INFORMATION TECHNOLOGY ACCESS AND ADOPTION IN SEATTLE

Progress towards digital opportunity and equity

2014 REPORT

Produced by the City of Seattle Department of Information Technology
Community Technology Program
www.seattle.gov/tech/indicators

Welcome to our latest profile on Seattle residents' use of information and communications technology.

Every four years the City of Seattle conducts an in-depth survey measuring technology use and adoption in Seattle. In total, we heard from 2,686 Seattle residents that reflect our city's broad diversity: over the phone, online and in person. Our staff met with 225 residents in nine focus groups in multiple communities and languages, and solicited feedback via a random phone survey and through an online survey.

Since 2009, Seattle has seen mobile phone ownership grow by 11% (80 to 89%), and a 66% growth in the number of residents with smart phones (35 to 58%). While this data shows that we're making great strides in technology, a digital gap still exists between our neighbors.

We use the data in this report to influence how the City of Seattle interacts with our neighbors and to better target our outreach and engagement strategies. Past results have been used by the City to inform cable franchising and neighborhood planning decisions and aid in grant funding outcomes. This research may also help to inform technology decisions around education, workforce training, technology development, business and social service delivery.

I invite you to read through this executive summary and the full text in our tech indicators report and look forward to using this data to continue our work in narrowing the digital divide in Seattle.

Mayor Ed Murray

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SURVEY METHODOLOGY

The Information Technology Indicators report provides a comprehensive view into Seattle residents' adoption of technology. This is the fourth time since 2000 that this research has been done. Data in this report was collected in 2013, in three ways: a random telephone survey, an online survey, and through focus groups. The phone survey is the most statistically valid sample, while the online survey and focus groups provide valuable additions. The initial set of measures and goals that guide this project were created with community residents and experts in the field of evaluation, data and technology adoption. Likewise, the lead staff and consultants working on this report worked on previous reports and each has more than 25 years of experience in the field.

This year's phone survey was completed by 803 people. For the first time, it included a cell phone sample (20% of those surveyed). The sampling was done to mirror the City's demographics as well as possible and was conducted in English, Spanish, Vietnamese, and Chinese. The online survey, new this year, ran for a month and was completed by 1,658 people. The phone and online responses were weighted for race/ethnicity, age, education, and income to better reflect Seattle's population. Results were also compared to our previous research.

Nine focus groups were conducted with traditionally under-represented communities. We partnered with community organizations to conduct these, which included two African American and two Hispanic/Latino sessions, and one each with a disabilities group and members from the Vietnamese, Somali, Chinese, and Ethiopian communities, conducted in their native languages. In total, there were 182 participants plus 43 facilitators, interpreters and note takers.

CITY OF SEATTLE 2014 TECHNOLOGY ACCESS & ADOPTION REPORT

This report presents an executive summary of the findings of the City of Seattle's most recent residential survey on technology access and use. This information is collected every four years and this is the fourth time the City has collected this data since 2000.

This research provides insight into levels of broadband and social media adoption, digital literacy needs and barriers, and opportunities for electronic civic engagement and delivery of government and community services.

Key findings from this year's report include:

- Internet use and access at home continues to be high in Seattle; 85% of those surveyed (and 75% of focus group participants) have at least "some" internet access at home.
- Seattle is a mobile internet community: ownership of laptops (72%) and mobile devices (smartphone and tablets, 66%) has outgrown ownership of home desktop computers (55%). Eighty-nine percent regularly use a cell phone; 58% have smart phones. Overall mobile internet access is lower among focus group participants, though cell phone usage is about the same.
- Civic participation continues to be important to the Seattle residents surveyed. Just over half (53%) of the telephone respondents and 77% of online respondents said they participate in a community group.

- Of those surveyed, email was the preferred way to give their opinion to a community group or the City. (75% in the phone survey, 87% in the online survey, down to 38% in the focus groups). There is also high interest in participating through online community meetings (58% in phone survey, 71% of online respondents). Focus group participants were diverse, most often saying online survey (38%), community meetings (36%), or telephone survey (31%).
- When it comes to receiving information from the City, those surveyed preferred a combination of methods: over the phone, via email and receiving text messages for urgent alerts. A combination of phone, email, the City's website, and Facebook for other information would reach at least 85% of phone and online survey respondents, and about 60% of the focus group participants.
- Effective engagement requires a combination of marketing strategies, online and offline. Seattle residents are using Facebook and Twitter, but these can't be depended on to reach all residents. Sixty-six percent of residents have used Facebook and 33% have used Twitter, though many fewer use it frequently.
- Community technology access sites are still vital for those with limited resources. A fifth of our phone respondents and 45% of online respondents use computers at the library while 15% of online respondents go to a community center to use a computer. The need for community access locations was emphasized in all the focus groups.
- There is still a significant gap in access to internet and the skills to use it, though the digital equity gap is more focused in skills and uses of the internet than on basic access.
- Education and age are the most significant factors differentiating technology access and adoption, but the data also shows important differences based on the income, ethnicity, and abilities of those surveyed. Focus group results indicate language and cultural factors also.
- Gender differences in technology access and adoption are no longer as large an issue as they were in the 2009 and prior surveys in technology use.
- Broadband and cable TV prices continue to be of concern, but increasing broadband speed is important to those surveyed, with high interest in using higher bandwidth applications.
- Cable subscribership has dropped 13% in the past four years as options for viewing video over the internet have grown.
- Seattle.gov is well-used and considered a resource in the community. About two-thirds of the telephone respondents, 85% of the online respondents, and half of the focus group participants have visited the City's website, Seattle.gov in the past year.
- The Seattle Channel has a broad viewership. More than half of the telephone respondents (51%) and 66% of online respondents have seen the Channel. People of color represent about two-thirds of the weekly Seattle Channel audience, according to the phone survey.

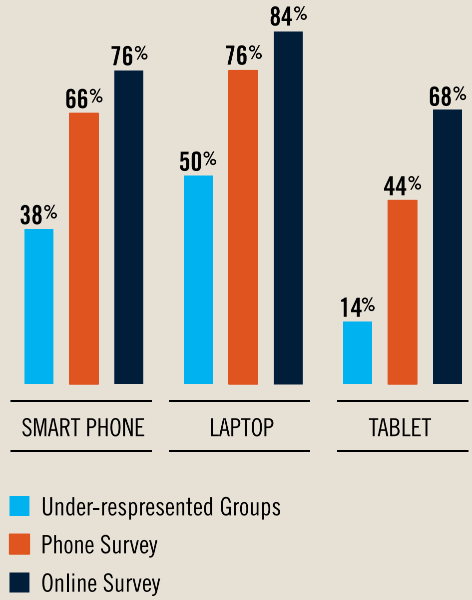
More details on these findings are explained in this document and in the full technical report.

