

IN THE SUPREME COURT OF OHIO

PHH Mortgage Corp.	:	Case No. 2011-1526
	:	
Plaintiff-Appellant,	:	On Appeal from the Clermont County
	:	Court of Appeals, Twelfth Appellate
v.	:	District
	:	
Michael S. Prater, et al.	:	Court of Appeals
	:	Case No. CA 2010-12-095
Defendants-Appellees	:	

MERIT BRIEF OF AMICI CURIAE ADVOCATES FOR BASIC LEGAL EQUALITY, INC.,  
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 LLC, COMMUNITY LEGAL AID SERVICES, INC., OHIO POVERTY LAW CENTER,  
 LEGAL AID SOCIETY OF COLUMBUS, SOUTHEASTERN OHIO LEGAL SERVICES,  
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## INTEREST OF THE AMICI CURIAE

All of Ohio's Civil Legal Services Programs<sup>1</sup> (hereinafter "Amici") join Plaintiff-Appellant PHH Mortgage Corporation in opposing the decision of the Court of Appeals in *PHH Mortgage v. Prater*, 12th Dist. No. CA 2010-12-095, 2011-Ohio-3640. Amici have been on the forefront of the foreclosure crisis, coordinating litigation and non-litigation efforts to help Ohio's

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<sup>1</sup> Advocates for Basic Legal Equality (ABLE) and Legal Aid of Western Ohio are non-profit civil legal service providers with the mission of providing high quality legal assistance to low income persons in thirty-two counties in northwest and west central Ohio.

The Legal Aid Society of Cleveland is the law firm for low income families in northeast Ohio. Its mission is to secure justice and resolve fundamental problems for those who are low income and vulnerable by providing high quality legal services and working for systemic solutions that empower those it serves.

The Legal Aid Society of Southwest Ohio, LLC, an affiliate of the Legal Aid Society of Greater Cincinnati, provides a broad range of civil legal services to low income persons in southwest Ohio.

Community Legal Aid Services, Inc. (CLAS) provides legal representation to low income and elderly individuals in an eight county area in northeast Ohio. The mission of CLAS is to secure justice for and protect the rights of the poor and to promote measures for their assistance.

The Ohio Poverty Law Center, a nonprofit limited liability corporation, provides assistance and consulting to the Ohio legal services community through project management, policy advocacy, litigation support, training, specialty assistance and consulting, task forces, publications, and other activities.

The Legal Aid Society of Columbus is similarly committed to assisting low income persons and seniors with legal problems in a variety of areas, including housing, consumer, public benefits, domestic relations, as well as basic life necessities, in a six county area of central Ohio.

Southeastern Ohio Legal Services is an LSC-funded legal services program whose mission is to act as general counsel to a client community residing throughout thirty rural counties in southeast Ohio and, as such, provide the highest quality of legal services to its clients toward the objective of enabling poor people to assert their rights and interests.

Pro Seniors is a nonprofit civil legal service provider with the mission of providing legal assistance to seniors in Southwestern Ohio, as well as legal advice to any senior statewide.

low- and moderate-income citizens retain home ownership. Since 2008, Amici have been partners with state, local, and public interest resources in Save the Dream Ohio, the statewide foreclosure intervention initiative.

Since Amici became Save the Dream partners, the programs have provided direct representation to over 15,000 homeowners statewide at all levels of services. In addition, legal aid lawyers have participated in hundreds of borrower outreach and other public education events to educate homeowners about their rights in the foreclosure process. They have worked closely with local common pleas courts statewide to encourage and support the implementation of mediation in foreclosure cases. They have also worked with the Ohio Attorney General's Consumer Protection Section to uncover mortgage servicing abuses and issues surrounding the use of fraudulent affidavits in foreclosure filings. Consequently, the Amici are well situated to provide the Court with information about issues with notifying parties of pertinent case information via the internet and how such notification can undermine the integrity of the judicial process.

### **STATEMENT OF FACTS AND CASE**

In the interests of judicial economy, Amici adopt by reference the Statement of Facts and Case submitted by Plaintiff-Appellant PHH Mortgage Corp.

### **ARGUMENT**

#### **I. Questions Presented**

This Court accepted this appeal on Appellant's Proposition of Law No. 2 and Proposition of Law No. 3, which are as follows:

**Proposition of Law No. 2: Under principles of due process, constructive notice by publication to a party with a property interest in a foreclosure proceeding is insufficient when that party's address is known or easily ascertainable.**

**Proposition of Law No. 3: Merely providing a written notification directing an interested party to monitor a website for the date, time, and location of a sheriff's sale constitutes constructive notice by publication in violation of this Court's holding in *Jensen* and R.C. 2329.26(A)(1).**

Amici will address each proposition of law and their effects on homeowners, specifically those with limited access to the internet, including low income, rural, and senior citizen populations.

**II. Introduction**

The core issue in this case is whether a county sheriff can meet the constitutional obligation of providing notice of a sheriff's sale to a Plaintiff, by letter directing the Plaintiff to monitor a website for a listing of the actual date and time of sale. However, this issue is much broader for two reasons. First, specifically regarding foreclosure sales, the manner in which the Plaintiff receives notice affects homeowners and other defendants to whom the Plaintiff has a statutory obligation to provide notice. Second, by allowing the sheriff to meet his constitutional obligation of notice by publishing to a website, the Twelfth District sets a dangerous precedent for adequate notice that will adversely affect low income Ohioans who lack access to internet, or lack the skills and resources necessary to use the internet. The duty placed upon the sheriff, a state actor, comes not from the Civil Rules or statutory obligation but rather from the constitutional principles of basic due process, and thus it is especially important that this Court require the sheriff to provide actual rather than constructive notice, since loss of a property right is at stake.

Both this Court and the United States Supreme Court have held, when a party's property rights are affected and the court has an actual address for the party, actual notice by mail is the appropriate means of court notification. Publication on a website does not satisfy the burden of due process. Publication by website is just that, publication, and this Court has already held that

publication alone does not satisfy due process. Further, publication on a website will have an adverse impact on populations that lack the skills or resources to access the internet, or to access it on a regular basis. Of most interest to Amici are the population of low income Ohioans, many of whom lack access to the internet due to economic, educational, and locational barriers, and the population of older Ohioans, for whom the internet may be relatively novel. Because the decision of the Court of Appeals denies parties due process, and because the decision adversely affects special populations including low income, rural and older Ohioans, the decision must be reversed.

**III. Constructive internet notice is not equally reliable to actual written notice, as many Ohioans in rural and low-income communities have limited access to the internet.**

Notifying parties to a case that information about their sheriff's sale date can be found on a website, rather than directly giving notice of sale specifics, provides neither sufficient notice of sale nor access to necessary information about the sale. This form of notice, which requires parties to check a website for case event dates and times, is especially disadvantageous to the populations served by legal aid societies. The actual limitations of internet access in many rural and low-income Ohio communities make notice of court events via website bad public policy that disproportionately limits access to the courts for poor, rural and senior Ohioans. Further, actual notice, listing the date and time of sale, is always preferable to constructive notice on a website or newspaper.

Allowing sheriffs to send notice of events in a case, such as a sheriff's sale, by referring a party to an internet website to locate information rather than simply providing a date, time, and location of the event, puts low income, rural and senior litigants at a distinct disadvantage. Real barriers to internet access, such as internet-ready computers in the home and the speed of internet access, prohibit rural and low income Ohioans from accessing the internet at a rate that is

disproportionate to their wealthier and urban-dwelling counterparts. Further, requiring parties to first read a notice that directs them to a web site, and then search for information that could just as easily have been a part of the original notice, poses an additional, unnecessary burden on the party, particularly for parties that do not have readily available high speed internet access and the necessary skills to navigate the web sites.

According to a November 2010 study by the Pew Center, household income is “the greatest predictor” of internet use for Americans. Wayne, *Digital Divide is a Matter of Income*, New York Times (Dec. 12, 2010), citing Jansen, *Use of the internet in higher-income households*, Pew Research Center Publications (Nov. 24, 2010) p. 9-10. See Appendix A, p. A-9 – A-10. The U.S. Department of Commerce’s telecommunications policy arm, the National Telecommunications & Information Administration, last year reported 32% of U.S. households do not use the internet at home. Kang, *Survey of online access finds digital divide*, Washington Post (Feb. 17, 2011). Forty percent of rural homes and 30% of urban homes do not connect to the internet. *Id.*

While 95% of households making more than \$75,000 per year use the internet at home, only 57% of households making less than \$30,000 per year do. Jansen, *supra*, p. 2. Only 25% of households making less than \$30,000 per year use the internet as news source. *Id.*, p. 4. Only 12% of low-income households use the internet to search for a map. *Id.* According to a U.S. Department of Commerce study released in November 2011, only 4 in 10 households with annual income less than \$25,000 reported having wired internet access at home in 2010, compared to 93% of households with incomes exceeding \$100,000. Crawford, *The New Digital Divide*, New York Times (Dec. 3, 2011). Only 55 % of African-American and 57% of Hispanic households have wired internet access at home, compared with 72% of whites. *Id.*

Senior citizens also access the internet at a notably lower rate than other adults do. A 2010 Pew Research Center study showed that 95% of Americans age 18-33 use the internet. Zickuhr, *Generations 2010*, Pew Research Center Publications (Dec. 16, 2010), p. 5. See Appendix B, p. A-20. That number decreases significantly with senior citizens. Of those aged 65-73, only 58% reported using the internet. *Id.* That number dropped to a mere 30% of those 74 and older. *Id.*

Further, the Commerce study found that when Americans in lower-income and rural communities do have access to the internet in their homes, that access is often slower than in wealthier communities. Kang, *supra*. As much as 10 percent of the United States does not have access to internet connections that are fast enough to download web pages. *Id.* In rural America, only 60% of households use broadband internet service, compared to 70% of urban households, according to Commerce. Severson, *Digital Age Slow to Arrive in Rural America*, New York Times (Feb. 17, 2011). Overall, 28% of Americans do not use the internet at all. *Id.*

According to Connect Ohio's most recent assessment of the state, broadband use among rural residents is at 58%, significantly lower than the state average of 66%. Feran, *Grant will help rural Ohio log on to Internet*, Columbus Dispatch (Aug. 23, 2011). Twenty-two percent of Ohio's rural residents have no internet access. *Id.* Access to high speed, broadband internet is also limited in Ohio's rural communities. Connect Ohio, *Map of Number of Households Unserved by a Broadband Provider*, [http://connectohio.org/connectednationftp/ohio/Statewide\\_Maps/OH\\_Statewide\\_Household.pdf](http://connectohio.org/connectednationftp/ohio/Statewide_Maps/OH_Statewide_Household.pdf) (accessed Feb. 16, 2012). See Appendix C, p. A-43. A 2011 Department of Commerce Study on the availability of broadband nationally, showed that Ohio's urban centers, such as Cuyahoga, Franklin, and Hamilton Counties, have 100% availability of certain speeds of broadband internet. U.S. Dept. of Commerce, *National*

*Broadband Map – Analyze > Rank within State*, <http://www.broadbandmap.gov/rank/rural,oh/county/ohio/percent-population/speed-download-greater-than-3mbps-upload-greater-than-0.768mbps/ascending/> (accessed Feb. 14, 2012). See Appendix D, p. A-44. By comparison, rural Monroe County has only 72.2% availability. *Id.*, Appendix D, p. A-46.

Low income and rural Ohioans have limited access to the internet in their homes. While internet access is available to the public at many local libraries, it is not readily available internet access. Library internet access requires travel to the library during hours the library is open, and possibly a wait to use shared, unfamiliar equipment to obtain information, which easily could have been sent in a letter. Lack of transportation, work hours, weather and mobility issues are impediments to library internet use, particularly where a web site must be monitored frequently until the information is posted. This time commitment may be unattainable for the working poor and those in rural communities where there are fewer library locations. For example, rural Harrison County has one library branch to serve the entire county, while Franklin County has 33, including 21 locations in the City of Columbus alone. See *Ohio Public Library Information Network* <http://www.oplin.org/content/find-a-library?county=Franklin> and <http://www.oplin.org/content/find-a-library?search=harrison&searchSelect=FAL> (accessed Feb. 22, 2012). Issues of internet speed remain, regardless of whether access is from at home or a public location.

When Ohioans do have internet access in their homes, that access is often restricted to slower connections that make loading web pages slow and difficult. Since their general access to the internet is limited, so too is their access to specific internet websites. Allowing web site service of notices for important case related information, such as the date and time of a sheriff's sale or other event in a case, significantly limits the ability of many Ohioans to obtain that

information. Although foreclosure plaintiffs are obligated to notify non-defaulting parties of the date and time of the sheriff sale, they can only do so if they have actual notice of the information themselves.

Current Ohio law requires plaintiffs in a foreclosure case to serve actual notice of a scheduled sheriff's sale upon non-defaulting defendants, but that requirement presupposes that the plaintiff has actual notice of the sale information. If notice via internet web site is all that is provided to foreclosing plaintiffs, and the plaintiff does not get actual notice, the non-defaulting defendants likewise will not get notice. In the instant case, the County Treasurer was entitled to notice of the sheriff's sale as a non-defaulting defendant. However, Plaintiff did not send the Treasurer notice of the sale because Plaintiff itself did not realize the sale date based on the information it received from the sheriff. Had the homeowners in the instant case filed an answer, they too would not have received notice of the sale. Further, should courts extend this precedent beyond sheriff's sale notices to actual court hearings and filing deadlines, a number of low income litigants, already likely to be *pro se*, will be placed at further disadvantage because their notices lack the specific information required to inform them of deadlines and times to appear.

**IV. Actual notice of sheriff's sale protects the rights and interests of the parties, where constructive notice, such as that provided by internet publication, does not.**

Requiring parties to look up specific case event information on the internet rather than sending actual notice is a form of constructive notice and should not be allowed where the party's address is known. It is a long held principle of our legal system that parties should be provided actual notice of court proceedings whenever possible. "Notice by mail or other means as certain to insure actual notice is minimum constitutional precondition to proceeding which will adversely affect liberty or property interests of any party." *Mennonite Bd. of Missions v. Adams*, 462 U.S. 791, 103 S.Ct. 2706 (1983), syllabus. Only where actual notice is not possible,

is constructive notice by publication allowed. *See e.g.*, Civ. R. 4.4 “Service by Publication.” Constructive notice is defined as that which the “law regards as sufficient to give notice and is regarded as a substitute for actual notice.” *Williams v. Ohio Dept. of Rehab. & Corr.* 61 Ohio Misc.2d 699, 703 (Court of Claims, 1991).

