Pew Internet & American Life PROJECT

Rural Areas and the Internet

Rural Americans' Internet use has grown, but they continue to lag behind others

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Summary of Findings

Internet penetration has grown in rural communities, but the gap between them and suburban and urban communities has remained constant over time.

Historically, Internet penetration rates have been lower in rural areas than in other kinds of communities. When the Pew Internet & American Life Project first began surveying the Internet landscape in early 2000, 41% of rural residents were online, while 51% of urban residents and 55% of suburban residents were online. Rural Internet penetration climbed to 52% by the middle of 2003. However, urban and suburban penetration rates have risen as well. Rural Internet penetration has remained roughly 10 percentage points behind the national average in each of the last four years.

The Project found in survey data collected between March and August 2003, suburban and urban residents remain more likely to use the Internet:

- 67% of urban residents use the Internet.
- 66% of suburban residents use the Internet.
- 52% of rural residents use the Internet.

Community type: Respondents are categorized as "rural" if they reside in a non-metropolitan statistical area (MSA) county. Respondents are categorized as “suburban” if they reside in any portion of an MSA county that is not in a central city. Respondents are categorized as “urban” if they reside within a central city of an MSA.

Statistical analysis that examines the principal drivers for Internet penetration suggests that some differences in Internet adoption between rural areas and other locales are driven by patterns among low-income rural individuals. Living in a rural area in itself has little or no influence as to whether one goes online. However, low-income people in rural areas are less likely to be online than low-income people living in urban or suburban areas. Middle and upper income people in both rural and other areas are equally likely to be Internet users. At the same time, some of the gap between rural areas and the rest of

The main analysis here has been built around data gathered in surveys between March and August 2003. Other data cited here were gathered from surveys done in November-December 2003, December 2002, November 2002, October 2002, March-May 2002, August-September 2001, March 2001, February 2001, and from combined data sets of surveys administered throughout 2000.

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the country can be explained by other demographic realities such as the fact that rural residents as a group are older, less wealthy, and have lower levels of educational attainment than those in urban and suburban areas.

Rural Americans are older and less wealthy than those in other parts of America and that may account for some of the difference in Internet penetration between community types.

Senior citizens (those 65 and older) account for a relatively larger percentage of the rural population (22%) compared to the urban (14%) and suburban populations (16%). In rural areas, seniors are unlikely to go online. Only about 17% of rural seniors go online, making up about 6% of rural Internet users. Meanwhile, rural areas hold comparatively fewer young adults, the most likely age group to go online. The age of the rural population may be one major reason why penetration rates are lower in rural communities.

It is also true that Internet use increases with household income. Some 47% of rural residents have household incomes of $30,000 or less, compared to 29% of suburban residents and 39% of urban residents. This is another possible reason why the number of Internet users among rural residents lags the situation in the suburbs and cities.

Another factor in lower Internet penetration may be that many rural residents say they have less choice than others about the way they access the Internet.

About 29% of rural Internet users say the Internet Service Provider they use is the only one available to them. In contrast, 7% of urban users reported a single ISP, and about 9% of suburban users were serviced by a lone ISP.

Rural communities hold larger portions of relative Internet newcomers than do urban and suburban communities. Yet rural Americans are often enthusiastic adopters.

About 20% of rural Internet users — more than 4 million people — have been online less than three years. In comparison, 16% of urban users have less than three years online, and 12% of suburban users have less than three years online. Unlike other newcomers to the Internet, many rural residents are enthusiastic users of the Internet at an early stage in their adoption of the technology: 45% of rural newcomers go online daily, whereas 40% of urban newcomers and 46% of suburban newcomers go online daily.

Broadband adoption is growing in urban, suburban, and rural areas, but broadband users make up larger percentages of urban and suburban users than rural users.

From 2000 through 2003, the use of cable modems, DSL connections, and other broadband connections grew quickly in each community type, but rural areas hold significantly smaller proportion of broadband users. In a survey in the spring of 2003, we found that 31% of those who use the Internet from home had a broadband connection. Here is the big picture about broadband adoption in different community types from 2000 to mid-2003:

- In urban communities, the number of home broadband users grew from 8% to 36% of the online population.
- In suburban communities, the number of home broadband users grew from 7% to 32% of the online population.
- In rural communities, the number of home broadband users grew from 3% to 19% of the online population.

Additionally, in October 2002, about 25% of rural Internet users said they did not think that a high-speed connection to their home was available. Only 5% of urban users and 10% of suburban Internet users said broadband is unavailable.

A portion of rural Internet users depend on Internet connections at places other than work or home. They are more likely than suburban or urban users to say they depend on another place for going online.