Computer, cell phone and mobile device ownership since 2000

	PHONE SURVEY				ONLINE SURVEY
	2000	2004	2009	2013	2013
USE COMPUTER	88%	85%	88%	90%	100%
USE INTERNET				89%	100%
OWN COMPUTER	76%	83%	88%	88%	99%
Own desktop & laptop			42%	39%	52%
Desktop only			27%	16%	12%
Laptop/Netbook only			19%	33%	34%
CELL PHONE	46%		80%	89%	97%
Smartphone			35%	58%	76%
ANY MOBILE DEVICE (SMARTPHONE OR TABLET)				66%	87%
Any tablet				40%	66%

In past surveys, computer & internet use were asked together.

Technology ownership of mobile internet



Seattle Public Schools' families show a difference in access to technology devices and in use of the internet.

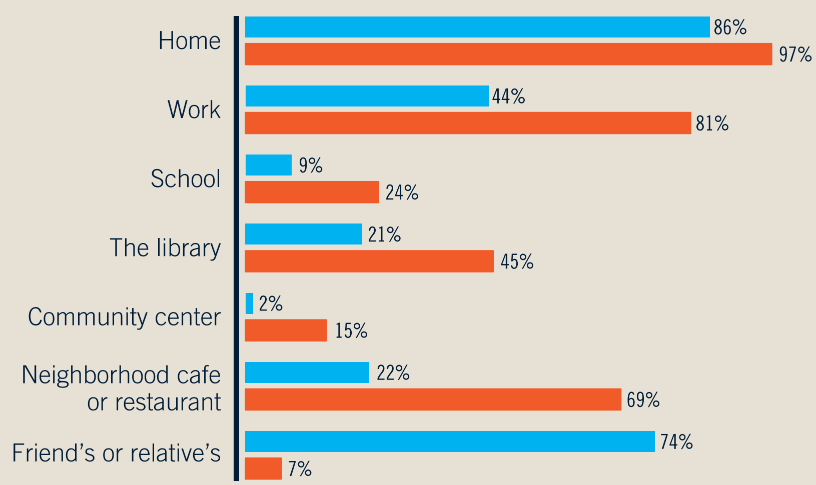
Households with children in Seattle Public Schools are less likely to have computers, tablets and internet at home than other households with children under 18, whose children likely attend private school. However, they are just as likely to have cell phones and smart phones.

Those with children who attend a Seattle Public Schools were less comfortable searching the internet and they were also less confident in the privacy and security of financial transactions over the internet than other families with children under 18 at home (47% compared to 62%).

These differences may be attributable to other factor differences like income and education as discussed elsewhere in the report.

Internet access in multiple locations is important

Seattle residents use the internet in multiple locations. This table shows the locations telephone and online respondents mentioned accessing the internet. Note that online respondents were viewing the list of sites, so that may have influenced responses.



Phone Survey
Online Survey

ACCESS: TECHNOLOGY USE IS ON THE RISE

Seattle residents continue to connect, with the greatest growth in use of mobile devices, laptops, tablets and smartphones. Based on our research, the great majority of Seattle residents have both a computer and internet access via cable or DSL service at home and are using higher speed services than in the past.

However, there continues to be differences in access to technology. We found that the primary differentiators in technology usage are age and education level, though a variance in access for different ethnic groups and income levels still persists. Focus group results also suggest language and cultural factors.

Based on our research, home internet access in Seattle increased from **57%** to **85%** over the past decade.

- **88%** of Seattleites have a home computer (laptop or desktop) and **89%** use the internet.
- **85%** have access to the internet at home.
- **72%** have internet via cable or DSL.
- **89%** use a cell phone and about two thirds of those are smart phones.
- Caucasian respondents were only **1/2** as likely to lack home internet access, compared with the other groups.

All based on the phone survey

We are a multiple and mobile device community

In addition to a slight uptick in the overall percentage of residents who own a computer, we found that Seattle is an increasingly mobile community, often owning and using several devices.

Seattle residents are high users of mobile devices and smart phones. Overall, nearly 9 in 10 residents have cell phones. Cell phone ownership climbed from 80% in 2009 to 89% in 2013 and ownership of smartphones (such as the iPhone or Android) increased from 35% to 58% of all those surveyed by phone.

Cell phones are replacing landlines. Among the cell phone respondents, only 39% reported having landlines, similar to the percentage reported by online survey respondents.

The gender gap in access to technology does not appear to be an issue any longer, but age is. We did find that an age gap persists, with the greatest gap for seniors, those 65 and up. Seniors are behind their younger counterparts in overall cell phone adoption, and dramatically behind their younger counterparts in the adoption of smartphones, with 21% in the 65 and older group owning one. This has doubled over the past four years: in 2009, only 10.4% of Seattle seniors, 65 and older had smartphones.

Those with higher education are more likely to use and own a computer, smartphone or tablet. Those with more than one internet device tend to be younger, male, and have more income. Even though only 6% overall have only smartphone internet access at home, about twice as many (13%) in the 18-25 year age range have smartphone-only internet access, as do about twice as many who are African American (11%). More than twice as many in the two lowest income categories have smartphone only internet access (15% of those earning less than $20,000 per year and 10% of those with income $20-30,000 per year)..

Caucasians continue to have more access to the internet. However, ethnic groups did not differ significantly on ownership of some specific devices, including cell phones, smartphones, or tablets.

People with disabilities are less likely than others to be connected. We found they are less likely to be internet users (71% vs. 92%), or computer owners (63% vs. 91%). Among computer users, those with a disability are less likely to own a laptop or a netbook (63% vs. 80%). They are also less likely to have a smartphone (50% vs. 64%).

Barriers to using the internet

Relevance, skills and cost are the greatest barriers to using the internet for non-Internet users. Safety and security were also mentioned as barriers to using the internet, but were less of a factor overall.

Hispanic/Latino respondents who don't use the internet were more likely to say they don't know how to use it (45%) than were Caucasian respondents (11%). African American and Asian/Pacific Islander respondents fell between these two.

Those with disabilities appear to have less internet access, regardless of age. Their access to mobile and internet technology has added challenges and benefits. The disabilities focus group participants cited significant benefits for navigating their transportation and for communicating with others.

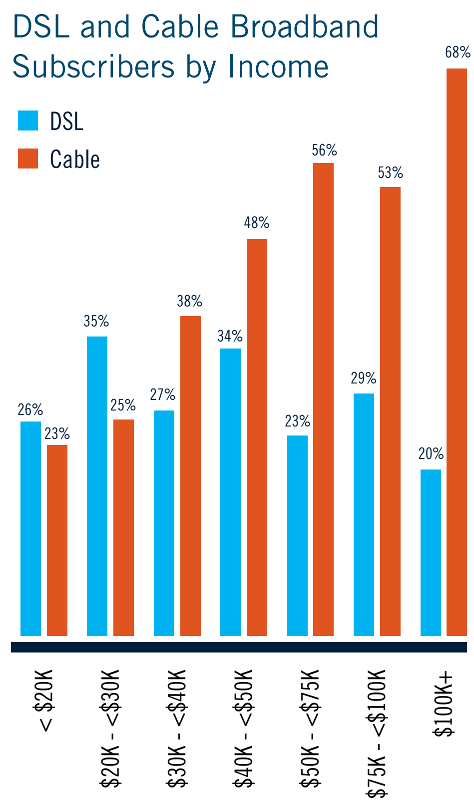
Internet speed, access and cost

More than half of residents surveyed said high-speed access for all Seattle households is very important, a 19% increase since 2009. Overall, 86% of residents feel this is important. Online survey respondents rated this higher, at 95%.

