visiting a website or belonging to an email list to get local community information ranges from 24% up to 61% by income.



Source: 2009 City of Seattle IT Survey

⁶ Residents were asked whether they “participate in any type of community group, like a neighborhood association, block watch, school, religious group, or any other type of group.”

Latino respondents are least likely to participate in some type of a community group or connect electronically with their community. African American respondents were more likely to participate in a community group, but not electronically. Caucasian respondents were most likely to participate both in person and electronically. Community involvement increases with age, but electronic community involvement is less likely among the youngest groups and oldest groups. Respondents with disabilities are less likely to connect to the community electronically.

Cable TV trends in subscription and satisfaction



Subscription to Cable TV has increased somewhat, from 63% in 2000, to 65% in 2004, and 69% in 2009. Comcast has 89% of the Seattle market, up from 81% in 2004.

Nearly half (45%) of non cable subscribers have subscribed in the past. Nearly four in ten of these 334 dropped cable because of its cost. About 60% of both current and former subscribers, including those who dropped because of cost, were aware of the cable package for less than \$20.

Unfortunately, those with relatively limited incomes who may need the lower priced service the most, are less aware of the lower cost cable option; this included seniors 65 and older, people with household income below \$40,000 per year, people with a disability, and people who were not working at a paying job.

Comcast subscribers were much more likely to be satisfied with customer service than Broadstripe customers. Most Comcast subscribers (89%) were “(very) satisfied” with the company’s customer service, up from 79% in 2004. Satisfaction with Broadstripe’s (formerly Millennium’s) customer service decreased from 80% “(very) satisfied” in 2004 to 48% in 2009. Common unresolved problems with cable service are “service/intermittent outages/stations” and “reception/picture quality/local channels especially”.



Overall, about 26% of respondents were aware of the city’s Office of Cable Communications. Respondents who spoke a language at home other than English or Spanish, those with less than post graduate education, and those earning less than \$40,000 per year were most likely to be aware of the cable office.



BROADSTRIPE.

Public access cable television - Seattle Community Access Network

Thirty-eight percent of respondents indicated that they have seen the Seattle Community Access Network (SCAN), Cable Channel 77, a decrease from 49% in 2004. Most of the people who have seen SCAN tend to watch it infrequently.

Despite this decrease in viewership, as many respondents as in 2004 (more than 80%) continue to think it is somewhat or very important for residents and community organizations to have the opportunity to create and show their own local programs.



Latino respondents who have seen the channel, along with African American respondents, tend to be more frequent SCAN viewers and rate it as more important. Respondents who speak a language other than English at home are half as likely as English speakers to have seen SCAN. Men are more likely to have seen SCAN. The percentage of people who have seen SCAN increases with income, though the importance rating of a public access channel decreases somewhat.

Focus groups provide insight into technology adoption and e-government



A series of nine focus groups with some of Seattle's larger communities of color and immigrant/refugee communities provided valuable data on interest in e-government information and experiences with technology adoption and barriers.⁷ While not a statistically valid sample, the participating residents provided insight not gathered by the phone survey. An additional group of graduate students shared their perspective as younger and cell phone only users. Many of the focus group members expressed both their own positions and made a point of speaking out for their fellow community members who are not well connected to technology and who have limited financial resources or English skills.

The focus groups revealed that our immigrant residents with limited English skills are less connected. They are less likely to have home computer or Internet access (59%, 45%), or Internet access via a mobile device (10%). They are also less likely to be computer (67%), Internet (58%), or email (62%) users or be comfortable with email attachments (34%). Forty-three percent of the immigrant focus group participants check their email daily. Forty-four percent of the same groups assessed

⁷ Focus groups included African-American, African, Latino, Chinese, Vietnamese, Filipino, Korean and graduate students (mainly cell-only users). Seniors were well represented in many of these groups.

their computer skill as “none or not very skilled” and another 30% selected “know what I need to know,” so about three-fourths of the participants in the immigrant focus groups have modest computer skills. Participants are about as likely to have cable TV as the phone survey respondents and somewhat less likely to have a cell phone (74%). Only 53% have a land line telephone.