**A. Actual notice is preferable to constructive notice.**

Few courts have addressed the issue of actual versus constructive notice in the context of service in foreclosure. In a Michigan foreclosure, only after the city engaged in “significant” efforts to mail actual notice of foreclosure to the property owners, did the Sixth Circuit hold it was reasonable for them to treat the owners’ whereabouts as “missing or unknown” and move on to methods of constructive notice. *Karkoukli's, Inc. v. Dohany*, 409 F.3d 279, 285-86 (6th Cir. 2005). Where a valid address is not reasonably ascertainable, then publication alone is adequate to satisfy due process. *Id.* at 286.

Whether constructive notice is reasonable is determined entirely upon whether an address to serve actual notice was reasonably accessible. In the instant case, the address of the Plaintiff’s attorney was reasonably ascertainable to the sheriff. In fact, the sheriff used this address when it mailed Plaintiff’s attorney the information concerning the policy change with the website where Plaintiff could obtain the date of sheriff’s sale.

**B. Internet notice is a form of constructive notice.**

Below, the Twelfth District distinguished between internet notice and notice by publication in a newspaper. However, notice of an event in a court case posted to the internet is much more akin to publication in a newspaper than any other form of traditional notice. Both internet and newspaper publication require a recipient to look at a source of information separate from any sent to them directly through the mail. Recently, the Michigan’s federal court

addressed notice via internet. In a suit against a local high school, the Plaintiffs contended that posting notice of the lawsuit on the internet gave Defendants actual notice of proceedings. The Eastern District of Michigan rejected that notion, finding “that posting notice of this lawsuit on the internet is not reasonably calculated to give Defendants actual notice of the proceedings and an opportunity to be heard.” *McCluskey v. Belford High School*, United States District Court, Eastern District Of Michigan No. 2:09-14345, 2010 WL 2696599, at \*5 (June 24, 2010). While in the instant case, Plaintiff was mailed information directing it to the website, making it factually distinguishable, the key to the *McCluskey* decision is that Court recognized that serving information on a party via the internet was not actual notice. The “notice” this Court now considers merely advised the Plaintiff that the sale date and time would be posted. This notice required Plaintiff to monitor frequently the internet web site to learn of the date, time and place of sale; notice to other parties was dependent upon the Plaintiff’s timely reading of the notice in the internet publication. As notice by internet publication is constructive, rather than actual, it should not be allowable where the address of the responding party is known.

**C. Notice via internet is harmful to both foreclosure plaintiffs and defendants.**

In this case, because Plaintiff failed to receive actual notice, the defendants did as well. Non-defaulting homeowners are entitled to notice of sale so that they may bid on the property. This serves to allow them to repurchase their home or drive up the sale price to lessen the deficiency. The treasurer in this case was a non-defaulting defendant, but did not receive notice of sale. This demonstrates that this notice structure poses a significant risk of irreparable harm to homeowners as well. Constructive notice via internet is simply not sufficient or reasonably calculated to provide actual notice to all non-defaulting parties.

While the homeowner in the instant case had not filed an answer and therefore was not entitled to actual notice of the sheriff's sale, had the homeowner responded in the case, no notice would have been sent. Too, if the homeowner responded *pro se*, he likely would not have the requisite legal knowledge of his statutory right to object to the confirmation of sale based on the lack of notice of the sale date. This structure for notice of sheriff's sale has the potential to cause real harm to homeowners, some of whom may enter an appearance in the case simply to be apprised of deadlines and a time at which they need to prepare to leave the property. Although the only non-defaulting defendant in this that did not receive notice of sale was the treasurer, this web site method of notice poses significant a risk that non-defaulting homeowners will likewise fail to receive notice if notice via internet is permitted. Constructive notice via internet is simply not sufficient or reasonably calculated to provide actual notice to parties, including the homeowner. Where the parties' actual addresses are known, actual notice of sale date and time should be sent directly to the Plaintiff so that all parties can be properly given notice of the sale details.

#### **IV. Notice by website fails to satisfy due process and Ohio law.**

It violates the principles of due process to send a party a note directing it to a website where it can determine the date and time of an important procedure or event in a case, rather than sending the party actual notice. The "fundamental requisite" of due process of law is the opportunity to appear to protect one's rights. *Grannis v. Ordean*, 234 U.S. 385, 394 (1914). In order to do so, a party must have notice of hearing or other event. *See id.* (stating that the purpose of a summons is to ensure that a party has the opportunity to be heard.) Therefore, "[a] man has had his day in court when he has been afforded a reasonable opportunity to be heard after a reasonable notice of such hearing." *State ex rel. Allstate Ins. Co. v. Bowen*, 130 Ohio St. 347,

paragraph five of the syllabus (1937). While the issue in the instant case is not one of appearing at a hearing, but instead appearing to bid at a sheriff's sale, the substantive rights of the homeowner to have notice of a taking of his or her property, to bid to purchase that property or drive up the purchase price to reduce the deficiency, and to redeem the property prior to confirmation of sale are just as fundamental as the right to appear on one's own behalf in court.

The United States Supreme Court has held that, in a foreclosure sale, notice "by mail or other means as certain to ensure actual notice is a minimum constitutional precondition to a proceeding which will adversely affect the liberty or property interests of *any* party, whether unlettered or well versed in commercial practice, if its name and address are reasonably ascertainable." *Memmonite* at 800, emphasis in original. Because the decision of the Court of Appeals does not ensure that litigants will receive the required actual notice, this Court should reverse the decision of the Court of Appeals.

A. **Both Ohio law and the Civil Rules recognize notice by mail as a minimum standard.**

Legislatures and courts have enacted rules and statutes to ensure that parties have the opportunity to appear to enforce their substantive rights. While personal service may be the best method to ensure that a party receives notice, it is not always practicable or even possible. Therefore, one important function of the Civil Rules is to protect the right to receive notice, while at the same time providing a framework that will allow a case to proceed timely, despite attempts to avoid service. "While there is presumption of proper service in cases where the Civil Rules on service are followed, the presumption is rebuttable by sufficient evidence that service was not received." *Sweeney v. Smythe, Cramer Co.*, 11th Dist. Nos. 2002-G-2422 and 2002-G-2448, 2003-Ohio-4032 at ¶15, citing *Thomas v. Corrigan*, 135 Ohio App.3d 340, 344 (1999). "Courts must consider each case on its own facts to determine whether service of process was

reasonably calculated to reach the interested party[.]” *Faith v. Scuba*, 11th Dist. No. 2007-G-2767, 2007-Ohio-6563, ¶42. Likewise, rules and statutes governing service are subject to constitutional scrutiny. *See Mullane v. Central Hanover Bank & Trust Co.*, 339 U.S. 306 (1950).

Ohio law provides that any non-defaulting party to a foreclosure action is entitled to receive notice of the sheriff sale from the judgment creditor who seeks the sale. R.C. 2329.26(A)(1). That notice is to contain “the date, time, and place of the sale.” *Id.* It is to be served in accordance with portions of Civ. R. 5(A) and (B). *Id.* Civ. R. 5 requires that “every written notice” be served upon each non-defaulting party by ordinary mail, facsimile, or by personal service. Civ. R. 5. Thus, Ohio law and the Civil Rules anticipate that a party to a foreclosure action will receive actual notice of the sheriff sale.

While neither the statute nor the Civil Rules specifically addresses how the sheriff serves the judgment creditor, as a state actor, the sheriff is bound by the principles of due process. Certainly, the judgment creditor cannot serve other parties with notice of the sale if the sheriff does not notify it of the sale. In the instant case, a non-defaulting defendant was not served with the statutorily required notice. Thus, the sheriff’s due process obligation coupled with statutory law and the Civil Rules require that actual notice of sale be provided to the Plaintiff in order to protect every party’s due process rights.

**B. Due process requires service of sale date and time by ordinary mail.**

This Court has held that “notice *at least by mail* is a constitutional prerequisite to a proceeding that adversely affects a property interest where the interest holder’s address is known or easily ascertainable.” *Central Trust Co. v. Jensen*, 67 Ohio St. 3d 140, 143 (1993), emphasis added. Furthermore, when a party has received actual notice of the proceedings, it is reasonable to anticipate actual notice of the sheriff’s sale. *Id.* at 144. In the instant case, Plaintiff’s counsel

received several actual notices of sheriff's sales that did not go forward before receiving the constructive notice at issue here. Plaintiff's counsel's past experiences of receiving actual notice made anticipation of another actual notice completely reasonable.

Because "the cost of notice is little more than that of a first-class stamp, the balance will almost always favor notice by mail over publication." *Id.* at 143. In the instant case, the county saved no money by sending Plaintiff the constructive notice that it did rather than actual notice. Regardless of the contents of the paper mailed to Plaintiff, the county incurred the cost of a mailing to the Plaintiff. Too, the county had to schedule the sheriff sale, regardless of whether it typed that information into the form sent to Plaintiff or on a web site. The only action that the county avoided by sending this particular notice was the effort placing information that it had regarding the date and time of sale on the paper that it mailed to Plaintiff. The cost of such a small action certainly favors actual, rather than constructive notice.

C. **Presumed sophistication of a party does not negate the necessity of due process.**

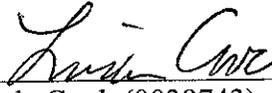
The presumption that a party's attorney will be sophisticated enough to check a website when there a change in court procedure not provided for by rule cannot be allowed to supersede the due process rights of all parties. A "party's ability to take steps to safeguard its interests does not relieve the State of its constitutional obligation" to provide actual notice. *Mennonite* at 799. The perceived sophistication or ability of Plaintiff's counsel, who was entitled to receive notice in this case, does not excuse the state from the minimum constitutional requirement of actual notice by ordinary mail. As the United States Supreme Court has stated, "the State may not forgo even the relatively modest administrative burden of providing notice by mail to parties who are particularly resourceful." *Id.* at 800.

While this Court has indicated that a party's knowledge and ability to protect itself may be relevant to inquiries regarding the appropriateness of notice forms, it has also stated that "the fact that a party may be sophisticated does not impose upon it the duty constantly to pursue the back pages of local newspapers for notices it could reasonably expect to receive in the mail." *Jensen* at 143. This is especially true where, as in this case, the change in policy from sending actual to constructive notice of sheriff's sales to Plaintiff's counsel is not found in any rule of court. As members of this Court have pointed out, such a drastic change "should be done only after the Rules Advisory Committee has had an opportunity to study all of the consequences of such massive change and has considered comments from the bench and bar. It certainly should not be done by judicial fiat." *Wisintainer v. Elcen Power Strut Co.*, 67 Ohio St. 3d 352, 359 (1993), Resnick, J., dissenting. Thus, regardless of the level of Plaintiff's counsel's sophistication, the notice sent by the sheriff failed to protect the due process rights of the parties.

### **Conclusion**

Notifying a party of sheriff's sale by publication of sale dates and times on the internet does not comport with due process and a long established legal history of providing actual notice of court events to parties appearing in the case. Moreover, a transition to notice of court events over the internet substantially impairs the ability of many Ohioans to access information about their court cases. While the homeowners in this case were not entitled to notice, the facts of this case demonstrate that had they been entitled to notice, they would not have received it. If this court allows notice via internet website in this instance, it risks creating a slippery slope of precedent allowing notice by publication of any sort of court event or deadline via a means that is not accessible to many Ohioans. The decision of the Twelfth District Court of Appeals must be reversed to protect the interests of all parties to foreclosure cases.

Respectfully submitted,



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**CERTIFICATE OF SERVICE**

I certify that a copy of the foregoing was sent by ordinary U.S. Mail to the following  
counsel on this 27th day of February, 2012:

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Ohio Legal Services, Legal Aid of Western Ohio,  
Pro Seniors, Inc., and Ohio Poverty Law Center

**APPENDIX A**



**Pew Internet**  
Pew Internet & American Life Project

a project of the  
**PewResearchCenter**

# Use of the internet in higher-income households

Jim Jansen, Senior Fellow

11/24/2010

<http://pewinternet.org/Reports/2010/Better-off-households.aspx>

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## 95% of those in households earning over \$75,000 use the internet and cell phones

Those in higher-income households are more likely to use the internet on any given day, own multiple internet-ready devices, do things involving money online, and get news online

Those in higher-income households are different from other Americans in their tech ownership and use.

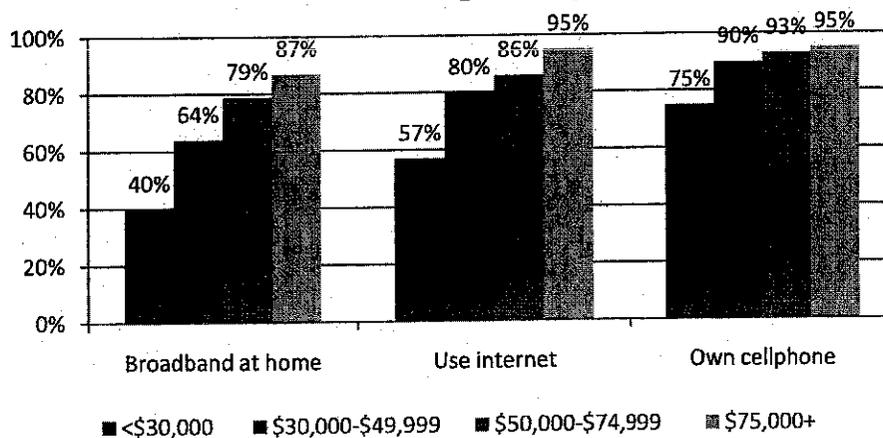
Analysis of several recent surveys conducted by the Pew Research Center's Internet & American Life Projects find that there are key differences between those who live in households making \$75,000 or more relative to those in lower-income households.

Some 95% of Americans who live in households earning \$75,000 or more a year use the internet at least occasionally, compared with 70% of those living in households earning less than \$75,000.

Even among those who use the internet, the well off are more likely than those with less income to use technology. Of those 95% of higher-income internet users:

- 99% use the internet at home, compared with 93% of the internet users in lower brackets.
- 93% of higher-income home internet users have some type of broadband connection versus 85% of the internet users who live in households earning less than \$75,000 per year. That translates into 87% of all those in live in those better-off households having broadband at home.
- 95% of higher-income households own some type of cell phone compared with 83% in households with less income.

**Figure 1. Comparison of broadband access at home, cell phone ownership, and internet usage by income brackets of general population**



Source: Pew Research Center's Internet & American Life Project, August 9-September 13, 2010 Tracking Survey. N=3,001 adults and the margin of error is +/- 2.5 percentage points.