The biggest concern of current home internet users is the price they pay for service, followed by speed of service. Forty-five percent (45%) of those surveyed by phone said price would most improve their internet service, as did 50% of online respondents. A third (33%) said increased speed would most improve service, which is up 5 percentage points since 2009. More of the online respondents (37%) named speed. DSL subscribers were also more likely to say "speed" (41% versus 27% of those with cable) and cable subscribers were more likely to say "price" as the major feature needing improvement (50% vs 35% of DSL subscribers).

Lower income residents have lower-speed broadband service. The biggest differences by income are in cable internet subscribership, as shown in this chart. Of those who have internet at home, residents with higher incomes are far more likely to have cable internet while those with lower incomes who have internet are slightly more likely to have DSL internet service, which is provided mainly by CenturyLink in Seattle. CenturyLink is also a major phone service provider. Internet service provided by cable companies currently offers the fastest, most available service. Of internet subscribers, only about a quarter of the lowest two household income groups (under $30,000) have cable internet, compared to two-thirds of households who make $100,000 per year or more.

Currently there are two cable franchises offering cable TV and internet service in Seattle; Comcast is the largest, followed by Wave.



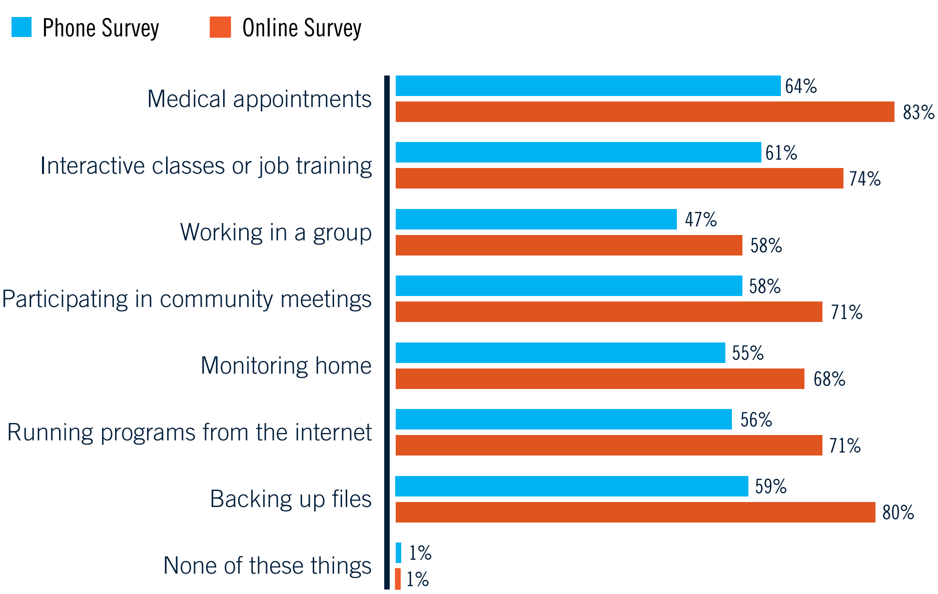
INTEREST IN HIGH-SPEED BROADBAND SERVICES AND APPLICATIONS

The City asked all internet users about their interest in "super high-speed" internet access and services. Because most residents do not talk in bandwidth terms or have exposure to fiber-enabled speeds, the term "super high-speed" was used and the potential for real-time video, greater time savings and higher quality of service was described.

Seattle users want higher speed services. Most (85%) of the internet users interviewed by telephone indicated that they would be interested in super high-speed internet access, as did all of the online respondents. There was very significant interest in super high-speed services across ethnicities and incomes. African American and Caucasian internet users expressed the most interest (88%), followed Hispanic/Latino internet users (84%) and Asian/ Pacific Islander internet users (69%).

Cost, security and privacy were the greatest concerns with adopting super high-speed internet. However, a third of the phone respondents and about a fifth of online respondents had no concerns about using super high-speed services. Those with more education had fewer concerns. Some, more women than men, raised the loss of personal contact as a concern. This was also raised by participants in the focus groups.

Interest in high speed broadband services



INTERNET USAGE DATA BY THE NUMBERS

Men and women are equally likely to use the Internet, but there are differences in their use for specific tasks.

	MEN	WOMEN
Likely to use the Internet to find legal or consumer rights info	66%	58%
Look for answers to computer problems	81%	74%
Likely to use it to find local school information	50%	59%
Visit Seattle Public Schools	47%	60%

Caucasian internet users were more likely to use the internet to

- find health or medical information,
- purchase products or services,
- make a donation to a charity,
- look for answers to computer problems,
- work from home, and
- visit the Seattle Public Library online

Hispanic internet users were more likely to use the internet to

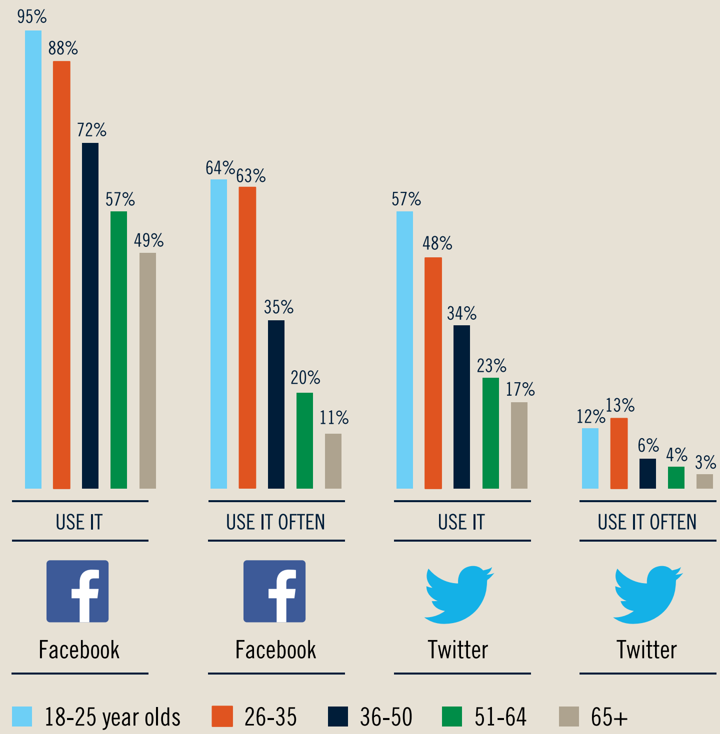
- find local school information and
- visit the Seattle Public School website.

