



Pew Internet
Pew Internet & American Life Project

a project of the
PewResearchCenter

28% of American adults use mobile and social location-based services

55% of smartphone owners use their phones to get location-based directions or recommendations, while geosocial services and location-tagging features are less popular

Kathryn Zickuhr, Research Specialist

Aaron Smith, Senior Research Specialist

9/6/2011

<http://pewinternet.org/Reports/2011/Location.aspx>

Pew Research Center
1615 L St., NW – Suite 700
Washington, D.C. 20036
202-419-4500 | pewinternet.org

Overview

More than a quarter of all American adults—28%—use mobile or social location-based services of some kind. This includes anyone who takes part in one or more of the following activities:

- 28% of cell owners use phones to **get directions or recommendations based on their current location**—that works out to 23% of all adults.
- A much smaller number (5% of cell owners, equaling 4% of all adults) use their phones to **check in to locations using geosocial services such as Foursquare or Gowalla**. Smartphone owners are especially likely to use these services on their phones.
- 9% of internet users set up social media services such as Facebook, Twitter, or LinkedIn so that their **location is automatically included in their posts on those services**. That works out to 7% of all adults.

Taken together, 28% of U.S. adults do at least one of these activities either online or using their mobile phones—and many users do several of them. This is the Pew Internet Project’s most expansive study of location services to date; in previous surveys, we have asked only about the use of geosocial or “check in” services.¹

Location-based services on cell phones

| | All adults | All cell owners | Smartphone owners |
|--|------------|-----------------|-------------------|
| Use a geosocial (“check in”) service such as Foursquare or Gowalla | 4% | 5% | 12% |
| Get location-based directions and recommendations | 23 | 28 | 55 |
| Total (done at least one of these) | 24 | 29 | 58 |

Automatic location-tagging on social media

| | All adults | All internet users | Social media users |
|---|------------|--------------------|--------------------|
| Use automatic location-tagging on posts | 7% | 9% | 14% |

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older, including 755 cell phone interviews. Interviews were conducted in English and Spanish.

¹ Using a different question wording, we found in late 2010 that 4% of online adults used these services to check in to a location or share their location with others. Our current question wording focuses directly on the use of these services using cell phones.

Several groups have higher-than-average rates of location service usage, including:

- **Smartphone owners** – One in ten smartphone owners (12%) have used a geosocial (“check in”) service such as Foursquare or Gowalla, and 55% of smartphone owners have used a location-based information service. Almost six in ten smartphone owners (58%) use at least one of these services. These are all well above the average for cell owners as a whole.
- **Younger users** – Smartphone owners ages 18-49 are more likely than those over 50 to use either geosocial or location-based services on their phones. (There are no significant differences among social media users by age in regard to automatic location-tagging.)
- **Non-whites** – Geosocial services and automatic location-tagging are most popular with minorities, continuing a trend of mobile connectivity that has been seen in other Pew Internet surveys.² Hispanics are the most active in these two activities, with a quarter (25%) of Latino smartphone owners using geosocial services and almost a third (31%) of Latino social media users enabling automatic location-tagging. However, though only 7% of white smartphone owners use geosocial services, 59% get location-based information on their phones, compared with 53% of blacks and only 44% of Hispanics.