## The differences among income cohorts apply to other technology as well

The relatively well-to-do are also more likely than those in lesser-income households to own a variety of information and communications gear.<sup>3</sup>

- 79% of those living in households earning \$75,000 or more own desktop computers, compared with 55% of those living in less well-off homes.
- 79% of those living in higher-income households own laptops, compared with 47% of those living in less well-off homes.
- 70% of those living in higher-income households own iPods or other MP3 players, compared with 42% of those living in less well-off homes.
- 54% of those living in higher-income households own game consoles, compared with 41% of those living in less well-off homes.
- 12% of those living in higher-income households own e-book readers such as Kindles, compared with 3% of those living in less well-off homes.
- 9% of those living in higher-income households own tablet computers such as iPads, compared with 3% of those living in less well-off homes.

## Background of this analysis

The findings in this report come from three surveys by the Pew Internet Project conducted in late 2009 and 2010. In each of those surveys, respondents were asked if their household income fell into certain ranges. As in Pew Internet surveys in the past, many respondents were willing to provide income ranges for their household. Still, in each survey a notable number of respondents said they did not want to disclose their income: 17% in the survey in December 2009 - January 2010 did not disclose their income<sup>1</sup>; 16% in the April - May 2010 survey did not disclose their income<sup>2</sup>; and 14% in the August - September 2010 survey did not do so<sup>3</sup>.

The analysis in this report covers the responses of those who did disclose their income.

## Those with higher-incomes engage in most online activities more frequently

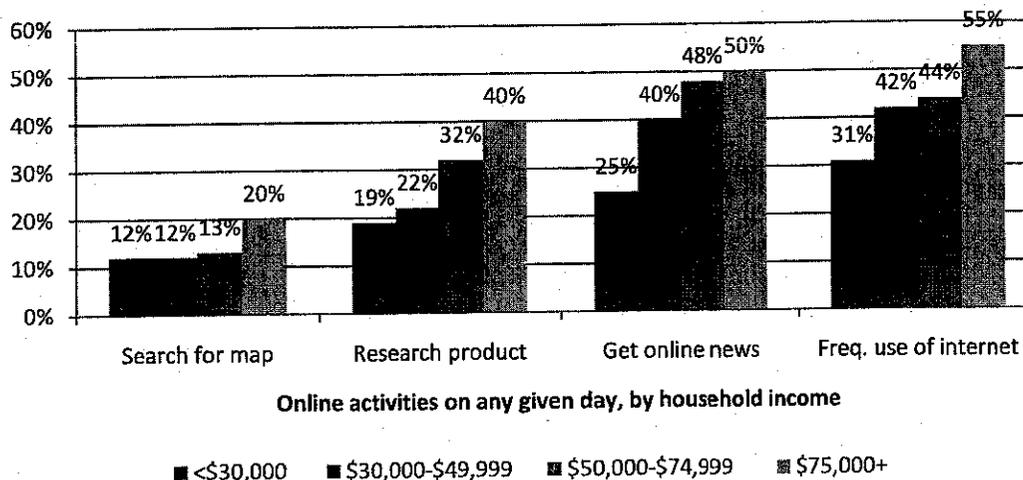
These recent Pew Internet surveys show that the internet users in the higher-income households are the most active participants in a range of online activities, when compared with those who have less income:

- 93% of higher-income users use email <sup>3</sup>
- 80% access news online <sup>3</sup>
- 71% pay bills online <sup>3</sup>
- 48% have used their cell to send or receive email <sup>1</sup>
- 88% conduct online product research <sup>3</sup>
- 37% have donated to charities online <sup>2</sup>

The internet users in higher-income households are more likely than others to go online multiple times a day, both at home and at work. Some 86% of internet users in higher-income households go online daily, compared with 54% in the lowest income bracket.

In many cases, the most noticeable difference in online engagement between various income groups relates to their intensity of use. On any given day, the internet users in the higher-income bracket are more likely than the internet users in lower-income brackets to be doing various online activities. Compared with internet users in other income cohorts, higher-income internet users go online more often compared with other groups: For instance, 55% are on the internet or are using email several times a day from home. Moreover, the more well-to-do internet users, on any given day are more likely get online news, conduct online research for a product or service, and go online to search for maps or directions. <sup>3</sup>

**Figure 2. Comparison of internet users by income groups for online activities on any given day: seeking maps, products research, online news, and frequent use of internet**



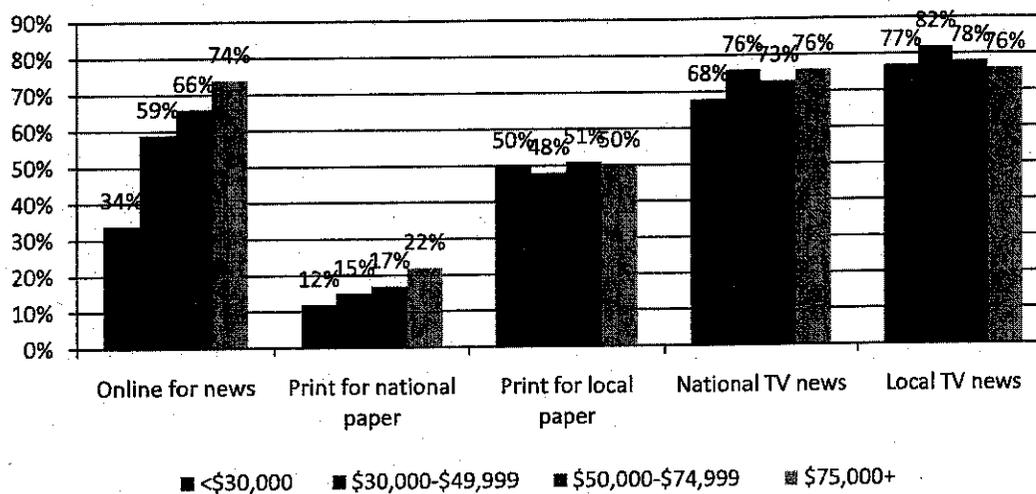
Source: Pew Research Center's Internet & American Life Project, August 9-September 13, 2010 Tracking Survey. N=3,001 adults and the margin of error is +/- 2.5 percentage points.

## Where better-off Americans get their news

Those who fall in the top earnings category are also the biggest consumers of online news sources, with 80% of higher-income internet users (74% of the general population) seeking news on the internet.<sup>3</sup>

However, the higher-income households have not abandoned traditional media altogether; they also turn to print and television, especially for local news. Asked about various platforms where they might get the news on a typical day, 76% of those from higher-income households watch local and national news shows on television, 51% of this higher-income group said they get local news from a print version of a newspaper, and 22% read a print version of a newspaper for national news.<sup>1</sup>

**Figure 3. Comparison of news sources by income groups for online, print, and TV of general population**

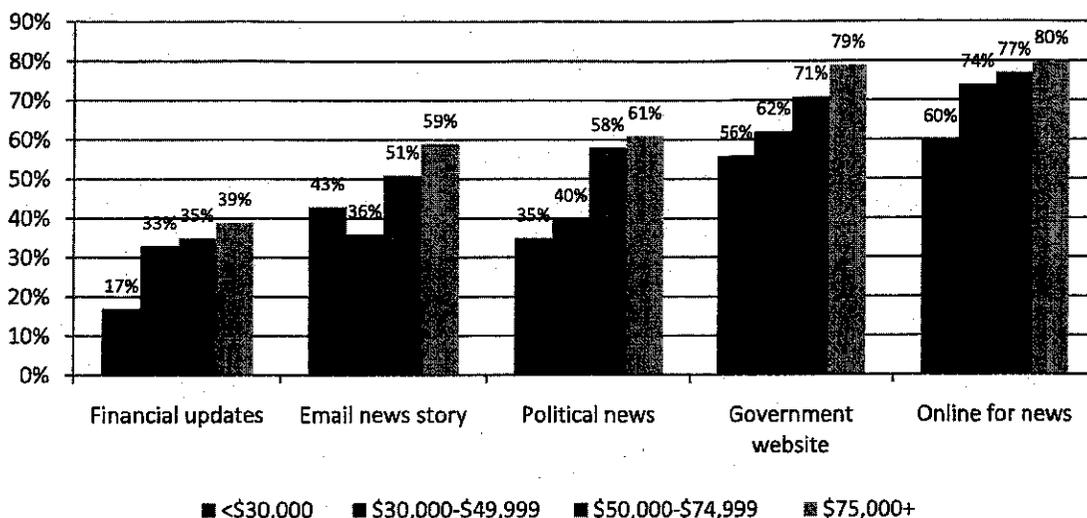


Source: PRC-Internet & American Life Project and PRC-Project for Excellence in Journalism Online News Survey. December 28, 2009-January, 19, 2010. N=1,891. Margin is error is +/- 2.5 percentage points.

Yet, the online news consumption patterns of this more well off group stand in stark contrast to those living in the lowest income households.<sup>1,2,3</sup>

- 80% of online Americans in the higher income bracket get news on the internet, compared with 60% of the internet users earning less than \$30,000 per year<sup>3</sup>
- 79% of the internet users in the higher earning bracket have visited a government website at the local, state or federal level versus 56% of those who fall into the lowest-income group<sup>2</sup>
- 61% in the higher bracket seek political news online, compared with 35% from the lowest-income bracket<sup>2</sup>

**Figure 4. Comparison of online news sources and content by income brackets of internet users**

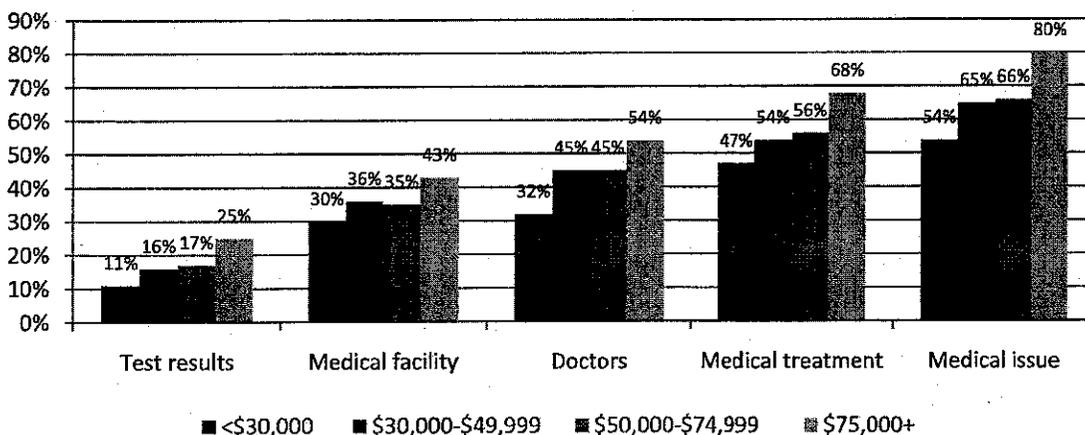


Source: Surveys of the PRC-Internet & American Life Project in 2010.

### Wealth and health information-seeking go hand-in-hand

Online Americans in the higher-income bracket are fully engaged with seeking health information and conducting other health-related activities online.<sup>3</sup> Internet users in the top income brackets are more likely to search for medical information online, seek treatment information, seek material about doctors and medical facilities, and get data concerning test results.

**Figure 5. Comparison of online seeking of health-related information by income brackets of internet users.**



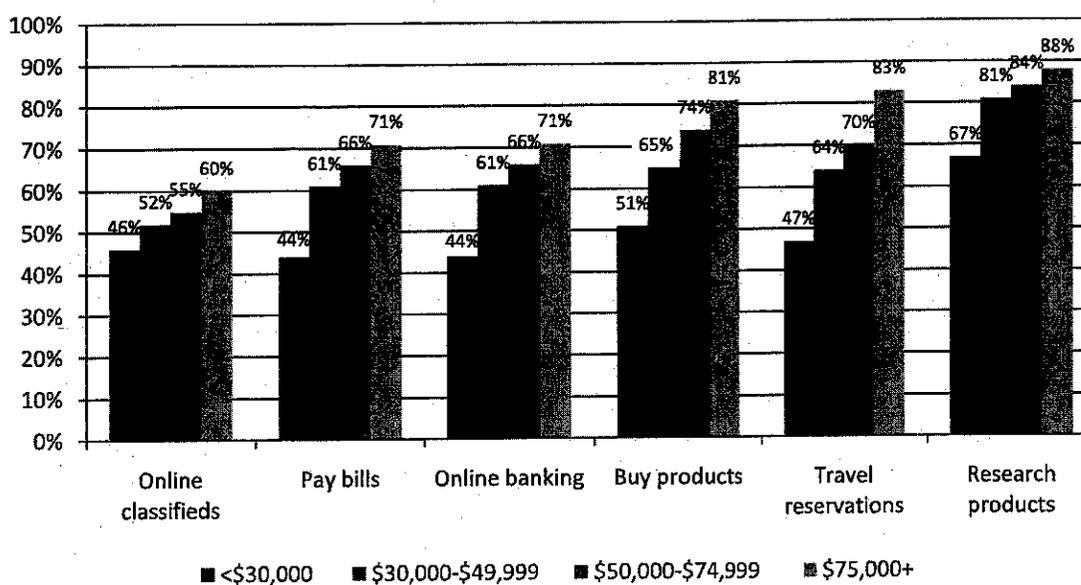
Source: Pew Research Center's Internet & American Life Project, August 9-September 13, 2010 Tracking Survey. N=3,001 adults and the margin of error is +/- 2.5 percentage points.

## Engagement with online commerce by the higher-income households

Significantly more higher-income Americans are conducting e-commerce activities than members of other income groups.

Solid majorities of higher-income internet users research products (88%), make travel reservations online (83%), purchase products or services online (81%), perform online banking (74%), use the internet to pay bills (71%), and use online classified sites such as Craigslist (60%).<sup>1,2,3</sup>

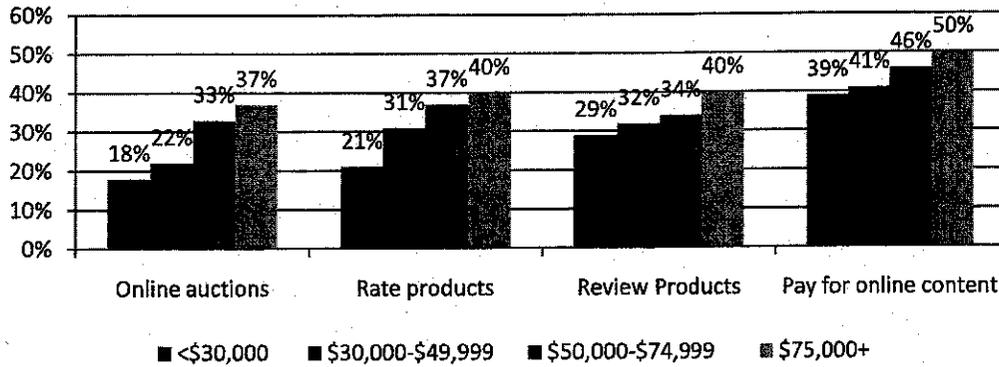
**Figure 6. Comparison of ecommerce behaviors of internet users by income brackets for which a majority of higher-income households are engaged**



Source: Surveys of the PRC-Internet & American Life Project in 2010.