Common interests and challenges were seen in adopting information technologies



The focus groups expressed these consistent points about use, needs and barriers:

- People recognize the disparity in opportunities between those who have and are able to use computers and the Internet and those who don't have access and skills.
- There was very high interest in using the Internet and technology more...they know it's the future. Our residents recognize the value for a range of activities, including education, jobs, staying in touch with family, health, community, news and entertainment.
- Participants expressed the importance of digital inclusion for everyone, especially to ensure quality education for kids.
- Greater adoption among those with modest incomes would occur if there were low-cost options available for high speed Internet, training, purchasing computers, and maintaining them safely and securely. Breaking down cost barriers requires addressing the whole system.
- They are concerned about viruses, hackers, spam, and the risk of theft of personal information. This is preventing some from becoming users and hindering some already online from becoming greater users.
- New computer users need more access at home as a way to practice what they learn in classes and to get more comfortable developing regular use of applications.
- Going to a place they know, in an environment and with trainers that relate to them culturally, helps encourage use.

For limited English speaking residents, these points were also found consistently:

- Language skills are a large barrier to use; there is a need for access to more computers with native language operating systems to be able to understand instructions.
- Training in basic computer use and specific applications is most helpful if provided in their native language.
- Basic literacy is a challenge for some immigrants.
- Parents expressed their concerns and frustrations with not being able to monitor their children's computer use because of not understanding either the language or various websites.

The same significant factors of income and education found in the phone survey were also apparent in responses by the focus group participants. While all recognized the value of computers and the Internet, statements from the graduate students in our focus group were most emphatic about how essential information technology is for them, with words like “disaster,” “constricted,” “insane,” and “cry” to describe their imagined lives without the support of computers and the Internet. It’s also worth noting concern raised in the focus groups that increasing Internet use may take away family time and closeness.

Public access computer centers, supporting learning & adoption

In addition to the summary points above about addressing barriers, other comments illuminate barriers and how to create trusted, supportive learning environments. Our focus group process and the discussions with participants highlighted the critical importance of working closely with the community to be served, in order to address differences in cultures and among genders and age groups. This is true whether delivering educational programs or doing preliminary research and focus groups. For instance, learning programs may be best delivered in trusted ethnic community centers and/or by trusted leaders. Gender plays a role in access and in some cases a women only class may be a most effective approach for women’s education.



The focus groups varied in their awareness of community technology learning centers and other locations for public access computers, though all groups were aware of the public access computers available in public libraries. In the telephone survey conducted for the City, library computers were the primary computing location for more people in certain subgroups, including people who do not



work at a paying job, people with disabilities, and African American computer users and computer users of “other” ethnicities. A quarter of those who go to the public library for “most of their computing” do so daily. The libraries were described in the focus groups as a vital resource for many, though they were not always able to provide the staff attention, sufficient time on computers, convenient hours, or native language operating systems needed. Individuals with these issues also described looking elsewhere for their computer access.



Some expressed the need for assistance at any public computer site, even during open computer time, to get them started and find language appropriate content. Language barriers also make asking for help more difficult. Focus group participants who were taking computer classes or job classes using computers stressed the need for practice time between classes to ensure retention. Technology access and training options at both the library and in other trusted cultural or community centers would best ensure meeting the needs expressed by the diverse residents in our focus groups.

Communicating with government

Focus group participants were very positive about the chance to provide feedback about communicating with government; some expressed that this was a rare opportunity to do so. They were interested in what government information was available which could be valuable to their personal lives and community. They offered a range of topics they were interested in, as well as some suggestions for how to better structure e-government communications to foster greater use.

These were some of the common views expressed through the groups:

- They recognize the potential of getting valuable information from government.
- Those who have already used Seattle.gov find it helpful. However, awareness of specific services may be limited.
- They want to be able to easily find or subscribe to information tailored to their needs, community, and interests.
- Participants would like to find local and government news on the City's website, as well as information about their local neighborhoods. Many asked for a calendar of events, and for employment and educational information, including computer and ESL classes, crime and safety updates, alerts, events and activities, and ways to become involved in their communities. At least one person in most groups wanted online information and support for starting or maintaining a small business in Seattle.
- Those with limited English want content in a language they can understand or in pictures or videos so that language is not as important. They expressed a need for full services in their language, rather than just overviews of services. For some immigrants and refugees, literacy is a barrier in addition to English competency.
- Participants expressed high interest in civic participation; people want to give opinions. However, they don't always know what civic engagement means or how to do it.
- Encouraging adoption of technology tools for civic participation also requires addressing comfort and trust in the source of information, comfort in how to navigate and interact with the government website (user interface), and comfort in the use of the computer or device being used by the resident to participate in e-government.