About this survey

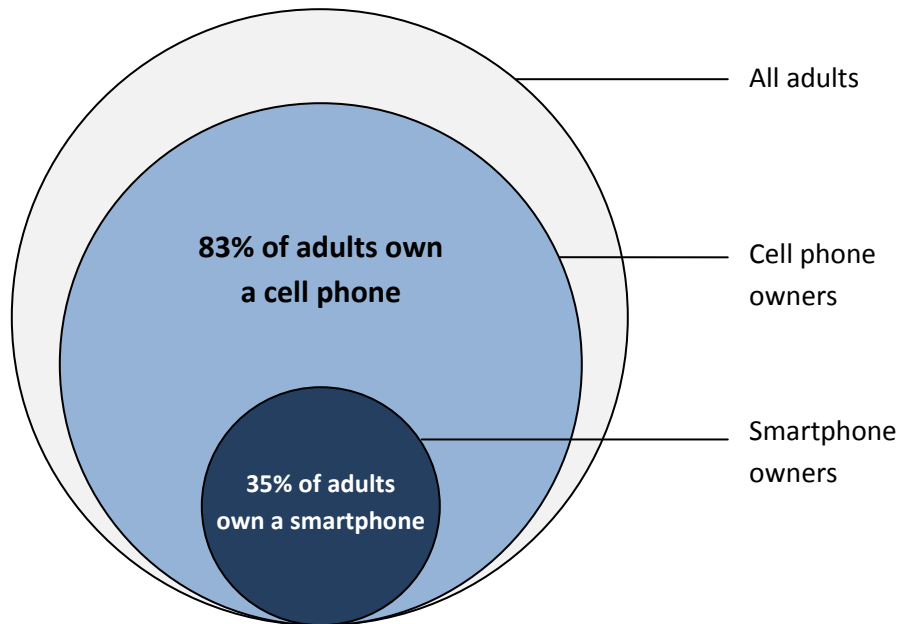
The results reported here are based on a national telephone survey of 2,277 adults conducted April 26-May 22, 2011. 1,522 interviews were conducted by landline phone, and 755 interviews were conducted by cell phone. Interviews were conducted in both English and Spanish. For results based on all adults, the margin of error is +/-2 percentage points. For results based on smartphone owners, the margin of error is +/-4.5 percentage points (n=688). For results based on social networking and Twitter users (“social media users”), the margin of error is +/-3.5 percentage points (n=975).

² “Mobile Access 2010” (2010). Available at <http://pewinternet.org/Reports/2010/Mobile-Access-2010.aspx>

Geosocial and location-based services on smartphones

Fully 83% of all American adults ages 18 and older own a cell phone, a number that has remained relatively steady since mid-2008. Of these cell phone owners, 42% own a smartphone, which translates to 35% of all adults.³ Almost six in ten (58%) of these smartphone owners use a geosocial or a location-based information service of some kind.

Smartphones in context



Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=2,277 adults ages 18 and older. Interviews were conducted in English and Spanish, by landline and cell phone.

³ "Smartphone adoption and usage" (2011). Available at <http://pewinternet.org/Reports/2011/Smartphones.aspx>

When it comes to other mobile activities, 59% of smartphone owners use their phone to access social networking sites, and 15% use their phone to access Twitter:

Smartphone activities

% of adult smartphone owners who use their phones to do the following social activities

| | % of smartphone owners who do this |
|---|------------------------------------|
| Send or receive text messages | 92% |
| Take a picture | 92 |
| Send a photo or video to someone | 80 |
| Send or receive email | 76 |
| Access a social networking site | 59 |
| Get location-based directions or recommendations | 55 |
| Post a photo or video online | 45 |
| Access Twitter | 15 |
| Participate in a video call or video chat | 13 |
| Use a geosocial service like Foursquare or Gowalla | 12 |

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=688 adult smartphone users ages 18 and older. Interviews were conducted in English and Spanish, by landline and cell phone.

For the full list of activities that people do with their phones, as well as further analysis by demographic group, please see “Americans and their cell phones.”⁴

Geosocial services

As of May 2011, 12% of smartphone owners (5% of all cell phone owners) use a geosocial service such as Foursquare or Gowalla to “check in” to certain locations or share their location with friends. This is the first time the Pew Internet Project has asked mobile phone users about geosocial services. Previously, a May 2010 survey found that, among internet users, 7% of adults who went online with their mobile phone used a location-based service.⁵

Among smartphone owners, geosocial “check in” services service such as Foursquare or Gowalla are most popular with younger adults (under age 50) and minorities. Geosocial services are also less popular among smartphone users in households making at least \$75,000 per year than among those in lower income brackets. There are no significant differences by gender or education level.