There are other e-commerce activities for which less than a majority of higher-income Americans on the internet engage, but they still conduct these activities at significantly higher percentages than other income groups, including paying for online content, reviewing products, rating products, and participating on online auctions.<sup>2,3</sup>

**Figure 7. Comparison of ecommerce behaviors of internet users by income brackets for which less than a majority of higher-income households are engaged**

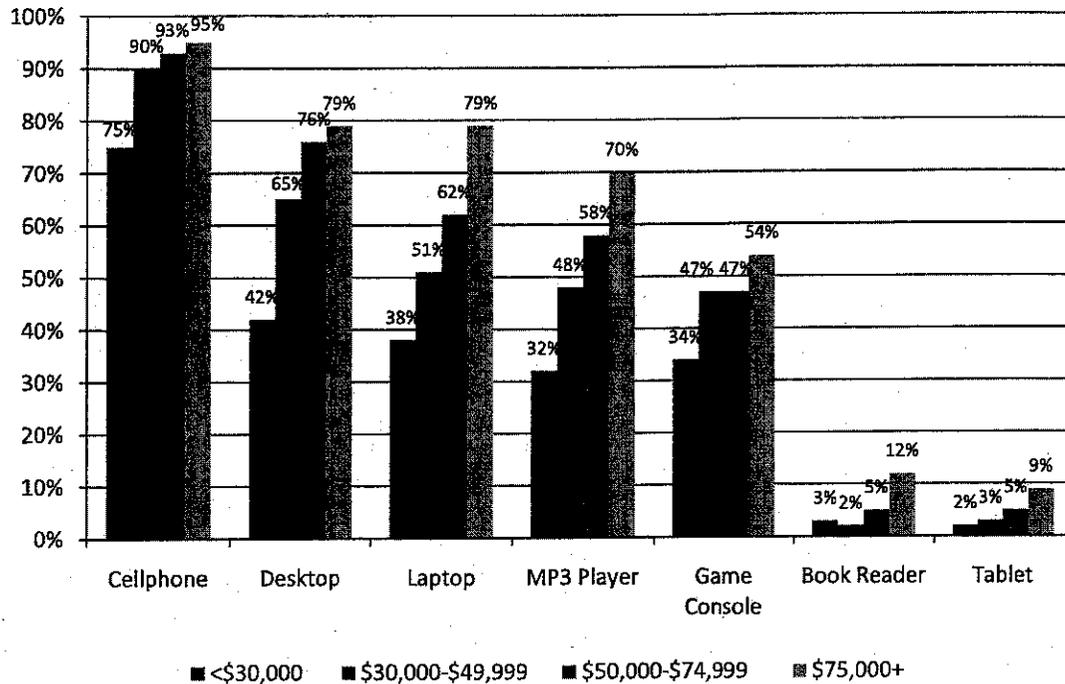


**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 survey. N=2,252 adults and the margin of error is +/- 2.5 percentage points.

## Use of internet-ready devices by higher-income households

Relatively prosperous Americans have multiple internet and other devices, with higher ownership of cell phones (95%), desktop and laptop computers (79% each), mp3 players (70%), and game consoles (54%) relative to other income groups.<sup>3</sup>

**Figure 8. Comparison of ownership of internet-ready devices by income brackets**



Source: Pew Research Center's Internet & American Life Project, August 9-September 13, 2010 Tracking Survey. N=3,001 adults and the margin of error is +/- 2.5 percentage points.

## Other possible contributing factors: community type, educational attainment, race and ethnicity, gender, and age

We examined several controlling factors in examining internet adoption, including community type (rural, suburban, urban), education (some high school, high school, some college, college graduate), race (White, African-American, Hispanic, Other), gender, and age (divided into generational groups of Generation Y (ages 18-33), Generation X (ages 34-45), Trailing Boomers (ages 46-55), Leading Boomers (ages 56-64), Matures (ages 65-73), and After Work (age 74+)).<sup>3</sup>

Regardless of the control factor, those in the higher-income bracket were statistically significantly more likely to be internet and email users than those in the other income brackets with the same control factor. In nearly all cases, the practical effect of the control factor was minor: That is, the control factor

did not add major explanatory effect to the relationship that was not explained by income level. Simply put, a person's household income is an independent predictor of the likelihood that she or he will be an internet and email user and to be associated with the online activities we cite in this report.

### *Use of internet*

Concerning the use of the internet, differences involving gender, race, and educational level had no practical impact on internet use by income level.

Those living in suburban and urban areas are slightly more likely to be internet users than their rural counterparts.

There were also minor differences among the age groupings, especially with Trailing Boomers (ages 46-55) and Matures (ages 65-73), with larger percentages of these age groups using the internet when compared with those in the same age groups from lower-income households.

However, with both community type and age, the differences were slight relative to what could be explained just by household income.

### *Use of email*

We performed the same analysis for email usage. Again, most of these controlling factors were not substantial contributors to differences in whether someone was an email user or not.

Gender, race, and educational level had no practical impact on email use.

Those living in suburban and urban areas use email slightly more than their rural counterparts, although the differences were very slight.

With age, we again found that there were minor differences among the age groupings, specifically with Gen X (ages 34-45), Trailing Boomers (ages 46-55) and Matures (ages 65-73), with larger percentages of these age groupings in the higher-income using email than those in the same age groupings from lower-income households. Again, the practical differences were slight indicating that age was not a major contributing factor.

### A look at the even more well-to-do: Those in households earning \$150,000 or more

Given that \$75,000 is only about one and half times the median household income of \$49,777<sup>4</sup>, we also examined those in the higher-income brackets exclusively.<sup>3</sup> In the August-September 2010 Pew Internet survey there were 142 respondents who reported living in households earning \$150,000 or more, which is the dataset used for this analysis.

Examining those living in households with an income of \$150,000 or more, there are significant differences with the other income groups. The affluent are significantly more likely to use the internet (30% more) and email (25% more) than the rest of the American population.

Looking more closely at internet users, the affluent are more likely than other internet users to participate in video chat (22% more likely), pay bills online (19%) and get online news (11%).

In fact, technology saturates the lives of affluent Americans. Nearly all (96%) of this affluent demographic use the internet or email. Nine in ten (89%) of the high-income internet users have searched online for maps or directions, 86% have researched a product online, and 82% get a portion of their news online.

**Table 1. Comparison of affluent income households compared those in non-affluent households for various internet activities<sup>3</sup>**

	Households earning \$150,000 or more	All Other Income Groups	Difference in % points
Use email	96%	66%	30 points
Access internet	96%	71%	25 points
All internet users	> \$150,000	All Other Income Groups	Difference in % points
Participate in video chat	43%	21%	22 points
Pay bills online	75%	56%	19 points
Pay for digital content	55%	42%	13 points
Get news online	82%	71%	11 points
Research product online	86%	78%	8 points
Get online map/directions	89%	82%	7 points
Post a product review	37%	32%	5 points

## Data

This report is based on the data from three telephone surveys conducted by the Pew Research Center's Internet & American Life Project.

The first data set comes from telephone interviews conducted between December 28, 2009 and January 19, 2010, among a sample of 2,259 adults, 18 and older. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 2.3 percentage points. For results based on internet users (n=1,675) or "online news users" (n=1,582), 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. This survey was conducted on landline telephones (N=1,697) and cell phones (N=562) and is meant to be representative of all adults in the continental United States.<sup>1</sup>

The second data set comes from telephone interviews conducted between April 29 and May 30, 2010, among a sample of 2,252 adults, age 18 and older. Interviews were conducted in English. For results based on the total sample, one can say with 95% confidence that the sample margin of error is plus or minus 2.4 percentage points. For results based Internet users (n=1,756), the margin of sampling error is plus or minus 2.7 percentage points.<sup>2</sup>

The most recent data come from telephone interviews conducted by Princeton Survey Research International between August 9 and September 13, 2010. The survey was administered to a sample of 3,001 adults, ages 18 and older, using a combination of landline and cellular. Interviews were conducted in English or Spanish. The sample margin of error is plus or minus 2.5 percentage points and plus or minus 2.9 percentage points for just Internet users (n=2,065).<sup>3</sup>

## Sources

1. Pew Internet & American Life Project Survey, Health, December 28, 2009 and January 19, 2010. Available at <http://pewinternet.org/Shared-Content/Data-Sets/2010/January-2010--Online-News.aspx>
2. Pew Internet & American Life Project Survey, Cell Phones, April 29 and May 30, 2010. Available at <http://pewinternet.org/Shared-Content/Data-Sets/2010/May-2010--Cell-Phones.aspx>
3. Pew Internet & American Life Project Survey, Health, August 9 and September 13, 2010.
4. Income, Poverty, and Health Insurance Coverage in the United States: 2009, September 2010. Available at <http://www.census.gov/prod/2010pubs/p60-238.pdf>
5. Pew Internet & American Life Project Survey, Reputation Management, April 29 and May 30, 2009, August 18 – September 14, 2009. Available at <http://pewinternet.org/Shared-Content/Data-Sets/2009/September-2009--Reputation-Management.aspx>

## Appendix

For investigating the control variables, we used the crosstabs procedure, which offers tests of independence and measures of association and agreement for nominal and ordinal data, and the chi square test to measure statistical significance among groups.

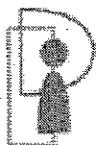
The chi-square test measures the discrepancy between the observed cell counts and what one would expect if the rows and columns in the cross tab were unrelated.

We investigated the controlling factors of community type (rural, suburban, urban), education (some high school, high school, some college, college graduate), race (White, African-American, Hispanic, Other), gender, and age (divided into generational groups of Generation Y (ages 18 -33), Generation X (ages 34-45), Trailing Boomers (ages 46-55), Leading Boomers (ages 56-64), Matures (ages 65-73), and After Work (age 74+) as layering effects in the cross tab analysis and chi-square analysis.

The use of layering effects allowed us to use the chi-square test for determining whether there is a relationship among income group, email or internet usage, and the specific layering factor.

For determining the strength of the relationship, we used the symmetric measures of Phi, Cramer's V, and the Contingency Coefficient. In addition for testing of significant, by convention, we look for a value of 0.3 or higher to indicate strong, practical effect if the relationship was statistically significant.

**APPENDIX B**



**Pew Internet**  
Pew Internet & American Life Project

a project of the  
**Pew Research Center**

# Generations 2010

Kathryn Zickuhr, Web Coordinator

12/16/2010

<http://pewinternet.org/Reports/2010/Generations-2010.aspx>

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## Overview

There are still notable differences by generation in online activities, but **the dominance of the Millennial generation that we documented in our first “Generations” report in 2009<sup>1</sup> has slipped in many activities.**

Millennials, those ages 18-33, remain more likely to access the internet wirelessly with a laptop or mobile phone. In addition, they still clearly surpass their elders online when it comes to:

- Use of social networking sites
- Use of instant messaging
- Using online classifieds
- Listening to music
- Playing online games
- Reading blogs
- Participating in virtual worlds

However, internet users in Gen X (those ages 34-45) and older cohorts are *more likely* than Millennials to engage in several online activities, including visiting government websites and getting financial information online.

Finally, the biggest online trend: While the youngest and oldest cohorts may differ, certain key internet activities are becoming more uniformly popular across all age groups. These include:

- Email
- Search engine use
- Seeking health information
- Getting news
- Buying products
- Making travel reservations or purchases
- Doing online banking
- Looking for religious information
- Rating products, services, or people
- Making online charitable donations
- Downloading podcasts

Even in areas that are still dominated by Millennials, older generations are making notable gains. Some of the areas that have seen the fastest rate of growth in recent years include older adults' participation in communication and entertainment activities online, especially in using social network sites such as Facebook. Among the major trends in online activities:

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<sup>1</sup> “Generations 2009” (2009), <http://pewinternet.org/Reports/2009/Generations-Online-in-2009.aspx>

- While the youngest generations are still significantly more likely to use **social network sites**, the fastest growth has come from internet users 74 and older: social network site usage for this oldest cohort has quadrupled since 2008, from 4% to 16%.
- The percentage of all adult internet users who **watch video online** jumped 14 points in the past two years, from 52% in May 2008 to 66% in May 2010.
- 51% of all online adults **listen to music online**, compared with 34% the last time this question was asked, in June 2004. While Millennials used to be by far the most avid listeners, Gen Xers and Younger Boomers are catching up.
- As of May 2010, 53% of online adults have used a **classified ads website** such as Craigslist, up from 32% in September 2007.

Additionally, **searching for health information**, an activity that was once the primary domain of older adults, is now the third most popular online activity for all internet users 18 and older.

Few of the activities covered in this report have decreased in popularity for any age group, with the notable exception of **blogging**. Only half as many online teens work on their own blog as did in 2006, and Millennial generation adults ages 18-33 have also seen a modest decline—a development that may be related to the quickly-growing popularity of social network sites. At the same time, however, blogging's popularity increased among most older generations, and as a result the rate of blogging for all online adults rose slightly overall from 11% in late 2008 to 14% in 2010. Yet while the act formally known as blogging seems to have peaked, internet users are doing blog-like things in other online spaces as they post updates about their lives, musings about the world, jokes, and links on social networking sites and micro-blogging sites such as Twitter.

## Introduction

### Defining generations

This is the second report by the Pew Research Center's Internet & American Life Project exploring how different generations use the internet.<sup>2</sup> All the generation labels used in these reports, with the exceptions of "Younger Boomers" and "Older Boomers," are the names conventionalized by William Strauss and Neil Howe in their book, *Generations: The History of America's Future, 1584 to 2069* (Perennial, 1992). The Pew Internet Project's "Generations" reports make the distinction between Younger Boomers and Older Boomers because enough research has been done to suggest that the two decades of Baby Boomers are different enough to merit being divided into distinct generational groups.