How they receive city information now



Most often, the focus group participants look to the TV news for information from the City, followed by notices in the mail, and newspaper articles. About one-quarter each selected the City's website or cable channel (both visited or seen by about half the participants), the radio, or email (if messages are infrequent, important, short, and in the appropriate language).

How they want to contact government



Participants were mixed in how they want to make contact with and get information from the government. Participants most often selected "On the web or email," the mode preferred by most of those with email access. Groups with more English skills expressed more interest in connecting with government electronically.

Cell phone users expressed a very strong preference for contacting government via web or email (79% of the cell only users). Participants were otherwise fairly evenly divided in their preference for in person, telephone or postal mail contact. However, the responses to how they preferred to contact the City varied greatly between groups. For instance, 67% of the Chinese and 66% of the African American groups preferred web or email, versus 27% of the older Filipino group. In two African immigrant groups, the response was 58% in one and only 30% in the other. Half of one Latino group preferred web or email versus 20% of the other Latino focus group. Participants in all groups expressed the concern that relying exclusively on electronic means would push people without access "out of the conversation."

How to help increase use of e-government

The focus group members offered useful suggestions for how to help make others more comfortable communicating with government using electronic means. Their suggestions included a telephone call carefully explaining procedures, small training events in locations the target community already uses, with someone able to respond quickly to the questions of learners, and ensuring public access computer locations have staff equipped to help new users with questions about government, in a language they understand.

"I'd like to learn a few different software programs. I wish the internet was faster and not so expensive."

- Vietnamese focus group participant

"As citizens I'd like to go somewhere and check off items that interests me, like public schools, environment..."

- Telephone Survey response on how to improve government websites.

"I would like to know what's going on in the community...we want honesty-even if it's not pretty, tell us the truth. Give us information in real time, exactly what's going on."

- African American focus group participant

In Conclusion

The City's survey and focus groups confirm that Seattle continues to be a leading city in the deployment and adoption of information technologies, but that we also continue to have a troubling lack of digital equity for all residents. Since our 2000 and 2004 surveys, we have made great strides in the adoption of computers, higher speed Internet and cell phones. There is also much greater use of the applications and services that enable people to stay in touch, learn, work or obtain essential services. There is growing use of mobile Internet devices and of social networking tools. Seattle has an increasingly technology skilled and broadband-using populace, which also has a need and a desire for faster and affordable broadband services.

Affordability and education are the most significant factors hindering more universal adoption. Clearly, any meaningful technology adoption initiatives must also take into account age, culture, and gender differences as well as literacy, language competency and disability needs. In addition to affordable equipment and services, this research confirms that skills education, effective information design, technical support, and attention to online safety and comfort using applications are vital components of a technology adoption strategy.

Seattle residents have shown us that they use and are interested in more effective use of the web for local economic development, education, community building, civic participation and obtaining government services. They have provided us with valuable feedback on how to reach them, what content would be valuable, and where we could do a better job increasing use of our telephone, online and on-television services.

At the City of Seattle, our challenge is to apply these findings to our planning for broadband deployment, to Seattle.gov and our online customer services, to our Community Technology Program's access and literacy efforts, and to the Seattle Channel. This data will inform our Race and Social Justice Initiative work and help the Mayor, City Council and multiple departments with their customer services and public engagement efforts. We are planning public education about these findings and hope that it spurs other sectors and communities to apply the findings from this research. We invite others in Seattle and elsewhere to join us in using this data as an opportunity to continue to shape our future using technology and to shape technology's future development and deployment in a way that promotes economic prosperity, education, jobs, civic engagement and healthy communities for all.

Notes



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The full report and more about the City of Seattle's Information Technology Indicators Project can be found at: www.seattle.gov/tech/indicators