⁴ “Americans and their cell phones” (2011). Available at <http://pewinternet.org/Reports/2011/Cell-Phones.aspx>

⁵ In September 2010, asking a differently worded question, 4% of internet users said they use a service such as Foursquare or Gowalla that allows them to share their location with friends and to find others who are near them. For more information, see “4% of online Americans use location-based services” (2010), available at <http://pewinternet.org/Reports/2010/Location-based-services.aspx>

Location-based information services

In looking at broader uses of location-based services, we found that 55% of smartphone owners use their phone to get directions, recommendations, or other information related to their present location. This was the first time the Pew Internet Project has asked about general location-based services, which can range from GPS-enabled map services to reviews of nearby attractions using an app or a browser.

Who uses geosocial and location-based services?

% of adult smartphone owners within each group who use a geosocial service such as Foursquare or Gowalla to “check in” to certain locations or share their location with friends vs the % of who use their cell phone to get directions, recommendations, or other information related to their present location

| | Geosocial services | Location-based directions & info | Total (those who said “yes” to use of at least one of those services) |
|---|--------------------|----------------------------------|--|
| All smartphone owners | 12% | 55% | 58% |
| Gender | | | |
| Men | 12 | 57 | 59 |
| Women | 11 | 54 | 57 |
| Age | | | |
| 18-29 | 18 | 60 | 63 |
| 30-49 | 12 | 58 | 61 |
| 50+ | 2 | 45 | 45 |
| Race/Ethnicity | | | |
| White, non-Hispanic | 7 | 59 | 59 |
| Black, non-Hispanic | 17 | 53 | 59 |
| Hispanic (English- and Spanish-speaking) (n=97) | 25 | 44 | 50 |
| Household Income | | | |
| Less than \$40,000 | 18 | 51 | 54 |
| \$40,000-\$74,999 | 14 | 54 | 59 |
| \$75,000+ | 8 | 64 | 65 |
| Education level | | | |
| High school grad or less | 13 | 41 | 44 |
| Some college | 12 | 59 | 60 |
| College grad | 10 | 66 | 68 |

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=688 adult smartphone users ages 18 and older. Interviews were conducted in English and Spanish, by landline and cell phone.

Younger adults are more likely to use these services, as are those in households making at least \$75,000 per year. Smartphone owners with more education are also more likely to use these services, with 66% of college graduates using them, compared with 41% of those who have not gone to college. In contrast to geosocial services, Hispanics and those making less than \$75,000 per year are actually less likely to use location-based information services. There are no significant differences by gender.

These findings follow general trends that we have seen in other mobile activities, which include a high level of mobile engagement for minorities and those under age 50.⁶

Social media users and automatic location-tagging

As of May 2011, 65% of online adults age 18 and older use a social networking site such as MySpace, Facebook, or LinkedIn,⁷ and 13% of online adults use Twitter.⁸

Many social media sites, including social networking sites such as Facebook and the status-updating service Twitter, enable users to set up the service to automatically post information about their current location along with their updates on the site. Our survey found that 14% of social media users take advantage of these services, and have set up their account to automatically include their location in their posts.

⁶ "Americans and their cell phones" (2011).

⁷ For more about social networking site users, see: "65% of online adults use social networking sites" (2011). Available at <http://pewinternet.org/Reports/2011/Social-Networking-Sites.aspx>

⁸ "Twitter Update 2011" (2011). Available at <http://pewinternet.org/Reports/2011/Twitter-Update-2011.aspx>

Who uses automatic location-tagging?

% of adult social networking site or Twitter users who set up their account to automatically include their location in their posts.

| | | % who use automatic location-tagging |
|---|--|--------------------------------------|
| All social media (SNS & Twitter) users | | 14% |
| Gender | | |
| Men | | 19* |
| Women | | 10 |
| Age | | |
| 18-29 | | 13 |
| 30-49 | | 14 |
| 50-65 | | 16 |
| 65+ | | 13 |
| Race/Ethnicity | | |
| White, non-Hispanic | | 10 |
| Black, non-Hispanic | | 19* |
| Hispanic (English- and Spanish-speaking) | | 31* |
| Household Income | | |
| Less than \$30,000 | | 25* |
| \$30,000-\$49,999 | | 8 |
| \$50,000-\$74,999 | | 14 |
| \$75,000+ | | 8 |
| Education level | | |
| High school grad or less | | 23* |
| Some college | | 10 |
| College grad | | 9 |

* indicates a significant difference between rows in a demographic group.