Generation name	Birth years, Ages in 2010	% of total adult population*	% of internet-using population*
Millennials	Born 1977-1992, Ages 18-33	30	35
Gen X	Born 1965-1976, Ages 34-45	19	21
Younger Boomers	Born 1955-1964, Ages 46-55	20	20
Older Boomers	Born 1946-1954, Ages 56-64	14	13
Silent Generation	Born 1937-1945, Ages 65-73	7	5
G.I. Generation	Born -1936, Age 74+	9	3

\* Source: Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

This year, the Pew Research Center published a series of reports that more closely examined the values, attitudes and experiences of the Millennial generation,<sup>3</sup> which generally encompasses teens and Millennials. These reports are available in full at [pewresearch.org/millennials](http://pewresearch.org/millennials). Many of these reports also compare this younger generation to older cohorts.

The primary adult data in this report come from a Pew Internet Project survey conducted from April 29 to May 30, 2010. The most current teen data in this study is from a separate Pew Internet survey of teens and their parents conducted from June 26 to September 24, 2009. For more information on these and other surveys cited in this report, including survey dates of all activities cited, please see the **Methodology** section at the end of this report.

<sup>2</sup> "Generations 2009" (2009), <http://pewinternet.org/Reports/2009/Generations-Online-in-2009.aspx>

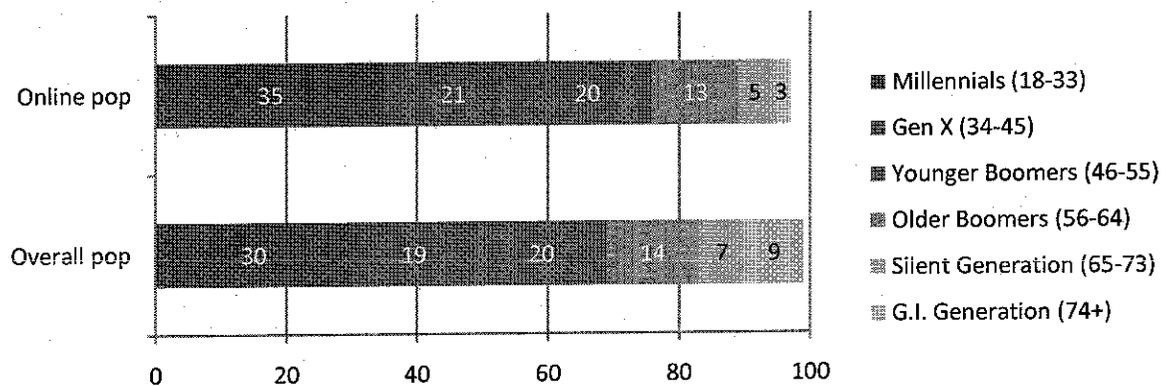
<sup>3</sup> See: <http://pewresearch.org/pubs/1437/millennials-profile>

## Generations online

	Millennials Ages 18-33	Gen X Ages 34-45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Generation Ages 65-73	G.I. Generation Age 74+	All online adults Age 18+
% who go online	95	86	81	76	58	30	79

Seventy-nine percent of all American adults go online, a number that has remained relatively steady since early 2006.<sup>4</sup> While most generations have internet adoption rates of at least 70%, internet use drops off significantly for adults over age 65: only 58% of adults ages 65-73 (the Silent Generation) and 30% of adults age 74 and older (the G.I. Generation) go online. As a result, younger generations continue<sup>5</sup> to be over-represented in the online population, with adults ages 45 and younger constituting about 56% of the online population, despite making up only 49% of the total adult population. The Millennial generation is particularly prominent online: though they make up 30% of the total adult population, they account for 35% of internet users. (Note: all data regarding generations within the context of the general U.S. population are from the May 2010 Pew Internet tracking survey of 2,252 adults 18 and older.)

## Generations online vs. generations offline (% of U.S. adult population)



Source: Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

A plurality (31%) of non-internet users say that the main reason they do not go online is that they are simply not interested in doing so. Roughly one in nine (12%) cite not having a computer, and a similar proportion (10%) say that it would be too expensive. A full list of reasons is shown in the table below.

<sup>4</sup> See: <http://pewinternet.org/Trend-Data/Internet-Adoption.aspx>

<sup>5</sup> For our previous report, see: <http://pewinternet.org/Reports/2009/Generations-Online-in-2009/Generational-Differences-in-Online-Activities/2-Internet-use-and-email.aspx>

## Main reasons for not using the internet

21% of adult Americans do not use the internet. When asked the main reason they do not go online (in their own words), these are the factors they cite.

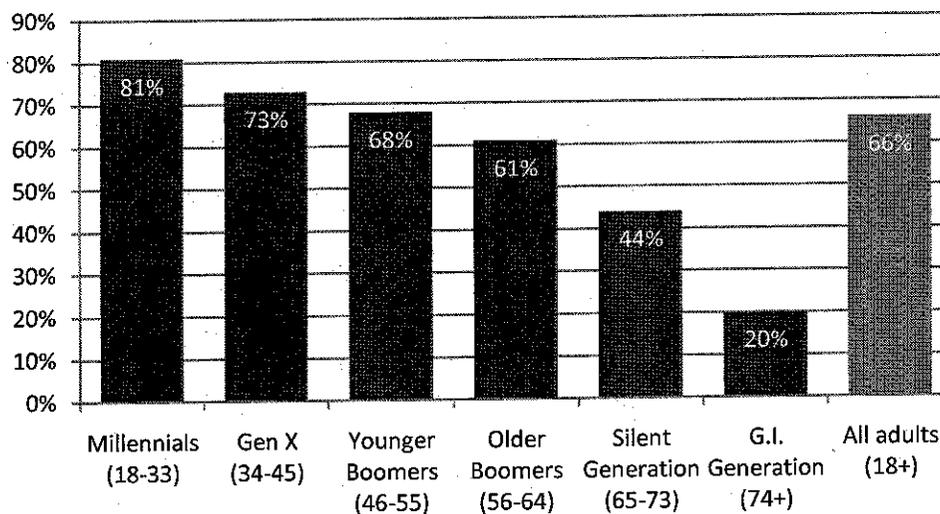
All offline adults Age 18+	
% who do not use the internet	21%
What is the MAIN reason you don't use the internet or email?	
Just not interested	31
Don't have a computer	12
Too expensive	10
Too difficult	9
It's a waste of time	7
Don't have a access	6
Don't have time to learn	6
Too old to learn	4
Don't want/need it	4
Just don't know how	2
Physically unable	2
Worried about viruses/spyware/spam	1
Other	5

**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older (n=496 for non-internet users).

## Home broadband adoption

Two-thirds of American adults (66%) currently have a broadband internet connection at home. This leaves 5% of adults who go online using a dial-up connection, 26% who do not go online from home and 3% who go online from home but are unsure what type of connection they have.<sup>6</sup>

**Percentage of adults with home broadband, by generation**



**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

Roughly eight in ten (81%) of Millennials have broadband at home, as well as 73% of Gen X. The Silent Generation and the G.I. Generation are by far the least likely groups to have high-speed internet access, as only 44% of adults ages 65-73 and 20% of adults over the age of 74 have broadband at home. Of all the age groups, this cohort of adults over 65 are also the least likely to see the lack of home broadband as a major disadvantage, as detailed in our recent report, "Home Broadband 2010."<sup>7</sup>

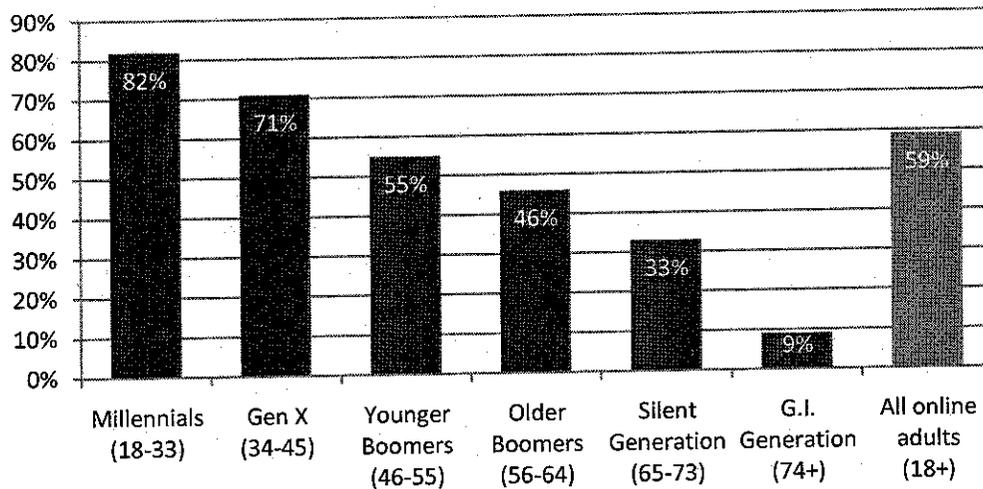
<sup>6</sup> For more information about home broadband adoption trends and attitudes, see "Home Broadband 2010" (2010), <http://pewinternet.org/Reports/2010/Home-Broadband-2010.aspx>

<sup>7</sup> See: <http://pewinternet.org/Reports/2010/Home-Broadband-2010/Part-2/Minority-Americans-see-a-lack-of-broadband-access-as-a-major-hindrance.aspx>

## Wireless use

About six in ten American adults (59%) go online wirelessly, either through their smartphones or through a wireless card in their laptop.<sup>8</sup> Adults age 45 and younger are the most likely to connect to the internet with a laptop, cell phone, or other internet-connected mobile device, as 82% of Millennials and 71% of Gen X connect that way. Only 9% of the G.I. Generation go online wirelessly.

**Percentage of adults who go online wirelessly, by generation**



**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

<sup>8</sup> For more information about wireless internet trends, see <http://pewinternet.org/Reports/2010/Mobile-Access-2010/Part-1/The-current-state-of-wireless-internet-use.aspx> in "Mobile Access" (2010).

## Generations online: Activities

### Activities that are most popular with teens and/or Millennials

Activity	Teens Ages 12-17	Millennials Ages 18-33	Gen X Ages 34-45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Generation Ages 65-73	G.I. Generation Age 74+	All online adults Age 18+
Go online	93%	95%	86%	81%	76%	58%	30%	79%
<b>Teens and/or Millennials are more likely to engage in the following activities compared with older users:</b>								
Watch a video	57	80	66	62	55	44	20	66
Use social network sites	73	83	62	50	43	34	16	61
Send instant messages	67	66	52	35	30	29	4	47
Play online games	78	50 <sup>^</sup>	38 <sup>^</sup>	26 <sup>^</sup>	28 <sup>^</sup>	25 <sup>^</sup>	18 <sup>^</sup>	35 <sup>^</sup>
Read blogs	49 <sup>^</sup>	43	34	27	25	23	15	32
Visit a virtual world	8	4	4	4	3	3	1	4

**Note:** <sup>^</sup> indicates data from 2006.

**Source:** Pew Research Center's Internet & American Life Project surveys, 2008-2010. All teens data are from different surveys than adult data, and may have slight differences in question wording. Findings for individual activities are based on internet users. For survey dates of all activities cited, please see the Methodology section at the end of this report.

Younger internet users ages 12-33 remain the most active participants in the web's social services. Seventy-three percent of teens and 83% of Millennials use social network sites, significantly more than older generations, especially adults over 55: While half of Younger Boomers use social network sites, only 16% of adults 74 and older have done so. Internet users under 30 are also significantly more likely to communicate via instant message, with roughly two-thirds of teens and Millennials sending and receiving instant messages. Internet users under age 34 are also significantly more likely to read blogs—49% of teens and 43% of Millennials do this.

Teens, meanwhile, are by far the most likely to play online games: 78% play games online, the most popular activity for that age group. Teens are also the most likely group to visit a virtual world such as Second Life—8% of online teens, compared with 4% of internet users 18 and older.

### Activities where Gen X users or older generations dominate

Activity	Teens Ages 12-17	Millennials Ages 18-33	Gen X Ages 34-45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Generation Ages 65-73	G.I. Generation Age 74+	All online adults Age 18+
Go online	93%	95%	86%	81%	76%	58%	30%	79%
<b>Activities where Gen X users or older generations dominate:</b>								
Visit govt website	*	61	75	73	69	56	41	67
Get financial info	*	33	38	41	41	44	30	38

**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older. Findings for individual activities are based on internet users.

Older internet users are still more likely than younger generations to search for certain types of information online. Online adults ages 34-64 lead in visiting government websites—roughly seven in ten have done so—but younger internet users are catching up: 61% of Millennials have visited a government website, up from 55% in November 2008. Older generations are still more likely to go online for financial information, although here the Silent Generation leads with 44% of users ages 65-73 turning to the internet for financial information such as stock quotes or mortgage interest rates.

A growing number of activities are becoming increasingly common across generations, though in many cases there are still large differences between the youngest and oldest cohorts.

Activity	Teens Ages 12-17	Millennials Ages 18-33	Gen X Ages 34- 45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Generation Ages 65-73	G.I. Generation Age 74+	All online adults Age 18+
Go online	93%	95%	86%	81%	76%	58%	30%	79%
<b>For some activities, the youngest and oldest cohorts may differ, but there is less variation overall:</b>								
Email	73	96	94	91	93	90	88	94
Use search engine	*	92	87	86	87	82	72	87
Look for health info	31~	85	84	84	85	76	59	83
Get news	62~	76	79	76	76	67	54	75
Buy a product	48	68	66	64	69	59	57	66
Make travel reservations	*	64	67	70	67	61	53	66
Bank online	*	62	62	58	56	44	35	58
Use classifieds	*	64	58	49	42	30	17	53
Listen to music	*	65	58	48	38	25	12	51
Look for religious info	*	31	35	34	33	26	28	32
Rate a product, service or person	*	32	32	29	40	38	16	32
Participate in an auction	*	28	31	25	25	13	7	26
Donate to charity	*	21	24	24	23	20	13	22
Download podcasts	*	26	20	20	16	12	10	21
Work on own blog	14	18	16	11	11	8	5	14

**Note:** ~ indicates significant differences in question wording between teen data and adult data.

**Source:** Pew Research Center's Internet & American Life Project surveys, 2008-2010. All teens data are from different surveys than adult data. Findings for individual activities are based on internet users. For survey dates of all activities cited, please see the Methodology section at the end of this report.

Email and search engine use remain the backbone of online activities, with 88% of the oldest generation using email. Communicating by email is not as popular with teens, however; only 73% of teens use email, making them the generation least likely to do so. When teens do use email, they tend to use it more in formal situations or when communicating with adults than to communicate with friends.<sup>9</sup>

In addition to email and search, a strong majority (83%) of internet users have used the internet to search for health information, making this activity the third most popular for all online adults. Even among the oldest generation of internet users, the G.I. Generation, a majority purchase products, get news, and search for health information online. Internet users ages 56-73 are slightly more likely than younger adults to have rated a product, service, or person online, and are just as likely to have donated to charity online.