How often do you…

watch television over the internet

	PHONE SURVEY *(all residents)*	ONLINE SURVEY
Don't use it/ not Internet user	26%	14%
Infrequently	18%	18%
Occasionally	27%	29%
Often	29%	39%

Use of social media by age



Differences in social media use demonstrate opportunities and needs

Use of Email, Facebook and Twitter by Seattle residents

	PHONE SURVEY *(all residents)*		ONLINE SURVEY	FOCUS GROUPS
HOW OFTEN DO YOU …	2009	2013	2013	2013
USE EMAIL				
Don't use/not Internet user	12%	13%	<1%	33%
Infrequently	3%	3%	1%	9%
Occasionally	15%	7%	2%	17%
Often	70%	77%	97%	53%
USE FACEBOOK				
Don't use/not Internet user		34%	16%	44%
Infrequently		13%	14%	8%
Occasionally		16%	11%	11%
Often		37%	59%	38%
USE TWITTER				
Don't use/not Internet user		67%	48%	77%
Infrequently		20%	21%	8%
Occasionally		7%	10%	6%
Often		7%	22%	8%

INTERNET AND SOCIAL MEDIA USE

Internet users were given a list of activities and asked what they use the internet for, how often they used certain online services, and what their comfort level was with some basic computer and internet skills. The results show that computer and technology literacy is on the rise and that the internet continues to grow as a vital resource for information and services.

To help address the question of how the City and others can communicate with residents, we asked about email, Facebook and Twitter use. As social media continues to evolve, so have our survey questions. We recognize the growth in Pinterest, Reddit and other tools, but focused on Facebook and Twitter as they are currently the social media which are most utilized for communications with government.

Facebook is the preferred social media by Seattleites surveyed. Two-thirds (66%) of all residents surveyed use Facebook and one-third use Twitter (33%), but only 7% use Twitter often. The numbers of users were higher for those answering the online survey. Seattle is higher than the national average for Twitter use; the Pew Center for Internet national survey found that 18% use Twitter, as of May 2013.

Nearly 77% of Seattleites surveyed use email on a regular basis, though about one quarter aren't comfortable using attachments. According to our phone survey, 13% of residents don't use email, and another 10% use it infrequently or occasionally. More than three-quarters of those who use email are comfortable using email attachments, growing in the last four years from 70% to 76%.

The large majority of computer users are very comfortable searching the web. This number grew slightly from 81% in 2009 to 84%. Two-thirds of smartphone and tablet users are very comfortable adding an application on their devices.

Using content online

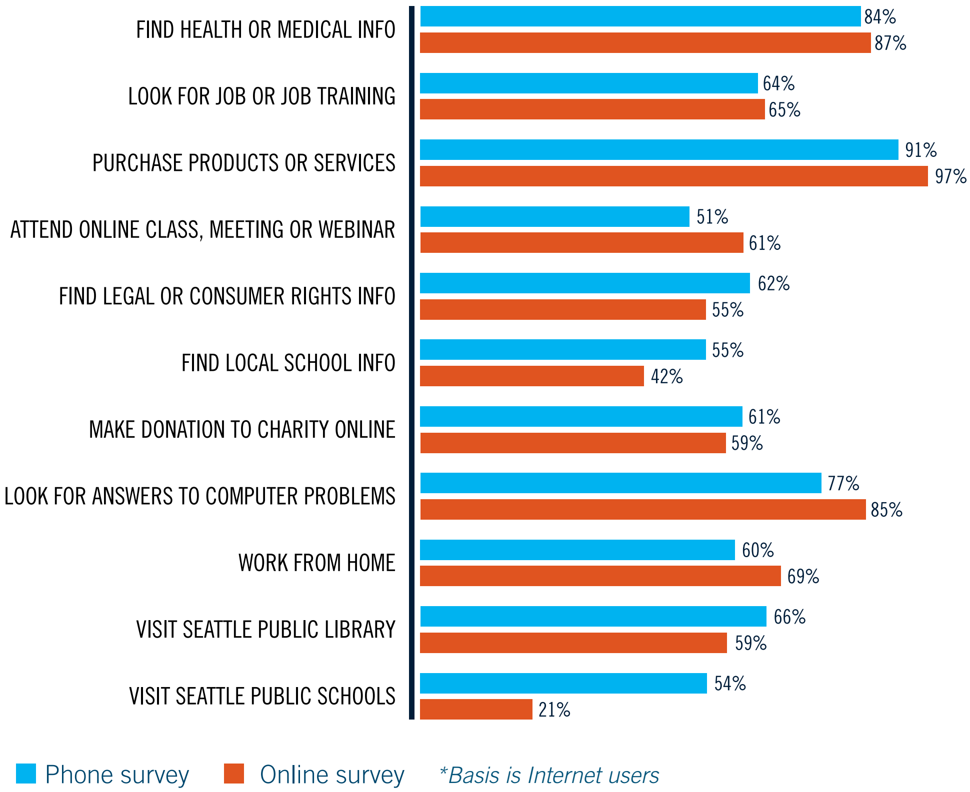
Use of the internet for specific activities shows some differences. Those with less education tend to make less use of the internet than users with more education. Specifically, those with less than a high school education reported using the internet for between two and three of the functions listed, while those with at least a four year degree reporting using it for between seven and eight of the functions listed.

A less, though still significant, difference was also seen between lower income and higher income residents. Those reporting less than $30,000 per year noted between four and five uses of the internet, while those with more income noted at least six of the uses, and those with the highest incomes noted an average of a little more than eight uses.

Key findings

- About 60% of the younger groups say they use Facebook "often," a rate that drops off steeply starting with those 36 and older.
- Women are more likely to use Facebook "often" (47% vs. 35%).
- Men are more likely to use Twitter "often" (12% vs. 5%).
- Facebook use is growing, but is still more widely used by people under 25 with 95% of those 18-25 using it, compared to about half of those over 25.
- Twitter is not used by more than half of most age groups and the percentage of non-users increases in the older age categories. Few say they use it often, and the use decreases with age.
- Hispanic/Latinos and Caucasians reported the highest percentages of frequent use of Facebook (45%, 43%) followed by Asian / Pacific Islanders (35%) and African Americans (31%).

How many use the Internet for essential information*



**Basis is Internet users*

More than one quarter (29%) of those surveyed watch TV over the internet "often." Hispanic/Latino internet users are much more likely than those in other groups to watch TV over the internet, which may reflect a lack of diversity of offerings in Spanish on cable or other TV, as well as cost for obtaining programming.

Looking for health or medical information is one of the most common uses of the internet, although not by some who could benefit the most. In Seattle, 84% of computer users surveyed (77% of all residents surveyed) use the internet for health or medical information; this is up 5% over the last four years. Seniors (65 and older) are less likely to use the internet to look up health information. Caucasian internet users were more likely than other ethnicities to use the internet to find health or medical information. Asian/Pacific Islanders and African Americans were the least likely. Those with more education are more likely to go online for health or medical information.