Some 22% of Internet users say they go online from at least one other place besides work or home. In some cases, though not most, the people who go online in a third place depend on that connection as their exclusive point of access. Some 8% of rural users say they only log on to the Internet from some place other than work or home, such as a library, a school, or a friend's house. Just 3% of suburban users do and 5% of urban users depend on some place other than work or home for their Internet connection.

Rural African-Americans are significantly less likely than rural whites to go online, possibly because of differences in income and education.

There is a large gap between rural African-Americans and rural whites. While 54% of rural whites go online, 31% of rural African-Americans do so. This disparity can probably be traced to income and education. Over 70% of rural African-Americans live in households with incomes under $30,000 a year, compared to 44% of rural whites.

Rural users pursue many of the same online activities as urban and suburban users, but they are more likely to look for religious or spiritual information and less likely to engage in transactions.

While the differences are not gaping, rural users are less likely than urban and suburban users to have bought a product online, made a travel reservation, or done their banking online. Even rural users who have been online a few years or more are still less likely to

have ever performed transactions over the Web than their urban and suburban counterparts.

Compared to their urban and suburban counterparts, rural users:

- Are less likely to bank online — 28% bank online, while 35% of urban users and 35% of suburban users bank online.
- Are less likely to have bought a product online — 57% have done so, while 63% of suburban users and 61% of urban users have bought a product online.
- Are less likely to have made a travel reservation online — 49% have done so, while 58% of suburban users and 60% of urban users have made a travel reservation online.

Meanwhile, rural users are more likely than their counterparts to search for religious or spiritual information. Some 35% of online rural Americans have sought religious and spiritual information online, compared to 27% of those who live outside rural areas. Among rural users, gathering religious or spiritual information is more popular than banking online (28%), looking for a place to live (26%), and downloading music (26% in June 2003; 13% in November-December 2003). Rural users with three years or more online are more likely than others to seek health information online. Almost three-quarters of experienced rural users have done so, while 68% of similarly experienced suburban users and 64% of similarly experienced urban users have sought health information online.

Rural Internet newcomers are wary of technology, but those with experience embrace it.

Rural newcomers are more likely to hold mixed feelings about computers and technology than are urban and suburban newcomers. Fully half of rural residents say that they hold "mixed feelings" toward computers and technology, whereas 32% of urban users say this and 27% of suburban users say this. But rural users with some experience with the technologies are more likely than others to say they like them.

Rural Communities and the Internet: Summary of Findings at a Glance
Internet penetration has grown in rural communities, but the gap between them and suburban and urban communities has remained constant over time.
Rural Americans are older and less wealthy than those in other parts of America and that may account for some of the difference in Internet penetration between community types.
Another factor in lower Internet penetration may be that many rural residents say they have less choice than others about the way they access the Internet.
Rural communities hold larger portions of relative Internet newcomers than do urban and suburban communities. Yet rural Americans are often enthusiastic adopters.
Broadband adoption is growing in urban, suburban, and rural areas, but broadband users make up larger percentages of urban and suburban users than rural users.
A portion of rural Internet users depend on Internet connections at places other than work or home. They are more likely than suburban or urban users to say they depend on another place for going online.
Rural African-Americans are significantly less likely than rural whites to go online, possibly because of differences in income and education.
Rural users pursue many of the same online activities as urban and suburban users, but they are more likely to look for religious or spiritual information and less likely to engage in transactions.
Rural Internet newcomers are wary of technology, but those with experience embrace it.
Source: Bell, Peter, Pavani Reddy and Lee Rainie. "Rural Areas and the Internet." Washington, DC: Pew Internet & American Life Project, February 2004.

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Part 1.

Rural Internet Access: Deployment and Availability

Policy makers have long hoped that the Internet could bring especially powerful benefits to rural areas, many of which have suffered economic problems as residents migrate to cities and suburbs. Many officials in small towns and rural regions hoped that technology that allowed people to communicate easily and cheaply with any modem owner in the world and to access all kinds of information, products and services on the Web would allow people to remain in rural settings while reaping some new social and economic rewards. Rural leaders and technology enthusiasts have dreamed that the Internet's capacity to render physical location less meaningful would in some ways make rural life more desirable.

This report aims to provide a portrait of rural America's Internet users, the activities they pursue online and their attitudes about the Internet compared to online Americans in urban and suburban communities.

Rural residents are less likely to be Internet users than those who live in suburbs or cities.

There are approximately 46 million adults living in rural communities, or 23% of the U.S. adult population, according to surveys in 2003 of the Pew Internet & American Life Project.[1] In surveys taken between March and August last year, the Project found that 52% of rural adults use the Internet. That amounts to about 23 million people.