Internet users ages 34-64 have lost their lead over Millennials in certain activities, such as buying products or banking online, as well as in searching for health or religious information. Other areas, such as blogging, were once the domain of teens and Millennials, but are now relatively common throughout most age groups.

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<sup>9</sup> See "Teens and Mobile Phones" (2010) for more information about teens' communication patterns:  
<http://pewinternet.org/Reports/2010/Teens-and-Mobile-Phones/Chapter-2/Other-methods.aspx>

Summary of activities

Key: % of internet users in each generation who engage in this online activity

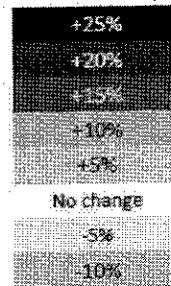
90-100%	40-49%
80-89%	30-39%
70-79%	20-29%
60-69%	10-19%
50-59%	0-9%

Millennials Ages 18-33	Gen X Ages 34-45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Generation Ages 65-73	G.I. Generation Age 74+
Email	Email	Email	Email	Email	Email
Search	Search	Search	Search	Search	Search
Health info	Health info	Health info	Health info	Health info	Health info
Social network sites	Get news	Get news	Get news	Get news	Buy a product
Watch video	Govt website	Govt website	Govt website	Travel reservations	Get news
Get news	Travel reservations	Travel reservations	Buy a product	Buy a product	Travel reservations
Buy a product	Watch video	Buy a product	Travel reservations	Govt website	Govt website
IM	Buy a product	Watch video	Bank online	Watch video	Bank online
Listen to music	Social network sites	Bank online	Watch video	Financial info	Financial info
Travel reservations	Bank online	Social network sites	Social network sites	Bank online	Religious info
Online classifieds	Online classifieds	Online classifieds	Online classifieds	Rate things	Watch video
Bank online	Listen to music	Listen to music	Financial info	Social network sites	Play games
Govt website	IM	Financial info	Rate things	Online classifieds	Online classifieds
Play games	Play games	IM	Listen to music	IM	Social network sites
Read blogs	Financial info	Religious info	Religious info	Religious info	Rate things
Financial info	Religious info	Rate things	IM	Play games	Read blogs
Rate things	Read blogs	Read blogs	Play games	Listen to music	Donate to charity
Religious info	Rate things	Play games	Read blogs	Read blogs	Listen to music
Online auction	Online auction	Online auction	Online auction	Donate to charity	Podcasts
Podcasts	Donate to charity	Donate to charity	Donate to charity	Online auction	Online auction
Donate to charity	Podcasts	Podcasts	Podcasts	Podcasts	Blog
Blog	Blog	Blog	Blog	Blog	IM
Virtual worlds	Virtual worlds	Virtual worlds	Virtual worlds	Virtual worlds	Virtual worlds

## Heat map: Change in activity over time, by generation

The following chart shows the percentage point change between surveys for certain online activities. Darker areas indicate strongest growth; white areas indicate no change; gray areas indicate negative growth.

Survey dates vary—for details, see the Methodology section at the end of the report.



Key: Percentage-point change

	Millennials Ages 18-33	Gen X Ages 34-45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Generation Ages 65-73	G.I. Generation Age 74+
Email	Email	Email	Email	Email	Email	Email
Search	Search	Search	Search	Search	Search	Search
Use social network sites	Get news	Get news	Get news	Get news	Get news	Buy a product
Watch video	Govt website	Govt website	Govt website	Govt website	Travel reservations	Get news
Get news	Travel reservations	Travel reservations	Buy a product	Buy a product	Buy a product	Travel reservations
Buy a product	Watch video	Buy a product	Travel reservations	Govt website	Govt website	Govt website
IM	Buy a product	Watch video	Bank online	Watch video	Bank online	Bank online
Listen to music	Use social network sites	Bank online	Watch video	Financial info	Financial info	Financial info
Travel reservations	Bank online	Use social network sites	Use social network sites	Bank online	Religious info	Religious info
Online classifieds	Online classifieds	Online classifieds	Online classifieds	Rate things	Watch video	Watch video
Bank online	Listen to music	Listen to music	Financial info	Use social network sites	Online classifieds	Online classifieds
Govt website	IM	Financial info	Rate things	Online classifieds	Use social network sites	Use social network sites
Financial info	Financial info	IM	Listen to music	IM	Rate things	Rate things
Rate things	Religious info	Religious info	Religious info	Religious info	Religious info	Donate to charity
Religious info	Rate things	Rate things	IM	Listen to music	Listen to music	Listen to music
Online auction	Online auction	Online auction	Online auction	Donate to charity	Podcasts	Podcasts
Podcasts	Donate to charity	Donate to charity	Donate to charity	Online auction	Online auction	Online auction
Donate to charity	Podcasts	Podcasts	Podcasts	Podcasts	Podcasts	Blog
Blog	Blog	Blog	Blog	Blog	IM	IM
Virtual worlds	Virtual worlds	Virtual worlds	Virtual worlds	Virtual worlds	Virtual worlds	Virtual worlds

Above the line: more than 50% do this activity

Below the line: less than 50% do this activity

Source: Pew Internet surveys.

[pewinternet.org](http://pewinternet.org)

Activity	Teens Ages 12-17	Millennials Ages 18-33	Gen X Ages 34-45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Gen. Ages 65-73	G.I. Gen. Age 74+	All adults Age 18+
<b>Go online</b>	<b>93%</b>	<b>95%</b>	<b>86%</b>	<b>81%</b>	<b>76%</b>	<b>58%</b>	<b>30%</b>	<b>79%</b>
<b>Teens and/or Millennials are more likely to engage in the following activities compared with older users:</b>								
Watch a video	57	80	66	62	55	44	20	66
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Send IMs	67	66	52	35	30	29	4	47
Play online games	78	50^	38^	26^	28^	25^	18^	35^
Read blogs	49^	43	34	27	25	23	15	32
Visit a virtual world	8	4	4	4	3	3	1	4
<b>Activities where Gen X users or older generations dominate:</b>								
Visit a government website	*	61	75	73	69	56	41	67
Get financial info	*	33	38	41	41	44	30	38
<b>For some activities, the youngest and oldest cohorts may differ, but there is less variation overall:</b>								
Send or read e-mail	73	96	94	91	93	90	88	94
Use a search engine	*	92	87	86	87	82	72	87
Look for health info	31~	85	84	84	85	76	59	83
Get news	62~	76	79	76	76	67	54	75
Buy a product	48	68	66	64	69	59	57	66
Make travel reservations	*	64	67	70	67	61	53	66
Bank online	*	62	62	58	56	44	35	58
Use online classifieds	*	64	58	49	42	30	17	53
Listen to music online	*	65	58	48	38	25	12	51
Look for religious info	*	31	35	34	33	26	28	32
Rate a product, service or person	*	32	32	29	40	38	16	32
Participate in an auction	*	28	31	25	25	13	7	26
Make a charitable donation	*	21	24	24	23	20	13	22
Download podcasts	*	26	20	20	16	12	10	21
Work on own blog	14	18	16	11	11	8	5	14

**Note:** ^ indicates data from 2006. ~ indicates significant differences in question wording between teen data and adult data.

**Source:** Pew Research Center's Internet & American Life Project surveys, 2008-2010. All teens data are from different surveys than adult data. Findings for individual activities are based on internet users. For survey dates of all activities cited, please see the Methodology section at the end of this report.

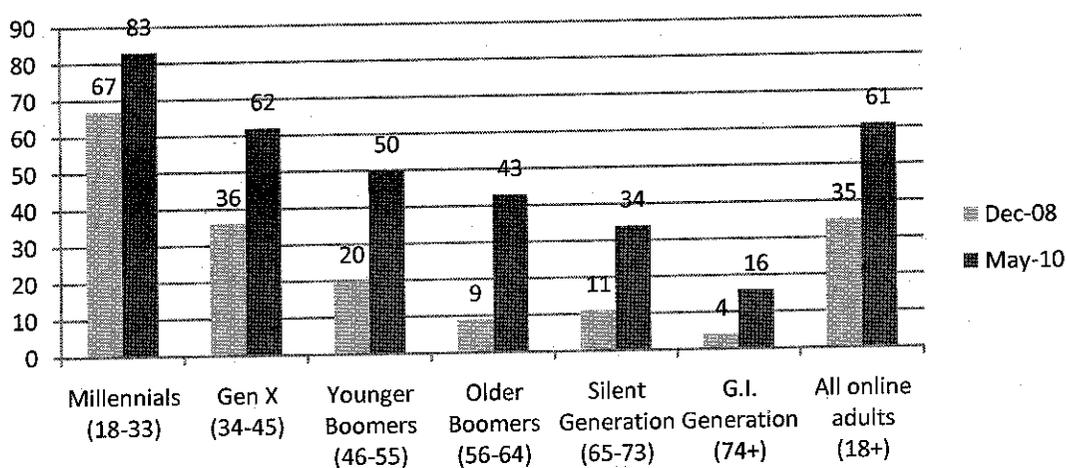
## Major trends in online activities, by generation

### Social network sites

Younger adults are by far the most likely group to use social network sites such as Facebook, MySpace, or LinkedIn—83% of adults 33 and younger currently use them. However, older generations have seen the most dramatic growth over the past two years. Social network site use by Younger Boomers (ages 46-55) increased 30 percentage points over the past two years, from 20% in December 2008 to 50% in May 2010, and Older Boomers (ages 56-64) jumped 34 percentage points, from 9% in 2008 to 43% in 2010. The fastest rate of growth was seen among the oldest generation of internet users, as the percentage of adults age 74 and older who use social network sites quadrupled from 4% in December 2008 to 16% in May 2010. Use of these services for all online adults in this time period increased from 35% to 61% over that same time period.

### Changes in social network site use, 2008-2010, by generation

*% of internet users who use social network sites, over time*



**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

There are several possible reasons for online social networking's increased popularity among older adults. While seniors still rely on email as their main form of online communication, social network sites allow users to reconnect with people from the past, find supporting communities to deal with a chronic disease,<sup>10</sup> or connect with younger generations—all of which may drive social network site use among older generations.<sup>11</sup>

<sup>10</sup> "Chronic Disease and the Internet" (2010), <http://pewinternet.org/Reports/2010/Chronic-Disease.aspx>

<sup>11</sup> For more information, see "Older Adults and Social Media" (2010).

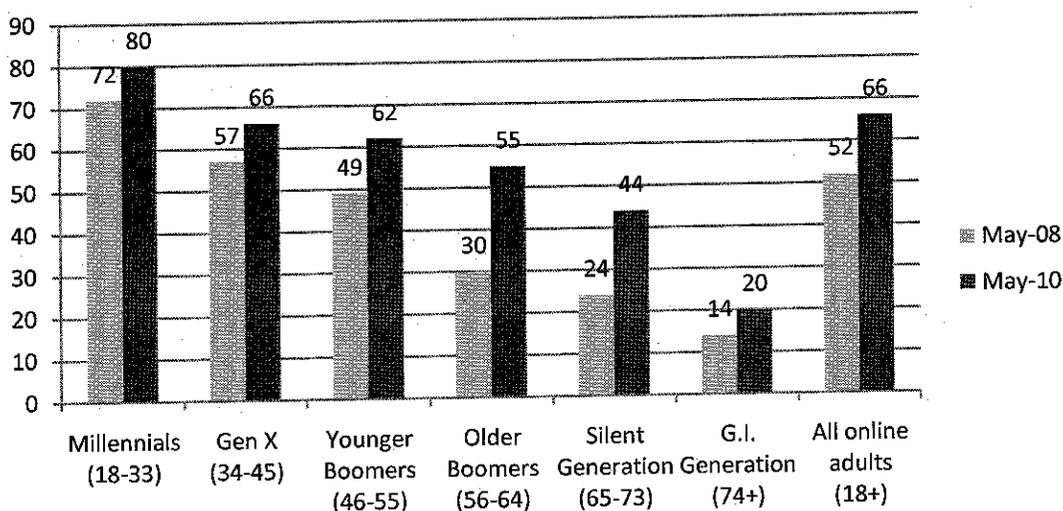
<http://pewinternet.org/Reports/2010/Older-Adults-and-Social-Media/Report/Implications.aspx>

## Online video

The percentage of all adults who watch video online jumped 14 points in the past two years, from 52% of all online adults in May 2008 to 66% in May 2010. While Millennials are still the most likely generation to watch online video, as 80% have done so, other generations have seen significant growth—55% of Older Boomers have watched video, up from 30% in 2008, and one in five members of the G.I. Generation have watched videos online as well. Over the past few years, comedy video viewership has grown more than any other type of video asked about in our surveys: in 2009 half of all online adults (50%) had watched a comedy video online.<sup>12</sup>

### Changes in watching video online, 2008-2010, by generation

% of internet users who watch video online, over time



**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

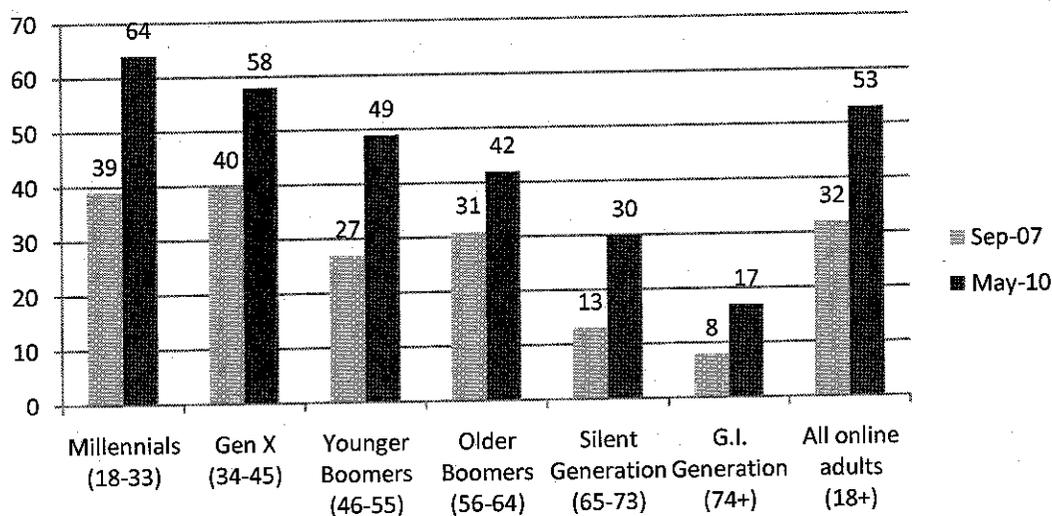
<sup>12</sup> "The State of Online Video" (2010), <http://pewinternet.org/Reports/2010/State-of-Online-Video.aspx>

## Craigslist and online classifieds

In September 2007, only 32% of online adults had used a classified ads website such as Craigslist; by April 2009, this number jumped to almost half (49%).<sup>13</sup> Now, as of May 2010, 53% of all online adults use online classifieds.