Source: The Pew Research Center's Internet & American Life Project, April 26 – May 22, 2011 Spring Tracking Survey. n=1,015 adults ages 18 and older who use social networking sites or Twitter. Interviews were conducted in English and Spanish, by landline and cell phone.

Men, minorities, those making less than \$30,000 per year, and those who have not gone to college are significantly more likely than other social media users to use automatic location-tagging. There are no significant differences between social media users of different age groups.

Survey questions

Spring Change Assessment Survey 2011

Final Topline

7/11/2011

Data for April 26–May 22, 2011

Princeton Survey Research Associates International
for the Pew Research Center’s Internet & American Life Project

Sample: n= 2,277 national adults, age 18 and older, including 755 cell phone interviews
Interviewing dates: 04.26.2011 – 05.22.2011

Margin of error is plus or minus 2 percentage points for results based on Total [n=2,277]

Margin of error is plus or minus 3 percentage points for results based on internet users [n=1,701]

Margin of error is plus or minus 3 percentage points for results based on cell phone users [n=1,914]

Margin of error is plus or minus 3 percentage points for results based on SNS or Twitter users [n=1,015]

Q17 Thinking of some other things that people might do on their cell phones, do you ever use your cell phone to... [INSERT ITEMS; ALWAYS ASK a-c FIRST IN ORDER; RANDOMIZE d-g; ALWAYS ASK h-i LAST IN ORDER]?⁹

Based on cell phone users

| | YES, DO THIS | NO, DO NOT DO THIS/ HAVE NOT DONE THIS | (VOL.) CELL PHONE CAN'T DO THIS | DON'T KNOW | REFUSED |
|---|--------------|--|---------------------------------|------------|---------|
| a. Use a service such as Foursquare or Gowalla to “check in” to certain locations or share your location with friends | | | | | |
| Current | 5 | 94 | * | * | 0 |
| b. Get directions, recommendations, or other information related to your present location | | | | | |
| Current | 28 | 72 | * | 0 | 0 |
| Trend for comparison: ¹⁰ | | | | | |
| April 2009 | 18 | 82 | n/a | * | * |
| December 2007 | 14 | 86 | n/a | * | -- |

⁹ In May 2011, the question was asked of all Form B cell phone users and Form A cell phone users who said in CELL7 that they do more than make calls on their phone. The percentages are based on all cell phone users, counting as “no” Form A cell phone users who said in CELL7 they use their phones only for making calls. Prior to May 2011, question was asked of all cell phone users and question wording was “Please tell me if you ever use your cell phone or Blackberry or other device to do any of the following things. Do you ever use it to [INSERT ITEM]?”

¹⁰ April 2009 and December 2007 item wording was “Get a map or directions to another location”

SNS9 Thinking about the ways people might use social networking sites... Do you ever... [INSERT IN ORDER]?¹¹

Based on SNS or Twitter users who have an SNS profile

- a. Set up your account so that it automatically includes your location on your posts

| | | | | |
|---------|----|----|---|---|
| Current | 14 | 84 | 2 | 0 |
|---------|----|----|---|---|

¹¹ Prior to May 2011, question was asked of SNS users only. September 2009 question wording was “Thinking about the ways you use social networking sites... Do you ever [INSERT IN ORDER]?”

Methodology

This report is based on the findings of a survey on Americans' use of the Internet. The results in this report are based on data from telephone interviews conducted by Princeton Survey Research Associates International from April 26 to May 22, 2011, among a sample of 2,277 adults, age 18 and older. Telephone interviews were conducted in English and Spanish by landline (1,522) and cell phone (755, including 346 without a landline phone). For results based on the total sample, one can say with 95% confidence that the error attributable to sampling is plus or minus 2.4 percentage points. For results based Internet users (n=1,701), the margin of sampling error is plus or minus 2.7 percentage points. In addition to sampling error, question wording and practical difficulties in conducting telephone surveys may introduce some error or bias into the findings of opinion polls.