The overall number of people using the internet to find legal and consumer rights information has increased. We found that this number has increased from 50% to 55% (or from 56% to 62% of Internet users) in the last four years and women and low-income residents show less use for this purpose.

Confidence in the security and privacy of financial transactions is slightly lower than it was in 2009. 52% are either somewhat or very confident. Those who are "very confident" has diminished slightly, from 21% to 18% since 2009.

Those who answered the online survey reported much greater confidence, 77% were either somewhat or very confident. Internet security and privacy concerns were often highlighted as a concern by participants of our focus groups.

CABLE SERVICES

This survey included questions about cable services, specifically about satisfaction, problems that might have occurred, areas for improvement, and reasons people don't subscribe or are considering dropping cable.

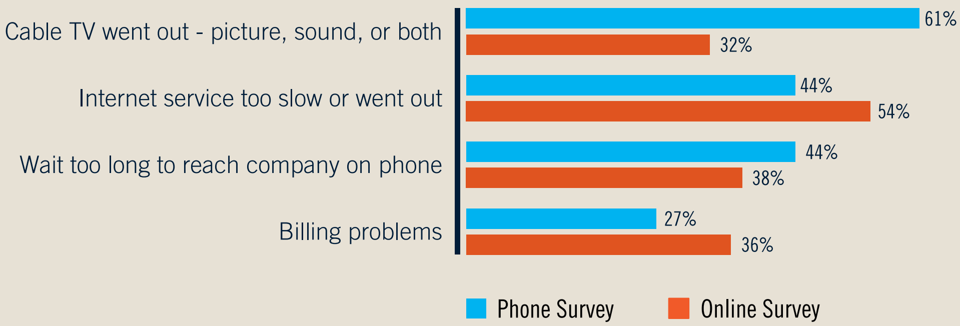
By education level, respondents across the spectrum were equally likely to be cable customers. Those with the least education were least aware of the low cost basic cable package.

Cable TV subscribership is dropping while satellite subscribership and watching television over the internet are on the rise. Cable TV subscribers have dropped 13% since 2009 to 59% of those surveyed. Satellite subscribership has grown 13% since 2009. Younger people are much less likely to subscribe to cable TV. Only 48% of 18-25 year olds subscribe compared to 74% of those 65 and older. Three-fourths of those surveyed over the phone (and 86% of online respondents) watch television over the internet, using services such as Hulu, YouTube, Netflix, and AppleTV.

Cable customers are largely satisfied with services and programs, but not price. A large majority (81%) say that the rates they pay for cable service is either "somewhat too expensive" (45%) or "very much too expensive" (36%). Most named better pricing as the priority to improve their cable service. African Americans were the most likely to name price first (83% vs. 61% of the other groups). Hispanic cable customers were the least satisfied with program types and variety.

Problems with cable service

(for those with cable service)

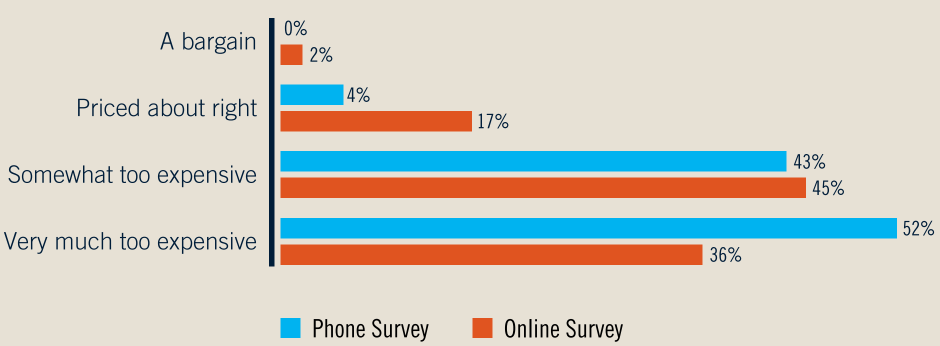


Satisfaction with cable company customer service

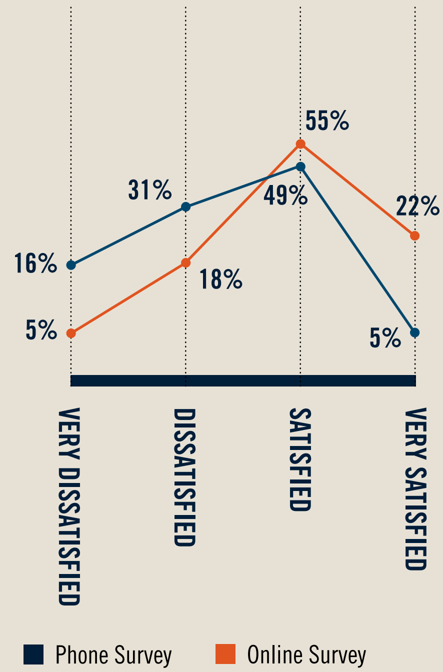
	PHONE			ONLINE
	2004	2009	2013	2013
SATISFACTION WITH CUSTOMER SERVICE				
Very dissatisfied	5%	4%	6%	18%
Dissatisfied	15%	10%	16%	28%
Satisfied	66%	65%	61%	50%
Very satisfied	15%	21%	17%	4%

Satisfaction with cable company rates

Rates paid for cable service are:



Satisfaction with types and variety of programs and channels



Cable program satisfaction by ethnicity

Satisfied or very satisfied

AFRICAN AMERICAN
81% **SATISFIED**

ASIAN/ PACIFIC ISLANDER
90% **SATISFIED**

CAUCASIAN
75% **SATISFIED**

HISPANIC/ LATINO
78% **SATISFIED**

MIXED
56% **SATISFIED**

What cable customers would like to see more of

Arts & culture

Programs from Canada

LOCAL EVENTS AND STORIES, GOVERNMENT

FAMILY/CHILDREN'S PROGRAMMING

Educational

Diverse ethnic & language programs, international

ENVIRONMENT, NATURE

News services, international news

NONE

Analysis comparing the satisfaction of Wave customers with that of Comcast customers showed no difference.

Many cable TV customers are exploring other options for their TV service. Nearly half (46%) of the cable customers in the telephone survey are at least "somewhat likely" to drop their cable TV in the next five years, as are 74% of the cable customers who took the online survey. Responses were similar across cable providers.

When asked the reasons for dropping or considering dropping their cable, the most common response was the **cost of the service**. Respondents also mentioned the availability of video content over the internet as an alternative to cable service.

Senior customers (65 and older) seem to be the most loyal (least likely to drop their service) cable customers while nearly one-third of those in the 18-25 year old group said they are "very likely" to drop cable in the next five years.

Respondents were equally likely to say they were considering dropping cable TV in the next five years, regardless of their education and income level.