This marks notable growth in Internet use in rural regions, but the technology has not made the same headway into rural communities as it has in urban and suburban communities. Internet penetration rates in rural communities have increased about ten percentage points between 2000 and 2003. But while Internet penetration rates have increased in each community type, the gaps between these rates have remained relatively constant over time.

[1] According to the 2000 U.S. census, about 59 million Americans, including those under 18 years of age, live in rural areas (21% of the population). Available at: http://www.ers.usda.gov/Briefing/Rurality/WhatisRural/. (Accessed 12/27/03). Other estimates put the rural population at 65 million.

Internet penetration The percentage of people in each type of community who use the Internet				
Community type	2000	2001	2002	2003
Rural	41%	50%	49%	52%
Suburban	55	62	63	66
Urban	51	62	58	67
Nationally	50	59	58	63

Source: Pew Internet & American Life Project Surveys. ***2003****: March-August 2003. N=4933. Margin of error is ±1.5%* ***2002:*** *March-May 2002, N=7344 Margin of error is ±1.5%.* ***2001:*** *August-September 2001, N= 4482. Margin of error is ±2%.* ***2000:*** *N=43225 Margin of error is ±.5%.*

Community types as percentages of online population The proportion of the entire U.S. Internet population comprised by members of various types of communities*				
Community type	2000	2001	2002	2003
Rural	19%	20%	21	20%
Suburban	51	53	52	52
Urban	29	27	26	29

*Numbers sometimes do not add up to 100 because of rounding.

Source: Pew Internet & American Life Project Surveys. ***2003****: March-August 2003 N=3112, Margin of error is ±2%.* ***2002****: March-May 2002 N= 4263, Margin of error is ±2%.* ***2001****: Aug-Sept 2001, N= 4482 Margin of error is ±2%.* ***2000:*** *N= 21789, Margin of error is ±1%.*

Rural Internet users are less likely than others to go online daily.

Just over half of rural Internet users go online at least once a day. By comparison, 64% of urban users and 64% of suburban users do so. Rural Internet users with three or more years experience are also less likely to go online than similarly experienced users in urban and suburban communities. About 59% of experienced rural users go online once or more daily, while 67% of experienced urban users do so and 66% of experienced suburban users do so. However, there is little difference between rural, urban, and suburban newcomers who go online daily. About 40% of urban newcomers go online daily, and 47% of suburban newcomers go online, while 44% of rural newcomers go online daily.

Remoteness and lower population density can be impediments to Internet deployment in rural areas.

One of the difficulties facing rural Internet deployment is geography. Sometimes terrain makes infrastructure building difficult, though a more common obstacle is cost. In 2000, the National Exchange Carriers Association estimated that the cost of upgrading the 3.3 million rural telephone lines that would not already be broadband capable by 2002 would cost $10.9 billion. Now, technologies such as DSL extenders and wireless connections suggest a lower price tag.[2] Historically, networks of rail, road and telephone lines were first deployed in metropolitan areas. For commercial network services, metropolitan areas are more attractive places to build infrastructure because the large number of paying users on the network can overcome the initial costs of building it. Given these high costs and small returns, there is an economic disincentive for constructing networks in less populated areas. Not surprisingly then, rural communities' Internet service providers are somewhat different than those of suburban communities and urban communities.

In rural communities, Internet service is provided by a number of different entities.

Internet service providers in rural areas are a diverse group. They include national and local telephone companies, national and local cable operators, telephone cooperatives, and municipal utilities. In October 2002, when asked to name their ISP, a large percentage of rural users (46%) named what appear to be small local providers. These responses were coded as "other," which means their ISP does not appear in the list of ISPs appearing in Appendix A.[3] In contrast to the 46% of rural users reporting "other", 22% of suburban users' ISPs fall into the category "other," and 17% of urban users' ISPs are not among those listed. With the exception of AOL and MSN, which combined account for about 20% of rural subscriptions, other large service providers such as Comcast, and Roadrunner each account for less than 3% of rural subscribers. In all, the providers listed in Appendix A account for about 40% of rural ISPs. In contrast, the providers listed provide service to 68% of urban communities and 69% of suburban communities. It is likely that for rural respondents, many of the ISPs contained in the "other" category are small cable and telephone companies, municipal operations, or cooperatives.

About 15% of users in urban communities and about 15% of users in rural communities did not know who their service provider was. In suburban areas, about 8% of users did not know.

[2] Glass, Victor, Salvatore Talluto, and Chris Babb. "Technological breakthroughs lower the cost of broadband service to isolated customers." *Government Information Quarterly* 20 (2003): 121-133.

[3] Respondents were asked to name their service provider. The list of coded responses was generated afterwards from respondents' answers.