A combination of landline and cellular random digit dial (RDD) samples was used to represent all adults in the continental United States who have access to either a landline or cellular telephone. Both samples were provided by Survey Sampling International, LLC (SSI) according to PSRAI specifications. Numbers for the landline sample were selected with probabilities in proportion to their share of listed telephone households from active blocks (area code + exchange + two-digit block number) that contained three or more residential directory listings. The cellular sample was not list-assisted, but was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers.

New sample was released daily and was kept in the field for at least five days. The sample was released in replicates, which are representative subsamples of the larger population. This ensures that complete call procedures were followed for the entire sample. At least 7 attempts were made to complete an interview at a sampled telephone number. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Each number received at least one daytime call in an attempt to find someone available. For the landline sample, interviewers asked to speak with the youngest adult male or female currently at home based on a random rotation. If no male/female was available, interviewers asked to speak with the youngest adult of the other gender. For the cellular sample, interviews were conducted with the person who answered the phone. Interviewers verified that the person was an adult and in a safe place before administering the survey. Cellular sample respondents were offered a post-paid cash incentive for their participation. All interviews completed on any given day were considered to be the final sample for that day.

Weighting is generally used in survey analysis to compensate for sample designs and patterns of non-response that might bias results. A two-stage weighting procedure was used to weight this dual-frame sample. The first-stage weight is the product of two adjustments made to the data – a Probability of Selection Adjustment (PSA) and a Phone Use Adjustment (PUA). The PSA corrects for the fact that respondents in the landline sample have different probabilities of being sampled depending on how many adults live in the household. The PUA corrects for the overlapping landline and cellular sample frames.

The second stage of weighting balances sample demographics to population parameters. The sample is balanced by form to match national population parameters for sex, age, education, race, Hispanic origin, region (U.S. Census definitions), population density, and telephone usage. The White, non-Hispanic subgroup is also balanced on age, education and region. The basic weighting parameters came from a special analysis of the Census Bureau's 2010 Annual Social and Economic Supplement (ASEC) that included all households in the continental United States. The population density parameter was derived from Census 2000 data. The cell phone usage parameter came from an analysis of the January-June 2010 National Health Interview Survey.¹²

Following is the full disposition of all sampled telephone numbers:

| Landline | Cell | |
|----------|--------|----------------------------------|
| 32,909 | 19,899 | Total Numbers Dialed |
| 1,416 | 364 | Non-residential |
| 1,428 | 35 | Computer/Fax |
| 32 | ---- | Cell phone |
| 16,833 | 8,660 | Other not working |
| 1,629 | 287 | Additional projected not working |
| 11,571 | 10,553 | Working numbers |
| 35.2% | 53.0% | Working Rate |
| 543 | 96 | No Answer / Busy |
| 3,091 | 3,555 | Voice Mail |
| 53 | 10 | Other Non-Contact |
| 7,884 | 6,892 | Contacted numbers |
| 68.1% | 65.3% | Contact Rate |
| 489 | 1,055 | Callback |
| 5,757 | 4,618 | Refusal |
| 1,638 | 1,219 | Cooperating numbers |
| 20.8% | 17.7% | Cooperation Rate |
| 56 | 33 | Language Barrier |
| ---- | 426 | Child's cell phone |
| 1,582 | 760 | Eligible numbers |
| 96.6% | 62.3% | Eligibility Rate |
| 60 | 5 | Break-off |
| 1,522 | 755 | Completes |
| 96.2% | 99.3% | Completion Rate |
| 13.6% | 11.5% | Response Rate |

¹² Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, January-June, 2010. National Center for Health Statistics. December 2010.

The disposition reports all of the sampled telephone numbers ever dialed from the original telephone number samples. The response rate estimates the fraction of all eligible respondents in the sample that were ultimately interviewed. At PSRAI it is calculated by taking the product of three component rates:

- **Contact rate** – the proportion of working numbers where a request for interview was made
- **Cooperation rate** – the proportion of contacted numbers where a consent for interview was at least initially obtained, versus those refused
- **Completion rate** – the proportion of initially cooperating and eligible interviews that were completed

Thus the response rate for the landline sample was 13.6 percent. The response rate for the cellular sample was 11.5 percent.