### Changes in using online classifieds, 2007-2010, by generation

% of internet users who use online classifieds such as Craigslist, over time



Source: Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

While roughly four in ten internet users in the Millennials cohort and Gen X had used these sites in 2007, by 2010 Millennials had pulled ahead: 64% of internet users 18-33 have used a classifieds site, versus 58% of those ages 34-45 having done so. Younger Boomers have also seen drastic growth, with 49% currently using these sites, up from 27% in 2007. Even 17% of the online G.I. Generation has used a site like Craigslist, up from only 8% three years ago.

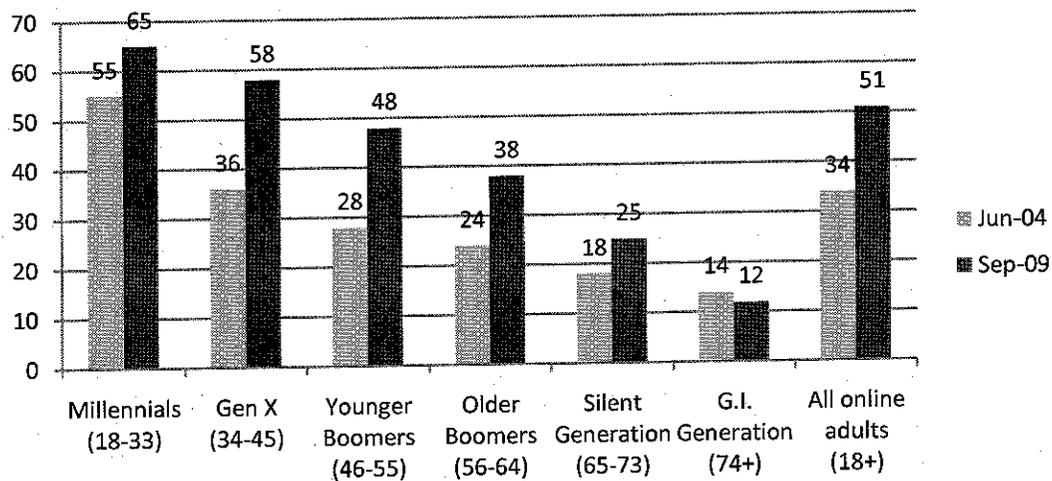
<sup>13</sup> "Online Classifieds" (2009), <http://pewinternet.org/Reports/2009/7--Online-Classifieds.aspx>

## Music

In June 2004, the last time the Pew Internet Project asked about listening to music online, Millennials were by far the most avid listeners: 55% of Millennials had streamed music online, compared to 36% of Gen Xers and 34% of all adults. As of September 2009, Millennials still lead in this activity—65% have done so—but their lead is more modest, with Gen X and Younger Boomers not too far behind. The oldest generations, however, have seen the least growth. One in four members of the Silent Generation streaming music, and the G.I. Generation still listens at roughly the same rate: 12% in September 2009 versus 14% in June 2004.

### Changes in streaming music online 2004-2009, by generation

*% of internet users who listen to music online, over time*



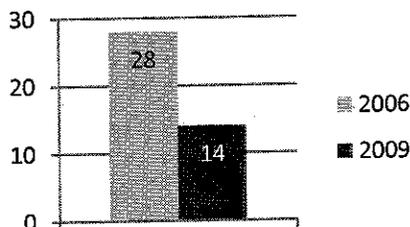
Source: Pew Research Center's Internet & American Life Project Survey, August 18-September 14, 2009. N=2,253 adults 18 and older.

## Blogging

Only 14% of teens ages 12-17 worked on their own blog as of 2009, a drastic decrease since 2006, when twice as many (28%) said they had done so. Millennials have also seen a decline in blogging over the past couple years, from 20% in December 2008 to 18% in May 2010. As previous Pew Internet research has noted, it is possible that status updates and other functions that are incorporated into increasingly-popular social network sites may be replacing stand-alone blogs for young people.<sup>14</sup>

### The decline of teen blogging, 2006-2009

*% of teen internet users who work on their own blog, over time*



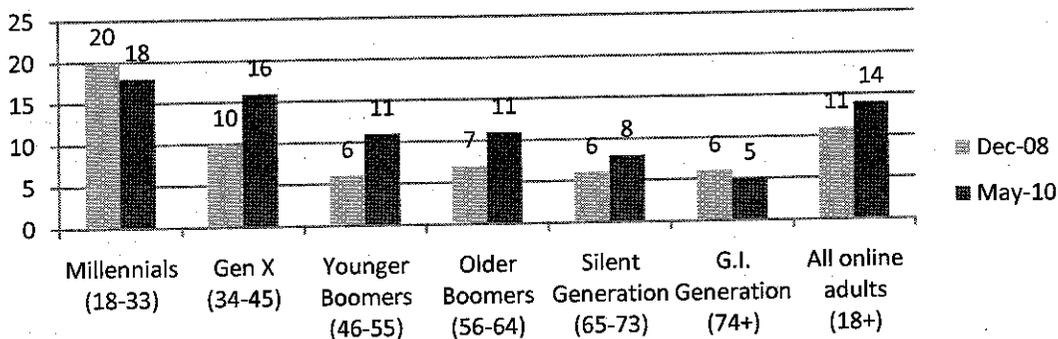
**Source:** Pew Research Center's Internet & American Life Project surveys.  
Results are based on teen internet users ages 12-17.

Yet while blogging is less common for internet users under 34, it has increased in popularity among most older generations. Blogging among members of Gen X increased from 10% in December 2008 to 16% in May 2010, and 11% of Younger and Older Boomers currently blog as well. The result is a slight increase in blogging for adults overall, from 11% in late 2008 to 14% in 2010.

<sup>14</sup> "Social Media and Young Adults" (2010), <http://pewinternet.org/Reports/2010/Social-Media-and-Young-Adults/Part-3/6-Content-Creation.aspx>

### Changes in blogging, 2008-2010, by generation

% of internet users who work on their own blog, over time



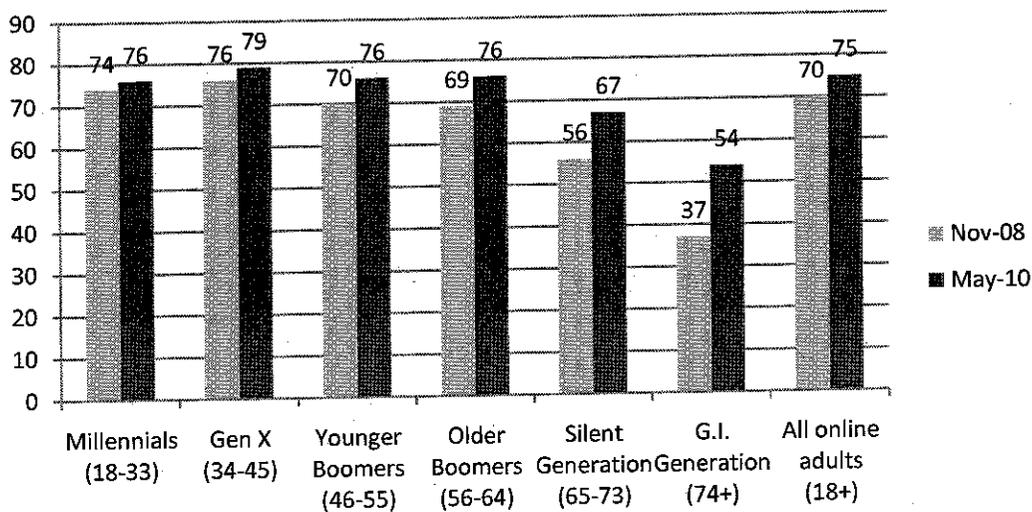
**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

## Online news

Though the percentage of all internet users who get news online<sup>15</sup> has not changed dramatically since the first "Generations" report, the oldest generations have experienced notable increases. In November 2008, 37% of internet users 74 and older said they had gotten news online, but by May 2010 that number had jumped to 54%. Similarly, 67% of internet users ages 65-73 now get news online, compared to 56% in November 2008.

### Changes in getting news online, 2008-2010, by generation

% of internet users who get news online, over time



**Source:** Pew Research Center's Internet & American Life Project, April 29-May 30, 2010 Tracking Survey. N=2,252 adults 18 and older.

Despite the modest growth in the overall percentage of adults who get news online, the ways in which people find and share their news are very different than they were when the Pew Internet Project first started asking about online news consumption earlier in the decade. As previous reports have noted, information is now portable, personalized, and participatory; people access news on-the-go and discuss it online with friends and family.<sup>16</sup>

In terms of where people get news in a typical day, the internet has surpassed newspapers and radio in popularity and now ranks just behind TV. Looking closer at the data, some clear patterns emerge between the age groups. For instance, Millennials overwhelmingly go online for news (82% do this in a

<sup>15</sup> In Pew Internet surveys, adults are generally asked two separate items about getting news online and going online for news or information about politics. <http://pewinternet.org/Reports/2010/Social-Media-and-Young-Adults/Part-4/3-Getting-news-online.aspx>

<sup>16</sup> "Understanding the Participatory News Consumer" (2010), <http://pewinternet.org/Reports/2010/Online-News.aspx>

typical day, compared to 61% of all adults), but are less likely than older generations to get their news from a local television station (78% of all adults do this, including 90% of adults age 74 and older).

### Where adults get their news on a typical day, by generation

*The percentage of each age group who get their news from the following platforms on a typical day*

	Millennials Ages 18-33	Gen X Ages 34-45	Younger Boomers Ages 46-55	Older Boomers Ages 56-64	Silent Generation Ages 65-73	G.I. Generation Age 74+	All adults Age 18+
Local TV news	66	78	84	86	86	90	78
National TV news	65	71	76	81	85	78	73
Online	82	75	56	51	39	14	61
Radio	50	61	57	59	51	38	54
Local paper	39	43	50	57	66	70	50
National paper	14	16	17	19	23	18	17

**Source:** Pew Research Center's Internet & American Life Project, December 28, 2009-January 19, 2010 Survey.  
N=2,259 adults 18 and older.

## About the Pew Research Center's Internet & American Life Project

The Pew Internet Project is an initiative of the Pew Research Center, a nonprofit "fact tank" that provides information on the issues, attitudes and trends shaping America and the world. The Pew Internet Project explores the impact of the internet on children, families, communities, the work place, schools, health care and civic/political life. The Project is nonpartisan and takes no position on policy issues. Support for the project is provided by The Pew Charitable Trusts.

- Frequently-updated information about trends in internet activities is available at <http://pewinternet.org/Trend-Data.aspx>
- A list of all Pew Internet research topics and reports is available at <http://pewinternet.org/Topics.aspx>

## Methodology

### Note on survey dates

The primary adult data in this report come from a Pew Internet Project survey conducted from April 29 to May 30, 2010. The most current teen data reported here is from a separate Pew Internet survey of teens and their parents conducted from June 26 to September 24, 2009. Data points for some activities, however, come from earlier surveys, as shown by the following table.

**Survey dates for online activities charts**

Activity	Online teens	Teen Survey Date	Online adults	Adult Survey Date
Go online	93%	Sep-09	79%	May-10
% of internet users who do the following activities:				
Send or read e-mail	73	Sep-09	94	May-10
Use a search engine	*	*	87	May-10
Get news	62~	Sep-09	75	May-10
Visit a government website	*	*	67	May-10
Buy a product	48	Sep-09	66	May-10
Make travel reservations	*	*	66	May-10
Watch a video	57	Nov-06	66	May-10
Use social networking sites	73	Sep-09	61	May-10
Bank online	*	*	58	May-10
Use online classifieds	*	*	53	May-10
Send instant messages	67	Sep-09	47	May-10
Get financial info	*	*	38	May-10
Look for religious/spiritual info	*	*	32	May-10
Rate a product, service or person	*	*	32	May-10
Participate in an auction	*	*	26	May-10
Make a charitable donation	*	*	22	May-10
Download podcasts	*	*	21	May-10
Work on own blog	14	Sep-09	14	Jan-10
Listen to music online	*	*	51	Sept-09
Visit a virtual world	8	Sep-09	4	Sept-09
Look for health info	31~	Sep-09	83	Dec-08
Read blogs	49	Nov-06	32	Dec-08
Play online games	78	Feb-08	35^	Aug-06

**Note:** ~ indicates significant differences in question wording between teen data and adult data.

## Differences in question wording

Surveys of teens ages 12-17 and adults age 18 and older are conducted in separate surveys, as outlined in the following sections. In general, activities listed for both teens and adults have only minor differences between the question wording between the different surveys. However, for the following questions, differences in question wording may make it more difficult to directly compare the results:

- **Getting news online:** For adults, this question was “Do you ever use the internet to get news online?” (January 2010). For teens, this question was “Do you ever go online to get news or information about current events or politics?” (September 2009).
- **Looking for health information:** For adults, this number indicates the percentage of internet users who said they had looked online for information about one of the health topics we asked about, ranging from information about a specific disease, a certain treatment, alternative medicine, health insurance, doctors, hospitals, and ways to stay healthy (December 2008). More information is available in our 2009 report, “The Social Life of Health Information.”<sup>17</sup> For teens, the question was, “Do you ever look online for health, dieting, or physical fitness information?” (September 2009).

For more information about all of the questions on both teen and adult surveys, as well as other details about wording and methodology, please see the individual topline for each survey. The relevant portions of these surveys may be downloaded at <http://pewinternet.org/Reports/2010/Generations-2010.aspx>.

## Teens data

The most current teens data in this study is based on the 2009 Parent-Teen Cell Phone Survey which obtained telephone interviews with a nationally representative sample of 800 teens age 12-to-17 years-old and their parents living in the continental United States and on 9 focus groups conducted in 4 U.S. cities in June and October 2009 with teens between the ages of 12 and 18. The survey was conducted by Princeton Survey Research Associates International. The interviews were done in English by Princeton Data Source, LLC from June 26 to September 24, 2009. Statistical results are weighted to correct known demographic discrepancies. For more information about the sample of 12-17-year-olds, please see the Methodology section of the “Teens and Mobile Phones” report (2010), available at <http://pewinternet.org/Reports/2010/Teens-and-Mobile-Phones.aspx>. The full data set is available at <http://pewinternet.org/Shared-Content/Data-Sets/2009/September-2009-Teens-and-Mobile.aspx>.