Rural users say they sometimes have no choice when it comes to picking an ISP, but many rural users don't think ISPs are much different from each other anyway.

While different rural communities are served by different kinds of ISPs, within a rural community the option to choose between two or more providers is less common than in urban and suburban communities. According to data collected in October 2002, promotional offers guide urban and suburban users' ISP choice, whereas rural users are guided by availability of a connection and then by how much it will cost.

Outside of rural communities, promotional offers are the top reason users chose their ISP. This is especially true in urban communities, where 25% of users say they chose their ISP because of a promotional offer or deal. The top reason rural users say they "chose" the provider they did is because it is the only one available to them. About 29% of rural users say the ISP to which they subscribe is the only one available to them. In contrast, 7% of urban users reported a single ISP, and about 9% of suburban users say there is but one ISP available to them. Rural dial-up users are slightly more likely than rural users as a whole to be served by a single provider. About 31% of rural dial-up users say their ISP is the only one available.

What made you choose your ISP?

Urban and suburban subscribers are lured by promotional deals and prices*

Rural	
Local company / only one available	29%
Lower cost	16
Better service or connection	13
Got a good deal or promotional price; other	12
Suburban	
Got a good deal or promotional price	17
Other	16
Better service or connection	16
Lower cost	15
Urban	
Got a good deal or promotional price	25
Other	19
Better service or connection	14
Lower cost	11

*Figures do not total 100 because only the top 4 reasons are represented.

Source: Pew Internet & American Life Project Survey, October 2002. N=1271, Margin of error is ±3%.

Rural communities can be more expensive to serve than more densely populated ones. These expenses have led some to contend that competition may be unsustainable in rural

areas because of a smaller customer base.[4] The data presented here relates to rural areas in general, not specific rural portions of the country. Because a rural community in, say, the Great Plains may differ substantially from a rural community outside of Atlanta, Georgia, decision-makers involved in the topic of ISP competition in rural areas may want to further pursue local differences between communities. While ISP competition is more prevalent in areas of higher population density, many rural users don't see much difference between ISPs. Rural users are more likely than urban and suburban residents to feel that ISPs are all "pretty much the same." Some 64% of rural residents say so, whereas about 50% of urban users and 52% of suburban residents say so.

Rural residents report a lower instance of high-speed availability to their homes than do urban and suburban residents.

Another way to observe deployment in rural communities is to examine high-speed, or broadband availability in each community type. In October 2002, the Pew Internet Project asked, *Do you currently live in an area where you can subscribe to high-speed Internet service if you want to?* Responses to this question do not measure actual physical facilities in each community type, but they indicate how many residents are aware of whether they have the option of broadband access. The table below shows that compared to their urban and suburban counterparts, a larger portion of each rural subgroup says a high-speed connection is unavailable to them.

[4] For instance, OPASTCO, a trade group representing about 500 small local incumbent exchange carriers serving mostly rural customers, argues competition would parallel the so-called "fiber glut" that emerged in after massive investment in telecommunications. See pp. 23 "Universal Service in Rural America: A Congressional Mandate at Risk" Washington, D.C.: OPASTCO, January 2003. Available at : http://www.opastco.org/docs/USFWhitePaper.pdf.

Reported broadband availability

Rural residents report less broadband availability, and are also more likely to say they don't know if a high-speed connection is available

Community type		yes	no	don't know
Rural	Internet users	65%	25%	10%
	3 years experience	66	25	9
	General population	54	22	23
Suburban	Internet users	81	10	8
	3 years experience	83	10	7
	General population	75	10	15
Urban	Internet users	91	5	4
	3 years experience	91	5	4
	General population	80	5	15
Nationally	Internet users	81	11	8
	3 years experience	83	11	6
	General population	72	12	17

Source: Pew Internet & American Life Project Survey, October 2002. For the general population. N=2706, margin of error is ± 2.5%. For Internet users, N= 1598, margin of error is ± 3%. For users with three or more years experience, N=1287, margin of error is ± 3%.

Rural residents are more likely than their urban and suburban counterparts to say that they don't know if high-speed connection is available.

A number of respondents in each community type did not know whether or not high-speed access was available to their homes. Women are more likely than men to say that they do not know if a high-speed connection is available. Almost a quarter of the general rural population does not know if broadband has been deployed to their area. That compares to 15% of both the urban and suburban populations who say they do not know if broadband is available. The percentage of "don't knows" drops noticeably when only Internet users, rather than the community populations in general, are asked about availability. For instance, about 10% of rural Internet users aren't sure if a home high-speed connection is available, but nearly 25% of the rural population in general isn't sure if a home high-speed connection is available. This difference might indicate that rural Internet users may be more "in the know" about broadband availability in their area than the rural population at large. On the other hand, this difference might indicate that rural users – especially those who have been online three years or more – live in areas where broadband is more likely to have been deployed. Regardless, even rural users who have been online three years or more are more likely than their suburban and urban counterparts to not know about broadband availability.