Lowest-cost cable and Cable Office awareness is moderate. Just over half of residents are aware of the lowest-cost cable service. Awareness was most lacking for the lowest and highest age brackets and lowest income brackets. One-fifth of residents are aware of the Cable Office, though the number is somewhat higher (36%) for the lowest income residents, those earning less than $20,000 per year.

When asked what would most improve their cable service, most (63% of telephone respondents and 71% of online respondents) answered "price."

SEATTLE.GOV AND SEATTLE CHANNEL

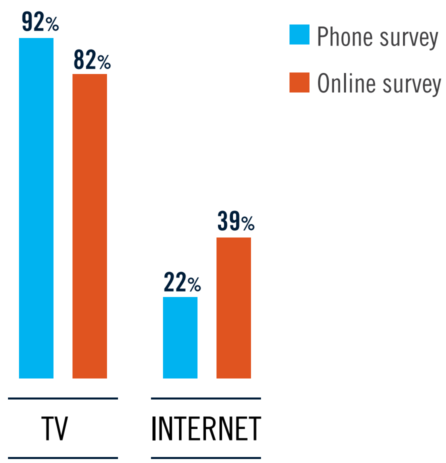
Most Seattle residents have visited the City's web site, Seattle.gov, but there were differences in frequency of use and what they're interested in viewing. About two-thirds of the telephone respondents have visited the City's website, Seattle.gov. Respondents in the youngest and oldest age groups were least likely to have visited Seattle.gov, but among those who have visited the City's website, younger respondents tend to visit more often. Those with less education and less income were less likely to visit Seattle.gov. Our research also showed that the City's web site is more likely to be visited by Caucasian residents than by members of other racial groups and that there were also some differences in what different demographic groups would like to see on the City's web site or on the Seattle Channel.

Viewership of the City's award-winning municipal television station is up since 2009. When surveyed this year, more than half of the telephone respondents (51% and 66% of online respondents) have seen the Seattle Channel. Of those, the majority of respondents watch the Seattle Channel monthly (69% telephone and 82% of online respondents). Based on the phone survey, viewership is up by four percentage points, from 47% in 2009.

Most people still watch the Seattle Channel on TV rather than on the internet, though some also watch on both TV and Internet. Ninety-two percent of Channel viewers in the phone survey watch it on TV and 22% watch on the internet. Of those who answered the survey online, 39% watch it over the Internet and 82% watch Seattle Channel programs on TV.

People of color represent about two-thirds of the weekly Seattle Channel audience. For reference, just over a third (33.7%) of Seattle's population are people of color, according to the 2010 Census. Based on our research, Asian Pacific Islanders account for approximately one-third of the weekly audience, 25% are mixed-race residents, and African Americans and Latinos account for nearly 6% each of the Channel's weekly audience.

How Seattle Channel is viewed



Based on the survey, the Channel has more than 36,000 weekly adult viewers in Seattle.

What do people want to see on the Seattle Channel?

1. Community events, festivals, activities/calendar
2. Crime/safety/police activity
3. City services/staff/available programs
4. Government process, planning and information
5. Cultural/classes
6. Public work: info and updates (including roads)
7. General info/current events/changes
8. Neighborhood or personalized focus
9. Transportation (roads, traffic, metro)
10. Community involvement: volunteering/meeting/giving...
11. Community issues: updates/discussion and debate

CIVIC PARTICIPATION

Residents were asked about overall civic engagement and how they wanted to receive information, give opinions and receive urgent alerts from government and community groups.

Civic participation is important to Seattleites. Just over half (53%) of the 2013 telephone respondents participate in a community group, such as a neighborhood association, block watch, school, religious or similar type of group. This is about the same as in 2009 (54%) and less than 2004 (71%). The youngest respondents (18-25 year olds) were least likely to participate in a community group (34%). In comparison, more than three-fourths (77%) of the 2013 online respondents said they participate in a community group.

Getting Information: Respondents prefer electronic methods for getting notices and other information from a community organization or the City. For phone respondents, email (61%) was the choice selected most often, followed by the City's website (27%), a letter (15%) or a telephone call (11%). Email was the most popular among those 25 and younger and least popular among those older than 65. The combination of methods that would reach the most people was phone, email, Seattle.gov, and Facebook. This combination would reach 85% of the phone respondents and 95% of the online respondents, but only about 60% of the focus group participants. Adding TV announcements would reach an additional 15% of the focus group participants.

Getting Urgent Alerts: When it comes to receiving urgent information from the City, such as alerts about utility outages or emergency safety alerts, most want the information via email (43% of those in our phone survey), followed by text message (41%), or phone (32%). For online respondents, it was email (76%), text (63%, and phone (40%). A combination of email, text message and phone would reach 89% of phone respondents and 97% of the online respondents, but only about half of the focus group participants. Again, adding TV announcements would reach another quarter of the focus group participants. Telephone respondents also mentioned radio and TV announcements (10%), Facebook (3%), or the City's blog (1%). Online respondents were far more likely to mention online methods of communication: Facebook (20%), Twitter (17%), or the City's blog (11%).

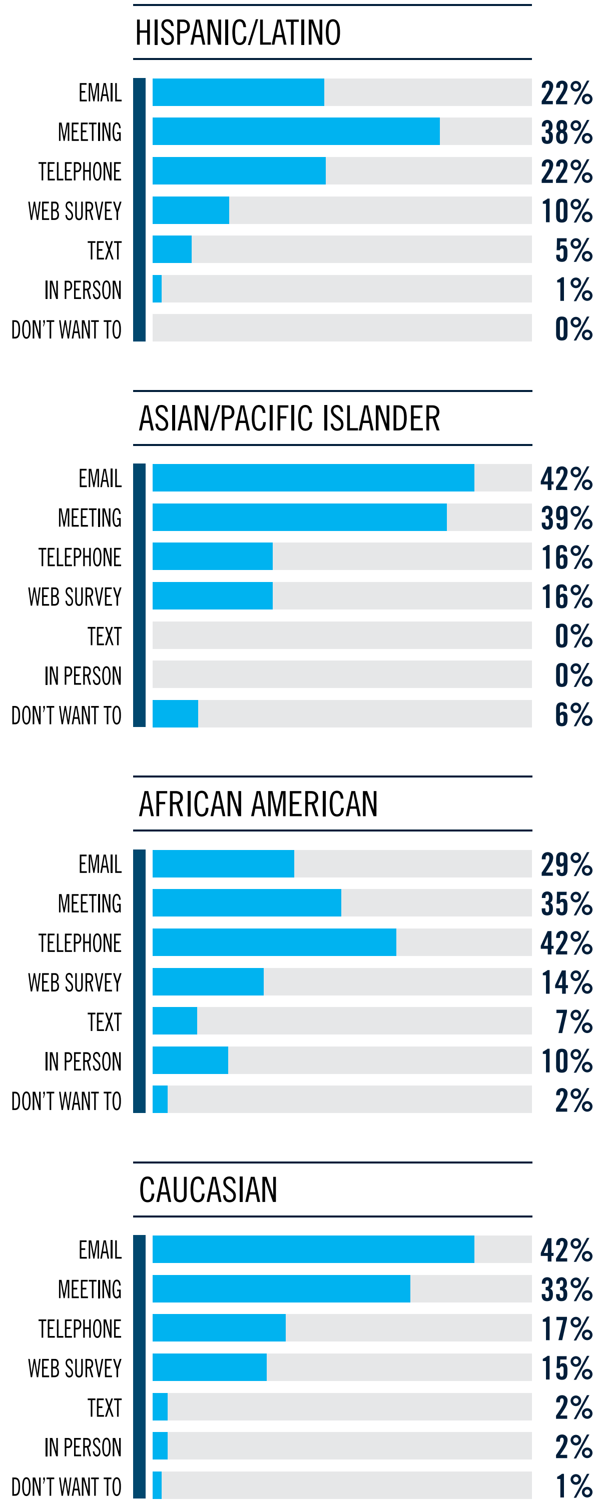
Giving Opinions: Both online and telephone respondents indicated that they want to share their opinions with government and community groups electronically, and email is the method preferred by most. Nearly three-fourths (72%) of the telephone respondents selected an electronic method. Email was the most popular choice, selected by 75% of phone respondents and by 85% of online participants). Facebook was mentioned by 10% in the phone survey and by 24% of online respondents, while the fewest preferred Twitter (4% of phone participants and 10% of online respondents).