The Parent and Teen Survey on Gaming and Civic Engagement was conducted from November 1, 2007, to February 5, 2008. The margin of sampling error for results based on teen internet users is  $\pm 3\%$ . The full data set is available at <http://pewinternet.org/Shared-Content/Data-Sets/2008/February-2008--Teen-Gaming-and-Civic-Engagement.aspx>.

<sup>17</sup> See “The Social Life of Health Information” (2009), <http://pewinternet.org/Reports/2009/8-The-Social-Life-of-Health-Information/02-A-Shifting-Landscape/2-61-of-adults-in-the-US-gather-health-information-online.aspx>

The Parent & Teen Survey on Writing was conducted from September 19 to November 16, 2007. The margin of sampling error for results based on teen internet users is  $\pm 5\%$ . The full data set is available at <http://pewinternet.org/Shared-Content/Data-Sets/2007/November-2007--Teens-and-Writing.aspx>.

The Parents & Teens 2006 Survey was conducted from October 23 to November 19, 2006. The margin of sampling error for results based on teen internet users is  $\pm 4\%$ . The full data set is available at <http://pewinternet.org/Shared-Content/Data-Sets/2006/November-2006--Parents-and-Teens.aspx>.

The Parents & Teens 2004 was conducted from October 26 to November 28, 2004. The margin of sampling error for results based on teen internet users is  $\pm 4\%$ . The full data set is available at <http://pewinternet.org/Shared-Content/Data-Sets/2004/Teens--Parents-2004.aspx>.

### Adults data: May 2010

This report is based on the findings of a daily tracking 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 between April 29 and May 30, 2010, among a sample of 2,252 adults, age 18 and older. Interviews were conducted in English. For results based on the total sample, one can say with 95% confidence that the error attributable to sampling and other random effects is plus or minus 2.4 percentage points. For results based Internet users (n=1,756), 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.

The margin of error for each generational subgroup, however, can be considerably higher than that for the sample of all internet users. Below is a list of the average margins of error for each age group:

Generation name	MOE for % of internet users
Millennials (ages 18-33)	$\pm 5.4\%$
Gen X (ages 34-45)	$\pm 6.4\%$
Younger Boomers (ages 46-55)	$\pm 5.5\%$
Older Boomers (ages 56-64)	$\pm 5.8\%$
Silent Generation (ages 65-73)	$\pm 7.7\%$
G.I. Generation (age 74+)	$\pm 7.0\%$

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, half of the time interviewers first asked to speak with the youngest adult male currently at home. If no male was at home at the time of the call, interviewers asked to speak with the youngest adult female. For the other half of the contacts interviewers first asked to speak with the youngest adult female currently at home. If no female was available, interviewers asked to speak with the youngest adult male at home. 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.

Non-response in telephone interviews produces some known biases in survey-derived estimates because participation tends to vary for different subgroups of the population, and these subgroups are likely to vary also on questions of substantive interest. In order to compensate for these known biases, the sample data are weighted in analysis. The demographic weighting parameters are derived from a special analysis of the most recently available Census Bureau's March 2009 Annual Social and Economic Supplement. This analysis produces population parameters for the demographic characteristics of adults age 18 or older. These parameters are then compared with the sample characteristics to construct sample weights. The weights are derived using an iterative technique that simultaneously balances the distribution of all weighting parameters.

Following is the full disposition of all sampled telephone numbers:

Table 1: Sample Disposition		
Landline	Cell	
20,895	12,699	Total Numbers Dialed
1,160	251	Non-residential
982	18	Computer/Fax
12	—	Cell phone
8,886	4,906	Other not working
1,675	176	Additional projected not working
8,180	7,348	Working numbers
39.1%	57.9%	Working Rate
558	59	No Answer / Busy
870	2,054	Voice Mail
68	13	Other Non-Contact
6,684	5,222	Contacted numbers
81.7%	71.1%	Contact Rate

521	740	Callback
4,305	3016	Refusal
1,858	1,466	Cooperating numbers
27.8%	28.1%	Cooperation Rate
284	235	Language Barrier
---	460	Child's cell phone
1,574	771	Eligible numbers
84.7%	52.6%	Eligibility Rate
66	27	Break-off
1,508	744	Completes
95.8%	96.5%	Completion Rate
21.8%	19.3%	Response Rate

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 21.8 percent. The response rate for the cellular sample was 19.3 percent.

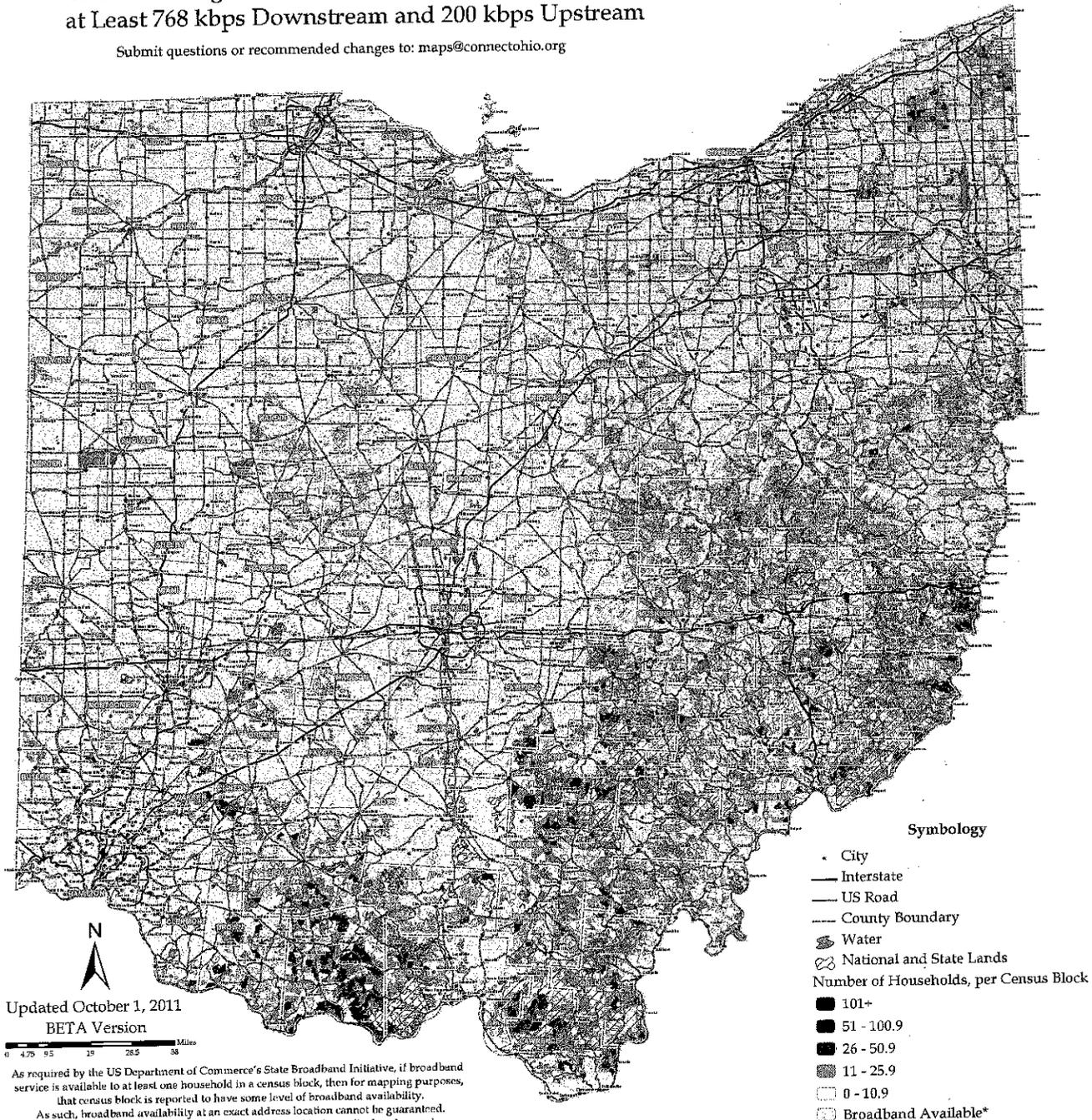
The full data set is available at <http://pewinternet.org/Shared-Content/Data-Sets/2010/May-2010--Cell-Phones.aspx>.

**APPENDIX C**

# Number of Households Unserved by a Broadband Provider by Census Block

Areas Lacking Broadband with Advertised Speeds of at Least 768 kbps Downstream and 200 kbps Upstream

Submit questions or recommended changes to: [maps@connectohio.org](mailto:maps@connectohio.org)



Updated October 1, 2011  
BETA Version

As required by the US Department of Commerce's State Broadband Initiative, if broadband service is available to at least one household in a census block, then for mapping purposes, that census block is reported to have some level of broadband availability. As such, broadband availability at an exact address location cannot be guaranteed. Providers supplying more specific data than census block are displayed as such.

This map represents areas of broadband service availability determined by ongoing, in-depth technical analysis of provider networks and accommodations for the impact of external factors on service quality. Satellite broadband services may also be available.

Map users are encouraged to participate in improving broadband data granularity through data validation and field testing efforts. Learn more about this and other broadband mapping facts at [www.connectohio.org](http://www.connectohio.org).

\*This does not include mobile wireless or satellite broadband services, which may be available.

Connect Ohio has worked with broadband providers throughout the State to identify the gaps in broadband service - the first step in a statewide effort to "fill the gaps" for 100% broadband availability.

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**APPENDIX D**



**National Broadband Map**  
How connected is my community?

**Analyze » Rank**

Rank » County » Within Ohio  
Metric» Speed Download Greater Than 3 Mbps Upload Greater Than 0.768 Mbps

[nbm.gov/mB6s](http://nbm.gov/mB6s)

Below are rankings for the requested broadband characteristics. The broadband data below is as of 12/31/10 and represents data collected by SBDD grantees.

Recommend this on Google

[Tweet](#)

Rank	Name	Speed Combo DL>3 UL>0.7
1	Cuyahoga, OH	100% ±0.0
2	Franklin, OH	100% ±0.0
3	Summit, OH	100% ±0.0
4	Lucas, OH	100% ±0.0
5	Stark, OH	100% ±0.0
6	Lorain, OH	100% ±0.0
7	Lake, OH	100% ±0.0
8	Medina, OH	100% ±0.0
9	Delaware, OH	100% ±0.0
10	Portage, OH	100% ±0.0
11	Clark, OH	100% ±0.0
12	Wood, OH	100% ±0.0
13	Allen, OH	100% ±0.0
14	Miami, OH	100% ±0.0
15	Hancock, OH	100% ±0.0
16	Auglaize, OH	100% ±0.0
17	Madison, OH	100% ±0.0
18	Champaign, OH	100% ±0.0
19	Putnam, OH	100% ±0.0
20	Henry, OH	100% ±0.0
21	Paulding, OH	100% ±0.0
22	Hamilton, OH	100% ±0.0
23	Montgomery, OH	100% ±0.0
24	Mahoning, OH	100% ±0.0
25	Warren, OH	100% ±0.0
26	Fulton, OH	100% ±0.0
27	Greene, OH	100% ±0.0
28	Huron, OH	100% ±0.0
29	Geauga, OH	100% ±0.0
30	Van Wert, OH	100% ±0.0
31	Butler, OH	99.9% ±0.0
32	Erie, OH	99.9% ±0.0
33	Sandusky, OH	99.9% ±0.0

Rank	Name	Speed Combo DL>3 UL>0.7 ▼
34	Defiance, OH	98.9% ±0.0
35	Ashtabula, OH	99.9% ±0.0
36	Trumbull, OH	99.9% ±0.0
37	Ottawa, OH	99.9% ±0.0
38	Mercer, OH	99.9% ±0.0
39	Shelby, OH	99.9% ±0.0
40	Clemont, OH	99.8% ±0.0
41	Hardin, OH	99.8% ±0.0
42	Union, OH	99.7% ±0.0
43	Fayette, OH	99.7% ±0.0
44	Licking, OH	99.7% ±0.0
45	Seneca, OH	99.7% ±0.0
46	Crawford, OH	99.7% ±0.0
47	Marion, OH	99.7% ±0.0
48	Logan, OH	99.7% ±0.0
49	Williams, OH	99.6% ±0.0
50	Morrow, OH	99.6% ±0.0
51	Preble, OH	99.5% ±0.0
52	Clinton, OH	99.5% ±0.0
53	Pickaway, OH	99.5% ±0.0
54	Richland, OH	99.4% ±0.0
55	Wayne, OH	99.4% ±0.0
56	Ashland, OH	99.3% ±0.0
57	Fairfield, OH	99.3% ±0.0
58	Ross, OH	99.0% ±0.0
59	Columbiana, OH	98.8% ±0.0
60	Darke, OH	98.8% ±0.0
61	Wyandot, OH	98.8% ±0.0
62	Athens, OH	98.1% ±0.0
63	Brown, OH	97.9% ±0.0
64	Knox, OH	97.6% ±0.0
65	Highland, OH	96.9% ±0.0
66	Tuscarawas, OH	96.9% ±0.0
67	Jefferson, OH	96.3% ±0.0
68	Belmont, OH	95.8% ±0.0
69	Holmes, OH	95.7% ±0.0
70	Muskingum, OH	95.4% ±0.0
71	Guernsey, OH	95.2% ±0.0
72	Jackson, OH	94.8% ±0.0
73	Carroll, OH	94.6% ±0.0
74	Scioto, OH	94.3% ±0.0
75	Pike, OH	93.9% ±0.1
76	Lawrence, OH	93.2% ±0.0

Rank	Name	Speed
		Combo
		DL>3 UL>0.7 ▾
77	Washington, OH	92.7% ±0.0
78	Harrison, OH	92.1% ±0.1
79	Coshocton, OH	91.0% ±0.1
80	Meigs, OH	90.1% ±0.1
81	Perry, OH	89.2% ±0.1
82	Noble, OH	85.7% ±0.1
83	Adams, OH	85.5% ±0.1
84	Gallia, OH	85.2% ±0.1
85	Vinton, OH	82.4% ±0.1
86	Hocking, OH	76.9% ±0.1
87	Morgan, OH	75.9% ±0.1
88	Monroe, OH	72.2% ±0.1



The National Broadband Map is a tool to search, analyze and map broadband availability across the United States.  
Created and maintained by the NTIA, in collaboration with the FCC, and in partnership with 50 states, five territories and the District of Columbia.