Dial-up is in decline, but a large percentage of rural users continue to use dial-up connections.

In 2000, the vast majority of Internet users in each community -- upwards of 90% -- used a dial-up connection to get online. In the following years, as broadband has become more common, the percentage of dial-up users has shrunk. Between 2000 and 2003, dial-up users shrank by 24% in suburban communities, and by 27% in urban communities. Rural areas also saw their dial-up contingent shrink, but more modestly, by 16%. The majority of rural users -- 80%, or about 18 million people -- use a dial-up connection, the country road of the Web.

Connection types in rural, suburban and urban communities

Home broadband is growing, but most continue to use dial-up*

Community type		Dial-up *standard telephone line*	Broadband *DSL enabled phone line, cable modem, wireless, T-1/ fiber optic*	Other
Rural	*2003*	80 %	19%	1%
	2002	89	11	-
	2001	94	6	-
	2000	96	3	1
Suburban	*2003*	67	32	1
	2002	73	26	1
	2001	82	17	1
	2000	91	7	2
Urban	*2003*	63	36	2
	2002	77	22	1
	2001	83	17	-
	2000	90	8	1
National	*2003*	68	31	1
	2002	78	22	1
	2001	85	15	-
	2000	92	7	1

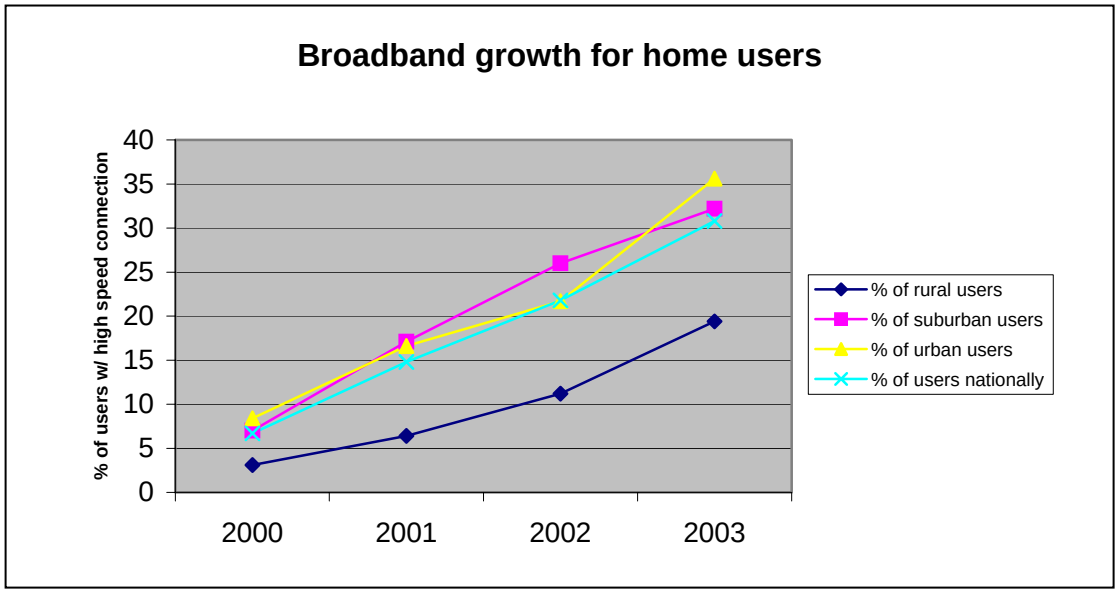
*Numbers sometimes do not add up to 100 because of rounding.

Source: Pew Internet & American Life Project Surveys. ***2003:*** *March-Aug 2003, N=10954 Margin of error is ±1.5%.* ***2002:*** *March-May 2002, N= 3628, Margin of error is ±2%.* ***2001:*** *August-Sept 2001, N= 2095 Margin of error is ±2.5%.* ***2000:*** *N=5312 Margin of error is ±1.5%.*

Over the past three years, broadband adoption has grown quickly in each community type, but rural Internet users are less likely than urban and suburban users to have a high-speed connection.

Over the past three years, broadband adoption has grown, especially in urban communities.[5] In urban communities, about 8% of home Internet users had a broadband connection to their residence in 2000. That percentage has grown to 36% in 2003. Suburban broadband adoption has been slightly more modest, from 7% of home users in 2000 to 32% in 2003. The overall percentage of rural users with broadband is much lower. In 2000, about 3% of home users in rural areas had a broadband connection. Now, in 2003, about 19% have a high-speed connection. This 19% represents over 4 million people, or about 14% of the 31 million broadband users nationally. Still, rural broadband shows remarkable growth, with the percentage of rural users with a broadband connection nearly doubling each year.