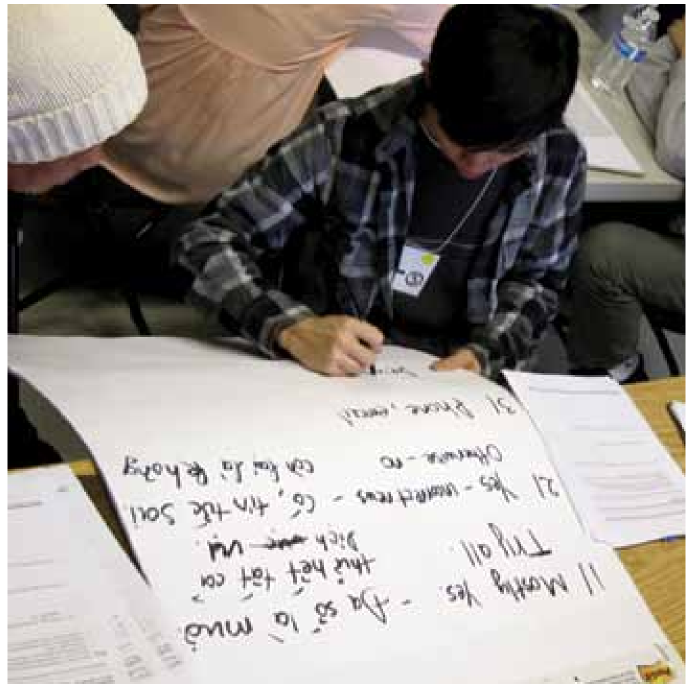
Telephone and online respondents were about equally likely to select a meeting (34% and 35%), or telephone (both 19%) as a way they'd like to share their opinions. Focus group participants were diverse in their responses, most often selecting an online survey (38%), a community meeting (36%), or a telephone survey (31%). Each group expressed appreciation that the City came to listen to them and indicated that is how they want to connect with the City.

Respondents across the age groups were similarly likely to give their opinions to the City or a community group through both electronic and non-electronic methods. This includes: by attending a meeting (34%), sending an email (39%), or participating in a web survey (15%). They were similarly unlikely to give their opinions by texting (3%), contributing to a blog (5%), or writing a letter (5%). Older respondents were more likely to mention giving their opinion over the phone. In contrast, a higher number of the focus group participants selected a meeting (57%) as their preference. Although the general preferences for giving their opinions were similar, a few differences emerged that can inform the strategies of different agencies in their opinion-gathering processes:

- Caucasians and Asian/Pacific Islander respondents were much more likely to prefer email (42% for each, versus 22% of Hispanic/Latinos and 29% of African Americans).
- African Americans were more likely to prefer the telephone or an in-person meeting (45% vs 39% for Hispanic/Latinos and for Asian/Pacific Islanders and 35% for Caucasians)
- Email for giving opinions was mentioned by only 53% of those with the least education (less than high school completion), compared to between 68% and 81% of the more educated groups.
- Those with the least education were most likely to mention Facebook (21%, compared with 6% to 14% of the other groups).

Preferences For Giving Opinions, By Race/Ethnicity





FOCUS GROUPS SUMMARY

Nine focus groups composed of key Seattle populations were conducted for the tech indicators research. The groups consisted of communities that have been shown to be technologically underserved in the past and were organized in collaboration with organizations connected with those communities. The groups are not a demographic, statistically valid sample, but they do provide valuable views into the status and needs of these communities.

The focus group sessions included a combination of surveying, mutual interviewing and group discussion, in participants' native languages. Many attendees had never had a discussion with their community or with City staff about the impact of technology on their lives. The discussions included conversations between seniors and youth and allowed people to learn more about internet service options, using social media and online services. It provided valuable data about community assets, opportunities and challenges they face in fully using technology.

The individual reports on each community are available in the Focus Group section at seattle.gov/tech/indicators.

Overall, we found that:

- The cost of internet, cable TV and phone services appear to impact some disadvantaged populations to a greater degree. They described problems understanding service plans, contracts, and the long term cost of bundled and promotion packages. Participants shared that there was also little awareness in the community of low-income service options and these were not offered when contacting companies about service.
- There was interest in high-speed internet services, but people wanted more info about how faster speeds change services, privacy and security, and cost.
- Some of the focus group community members rely more on places for internet access outside the home more than those in the phone survey. Use of public computing centers at libraries, community centers and non-profit community organizations is more frequent than in the phone survey.
- Participants in our focus groups said they would like to know more about how to use the internet to improve their lives.
- Information intermediaries are very important for those with limited access or technological knowledge. These could be trusted public access computing centers in cultural and community centers or libraries, other social service organizations, or family and friends who help people with services and communications with government.
- Social media use, especially Facebook, is growing in these communities. Across all the focus groups, just under half (47%) reported using Facebook daily.
- Educational training and materials to help develop technology skills and skills in finding and using online content are desired in different formats, including short classes and workshops, videos, one-on-one instructions, along with more use of graphics and translations.
- Eighty-six percent of the focus group participants reported having a cell phone and 38% of those in the focus groups reported having smartphones, though some do not have data plans and instead rely on wifi.
- In terms of communicating with the City, residents would like to see a balance of electronic communications and in-person contact.
- Additional training is desired in online civic participation, use of online services and how to address online security and privacy.
- There is a lack of knowledge, but strong interest in learning how to use city web services (navigating web site, subscribing to notices and following city social media, finding non-English resources). The limited English participants also said they find that web sites are more accessible if they have translation toolbars and high visibility links in native languages to translated content.