One should keep in mind, however, that it is unclear where these rural broadband users are. "Rural" as defined above encompasses varied communities. Rural communities vary in terms of their remoteness, their economies, and whether or not they are growing or shrinking in population, among other factors. Some rural communities may lie outside an urban center making broadband deployment to those areas more cost-efficient than in more remote communities. In addition, rural communities closer to urban areas may also have greater demand for broadband services.



[5] See Horrigan, John. "Broadband Adoption at Home: A Pew Internet Project Data Memo" Washington, D.C.: Pew Internet & American Life Project, May 2003. Available at: http://www.pewinternet.org/reports/toc.asp?Report=90

Satellite and wireless connections hold the promise to serve more remote areas, and in 2003 the Department of Agriculture and the Federal Communications Commission launched a joint initiative to stimulate wireless broadband adoption in rural communities. However, the number of wireless users is presently too small to assess the growth of wireless connections.

Rural dial-up users are equally as likely as urban and suburban dial-up users to want a broadband connection.

In terms of demand for high-speed connections, rural users are no different than urban and suburban users. Like their urban and suburban counterparts, about 38% of rural users say they would like to have a high-speed connection, while about 62% say they would not. In 2003, the National Telecommunications Cooperative Association, a group representing 560 (mostly rural) telephone cooperatives and small telephone companies, surveyed its members about broadband availability.[6] The NTCA found that virtually all (97%) of the 200+ companies and cooperatives responding offered broadband service to some part of their service area. This "some part" was, on average, to about 70% of a provider's customers. However, only 7% of residential customers subscribed to the service, and 9% of business customers did. This low adoption rate may be because voice customers are getting high-speed Internet services from a cable or wireless competitor. However, the NTCA did find that the broadband offerings of 44% of the companies responding to the survey faced no competition. These findings, like those of the Pew Internet Project, suggest that demand for broadband connections is not uniformly outstripping availability of broadband connections in all rural communities.

The cost of deployment remains a barrier to rural residents' access, and according to Pew Internet Project numbers, access remains an issue. Nevertheless, according to the NTCA, many local telephone companies and cooperatives are already offering broadband connections. In sum, there is at times a lack of demand for high-speed services in rural areas, even when connections are available.

Rural users are more likely than urban and suburban users to go online from a third location – some place other than home or work.

According to data collected by the Pew Internet Project in October 2002, 22% of Internet users say they go online from a place that is neither home nor work. Many of them, of course, go online from home and from work in addition to going online from another locale like libraries, hotels, cybercafés, or friends' homes. However, a relatively high proportion of rural Internet users depend on gaining access to the Internet from those other

[6] National Telecommunications Cooperative Association. "NTCA 2003 Internet/Broadband Availability Survey Report." May 2003. Available at: http://www.ntca.org/content_documents/2003broadband.pdf.

places because they do not have access at home or work. Data collected from March through August of 2003 reveals that some 8% of rural users -- nearly 2 million people -- go online exclusively from a place other than home or work -- for instance from libraries, friends' homes, or schools. This figure is more than double that of suburban communities, where about 3% of adult users go online only from a location or from locations other than home or work.

Who uses these third locations and why? Those who rely on third locations seem to be young adults who lack the resources to get online at home or work. Compared to home users and work users, third location users also tend to have relatively little online experience. They are very unlikely to go online daily, and 41% of those who depend on third locations for their access have less than three years of experience online. In comparison, 17% of home-only users have fewer than three years of experience, and 18% of work-only users do. Third locations therefore appear to be places to get online at little or no cost, as well as places for newcomers to learn and become familiar with the Internet.

Part 2.

Rural Internet Demographics: Who's Online?

The type of community in which a person lives is not a very significant predictor for Internet use. Age, income and educational attainment are stronger.

Rural communities differ significantly from urban and suburban areas in terms of demographics such as age, income and educational attainment. These variables, among others, are strong predictors for Internet use. Statistical analysis that examines the principal drivers for differences in Internet penetration by geographical type suggests that some of the differences are driven by Internet adoption patterns among low-income rural individuals. Living in a rural area in itself has little or no influence as to whether one goes online. However, low-income people in rural areas are less likely to be online than low-income people living in urban or suburban areas; Internet adoption among middle and upper income people is similar across community type.[7] In each community type, Internet users are evenly split in terms of sex.

Rural residents are older than suburban and urban residents, and this probably affects Internet penetration rates.

Regardless of community type, younger Americans are more likely than their elders to go online. In all community types, seniors are the least likely to go online. While seniors account for about 17% of the total population, they account for less than 6% of all Internet users.

The rural population is older than that of the suburbs and the cities. Rural populations are composed of a higher percentage of residents 65+ (22%) than are suburban (16%) or urban (14%) populations. In rural communities, seniors account for 22% of the population and about 6% of rural Internet users. Furthermore, rural seniors are less likely to go online than seniors in urban and suburban communities. About 17% of rural seniors go online. By comparison, 21% of urban seniors and 25% of suburban seniors do so.

[7] Regression analysis shows that, in some (but not all) model specifications, living in a rural area is a modestly negative and significant predictor of Internet adoption at the 10% level of significance. The interaction of income and being a rural resident is, however, significant; this means that the significance on Net adoption of living in a rural area varies by income level. This is the basis for the finding that low-income residents of rural areas are less likely to be online than low-income residents of urban or suburban locations.

Part 2. Rural Internet Demographics: Who's Online?

Young adults are more likely to go online than middle-aged adults and seniors, but there are fewer young adults in rural areas.

In each community type, 18-29 year olds are the most likely to be online. Three quarters of rural 18-29 year olds go online. Only urban adults 30-49 and 18-29 year olds in suburban and urban areas go online more often. But while a large percentage of rural young adults go online -- nearly equal to their peers in the cities and the suburbs -- young adults are the smallest age group in rural communities. Young adults account for about 18% of the rural population. By comparison, young adults account for 26% and 20% of the urban and suburban populations, respectively.

Community populations, online populations, and Internet penetration by age

Rural users of all ages are less likely to go online; young adults are the most likely to go online but account for the smallest portion of the rural population

Community type		18-29	30-49	50-64	65+	Total
Rural	Share of general population	18%	36%	24%	22%	100%
	Share of online population	25	44	25	6	100
	Internet penetration	75	62	49	17	52
Suburban	Share of general population	20	42	22	16	100
	Share of online population	26	46	21	7	100
	Internet penetration	86	74	63	25	66
Urban	Share of general population	26	38	22	14	100
	Share of online population	30	48	17	5	100
	Internet penetration	82	77	62	21	67

Source: Pew Internet & American Life Project Surveys, March-August 2003. General population: N = 20437, Margin of error is ±1%. Online population: N=3061, Margin of error is ±2%. Internet penetration: N=4848, Margin of error is ±2%.

Educational attainment is associated with Internet use in rural communities as elsewhere.

In each community type, the likelihood of a person going online surges with each level of educational attainment. Significant increases in Internet penetration accompany increasing levels of educational attainment until leveling off after completion of a four-year degree.

Part 2. Rural Internet Demographics: Who's Online?

Once exposed to some college education, the likelihood of a rural resident going online is more or less equal to the likelihood of a similarly educated suburban resident.

Residents with advanced degrees make up a smaller portion of the rural population than the urban or suburban population.

A substantial percentage of rural residents have taken some college courses (20%), slightly fewer than suburban (25%) and urban residents (24%). Rural areas hold the highest percentage of residents who completed their formal education when graduating high school. College graduates, who are very likely to be Internet users, make up a smaller percentage of the rural population than they do the suburban and urban populations. About 10% of the rural population holds a four-year degree, while about 20% of the urban population and 18% of the suburban population are college graduates. Rural communities also contain larger percentages of residents with less than a high school education than do suburban and urban communities. These educational levels are correlated with low Internet penetration rates. A table displaying these figures can be found in Appendix B.

Nearly half of the rural households earn under $30,000, which is a significant threshold for Internet use.

In rural areas as elsewhere, the likelihood of going online rises as income rises. Lower levels of income than urban and suburban populations characterize the rural population as a whole. The percentage of the population living in households earning under $30,000 a year is larger in rural areas -- 47% -- than in suburban areas (29%) and urban areas (39%). This is significant because the $30,000 mark is a significant threshold for going online in all community types. While about 40% of rural residents living in households earning $20,000-$30,000 go online, 66% of rural residents who live in households earning $30,000-$40,000 go online. Similar increases occur in urban and suburban penetration at that $30,000 breakpoint. And, when income reaches the $30,000-$40,000 range, penetration rates in each community type exceed the national rate. A table displaying these figures can be found in Appendix B.

Rural residents who live in households earning under $10,000 a year are less likely than urban and suburban users with similar incomes to go online.

A difference appears when comparing Internet penetration rates in the lowest income bracket across community type. In urban and suburban areas, about a third of those adults living in households earning less than $10,000 go online. By comparison, in rural areas 19% do so. With income held constant, this gap of 17 percentage points can be explained in large part by age.

Part 2. Rural Internet Demographics: Who's Online?