Nine focus groups provided more depth on tech use and challenges

COMMUNITY	HOST PARTNER	PARTICIPANTS*
Hispanic/Latino	Sea Mar Community Health Centers	20
Hispanic/Latino	South Park Information And Resource Center	23
Ethiopian	Ethiopia Community in Seattle	24
Chinese	Chinese Information & Service Center	24
Somali	Somali Community Services of Seattle	16
Disabilities	Seattle Disabilities Commission	12
Vietnamese	Helping Link	19
African American	Monica's Place-Catholic Community Services	20
African American	Seattle Goodwill	24

** Not including focus group facilitators and interpreters. Size of groups was limited to allow mutual interviewing and group dialogue.*

The following are summary snapshots from the various focus groups. A great deal more detail is available in the individual focus group reports.

African American Email and in-person opportunities ranked highest for giving opinions to government of community groups, though Facebook was selected by 21%. Sixty-five percent of one African American group reported looking for health info online compared to 21% of the other African American focus group.

Disabled community Mapping applications on mobile devices help vision impaired residents travel with greater safety and self-sufficiency; they otherwise don't have the same visual references for travel. Challenging trips to the grocery store are eased by online shopping and delivery services. Internet also enables them to telecommute, volunteer and participate in civic activities.

Somali Opportunities for face-to-face communication was a strong value expressed. They were very interested in using technology, but emphasized the value and need to maintain in-person interaction with government and others. According to the focus group participants, older residents are likely have less formal education, so they face literacy and English language challenges when learning how to use computers. They often rely on information intermediaries like younger family members or trusted interpreters at community organizations.

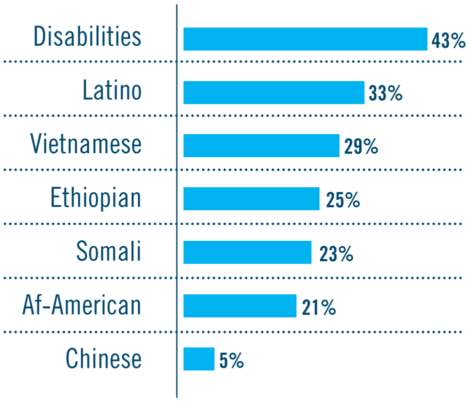
Vietnamese Many have access to technology at home or in community settings, but said they don't know how to use it well. Nearly all of the focus group participants had a cell phone, but very few used texting. They suggested the City attend community events to gather opinions through short meetings and use of online surveys.

Ethiopian We found that 83% of focus group participants use the Internet, but only half had it at home. Public computing centers are an important resource for learning and access to information and having enough time on the computers was a concern. Very few of the participants had landlines at home.

Chinese Focus group participants reported that high-speed internet could be used to help them learn English. They find it hard to locate translated content linked from English-only web pages. While people may have smart phones, they often do not have data plans due to the cost. Local stores and TV news could be useful to promote other online content and opportunities for input.

Hispanic/Latino Nearly all focus group participants use computers. While many have computers at home, only about half have Internet there because it is too expensive. We found very high social media use and they were largely positive about using it to interact with government, though concerns were raised about privacy and whether they would get responses.

How many want to give opinion via Facebook



From focus groups. Note that Chinese community uses QQ, a similar site in Chinese

> "Using Facebook and Twitter is convenient, but I am afraid my confidential information will be leaked"
> From the Vietnamese Focus Group

RECOMMENDATIONS

Based on the research for this report, the Department of Information Technology makes these initial conclusions and recommendations on how the City can take action with the community to use these findings:

Internet technology use, adoption and broadband services

- Encourage continued marketing of affordable internet service and device options for low-income residents. Ensure that materials are consumer-friendly and available in multiple languages. Market them directly to residents as well as through cultural community organizations.
- Focus more efforts on helping seniors and those with lower education obtain equipment, services, and the skills to use them.
- Continue to increase awareness and training in use of online services. Libraries, public community centers, community based computer centers and Seattle Public Schools would be valuable partners in these efforts.
- Strengthen outreach to limited English communities and efforts to support use of technology for ESL learning, translation, and interpretation services. Increase awareness of how to get translation and interpretation when communicating with the City.
- Continue efforts to increase available internet speeds and access throughout Seattle.

E-services/application development and distribution

- Continue to build use of print, internet, social media, mobile enabled video and other delivery channels for City information.
- Continue to partner with community groups for increased distribution.
- Consider how device ownership costs and service level differences (like limited data plans) impact equity in user adoption of online services when deciding on information delivery channels. Even if the percentage of people without adequate electronic access is small, they nevertheless have information needs which should be met through other means.
- Consider expansion of texting options for those without smartphones.
- When marketing new online services, offer training to ensure diverse residents will be able to use the service. Include diverse customers in planning and testing new services.
- Show residents how data privacy and security are being addressed when designing and encouraging use of new and existing

applications.

- Provide additional safety education and privacy at public computer centers for users coming in to use computers for sensitive health, legal or financial uses.

Cable services

- Expand target marketing and outreach and education on the lowest cable tier and the customer assistance services offered by the Cable Office, providing information in multiple languages and through cultural community centers in limited-English communities.
- Address the impacts of reductions in customer subscribership.

Social media and civic participation

- Continue to grow the City's use of social media, especially Facebook.
- Use multiple channels for reaching residents, including phone, email and text. For now, use email as the primary electronic means to reach people. Urgent announcements sent via text, phone, email or other electronic means should encourage sharing the information with friends, relatives and neighbors.
- Continue to develop tools and strategies for electronic engagement, leveraging them with in-person opportunities.
- Conduct more online community meetings, considering both demonstrations from community locations with higher bandwidth video and lower bandwidth opportunities that more people can join in from home or mobile devices.
- Strengthen partnerships with community organizations as intermediaries for public input and for marketing Seattle.gov and the Seattle Channel.
- Increase awareness and visibility of language pages and/or page translators.
- Make electronic versions of materials available before, during and after meetings to assist those using screen readers and magnifiers.

INFORMATION TECHNOLOGY ACCESS AND ADOPTION IN SEATTLE

2014 REPORT

This report is part of the City of Seattle's Information Technology Indicators Project

Produced by the Department of Information Technology's Community Technology Program. Developed in collaboration with the City's Technology Advisory Board (seattle.gov/cttab).

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Thank-you to the 2,686 residents who generously helped us with their time and experience!

This included 803 people who completed the random phone survey, 2,128 online respondents, and at least 225 focus group participants and helpers.

Special thanks to these community leaders, organizations and staff:

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More information, the full technical report and additional photos of the focus groups are available at www.seattle.gov/tech/indicators or by contacting the City of Seattle Community Technology Program, Department of Information Technology, PO Box 94709, Seattle, WA 98124-4709 or (206-684-0600).

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