In rural communities, the majority of those in the lowest-income bracket are older Americans. In rural areas, 60% of those who live in households earning under $10,000 a year are 50 or older; more than half of them are over 65 years of age. In suburban and urban communities, the majority of those in the lowest income bracket are not older Americans but young adults. Over a third of those who live in households earning under $10,000 in suburban and urban communities are 18-29. Another third are 30-49. Because younger Americans are more likely to go online, those low-income brackets in suburban and urban communities with large proportions of young adults can be expected to have higher Internet penetration rates. The under-$10,000 rural bracket -- composed mainly of older Americans who are already less likely to go online -- can be expected to have a lower Internet penetration rate. This finding tells us that in rural areas, low income and age combine as deterrents to going online.

Less than $10K household income bracket by age

The lowest-income bracket is older in rural communities*

Community type	Internet penetration	Less than $10K			
		18-29	*30-49*	*50-64*	*65+*
Rural	19%	18%	23%	24%	36%
Suburban	36%	36%	30%	14%	21%
Urban	38%	38%	36%	11%	16%

*Numbers sometimes do not add up to 100 because of rounding.

Source: Pew Internet & American Life Project Surveys, March-August 2003. N= 1381. Margin of error is ±3%.

African-Americans who live in rural areas are much less likely to use the Internet than their urban and suburban counterparts and much less likely to be online than rural whites.

There are differences in Internet use within racial groupings across community types. Rural whites and rural African-Americans are less likely than their urban and suburban counterparts to go online. About 54% of rural whites go online, whereas 31% of rural African-Americans go online. A smaller penetration gap of about 14 percentage points exists between urban whites and urban African Americans, but the disparity is most pronounced in rural areas. This can be explained in terms of the differences of income and educational attainment between rural whites and rural African-Americans. In terms of education, these differences are most pronounced in the primary and secondary education levels. In terms of income, 72% of rural African-Americans' family incomes are less than $30,000, whereas 44% of rural whites' family incomes are less than $30,000. A table displaying these figures can be found in Appendix B.

Part 2. Rural Internet Demographics: Who's Online?

Rural communities hold a larger percentage of Internet newcomers than urban and suburban communities.

Nationally, Internet users are a relatively experienced lot. Most (85%) have been going online for three years or more, and about 15% have been online less than three years. In 2000, the online population was significantly less experienced. Presently, the rural online population is still less experienced than its suburban and urban counterparts. About 20% of rural users -- more than 4 million people -- have been online less than three years. In comparison, 16% of urban users have less than three years online, and 12% of suburban users have less than three years online.

Online experience		
	Less than 3 years	3 years or more
2003		
Rural	20%	80%
Suburban	12	88
Urban	16	84
Nationally	15	85
2000		
Rural	75%	25%
Suburban	65	35
Urban	63	37
Nationally	66	34

Source: Pew Internet & American Life Project Surveys. 2003: March-August 2003. N=12450, Margin of error is ±1%. 2000: N=21770 ±1%.

As the Internet matures, more newcomers are arriving from lower income brackets.

Experienced Internet users tend to have higher family incomes. This is especially the case in suburban communities, where only 16% of experienced users have household incomes under $30,000. Still, that represents an increase over the only 9% of experienced users with family incomes under $30,000 two years earlier. In rural areas, a similar increase in the percentage of experienced users with relatively low incomes occurred between 2001 and 2003, from 16% to 24%.

Part 2. Rural Internet Demographics: Who's Online?

Among newcomers, about half of rural and urban newcomers have family incomes under $30,000. This represents a significant difference from the income portrait of newcomers two years ago. Then, in each community type, a larger percentage of newcomers lived in families who live in households earning over $30,000 a year. These figures suggest that Internet use is diffusing into the lower income brackets as these users not only make the leap online, but also sustain their interest through the years.

User experience and income

In each community type, more users with lower incomes have recently gotten online

		2003		2001	
Community type		**< $30K**	**>$30K**	**< $30K**	**>$30K**
Less than 3 years online	Rural	52%	48%	33%	67%
	Suburban	39	61	24	76
	Urban	52	48	31	69
3 years or more online	Rural	24	76	16	84
	Suburban	16	84	9	91
	Urban	21	79	22	78

Source: Pew Internet & American Life Project Surveys. **2003:** *March-August 2003, N = 10595, Margin of error is ±1.5%.* **2001:** *August-September 2001, N= 2090 Margin of error is ±2.5%.*

The ethnic makeup of urban and suburban user populations is changing as more African-Americans and Hispanics get online, but rural communities are relatively unchanged.

There are also significant differences between newcomers and more experienced users in terms of racial and ethnic makeup. In urban communities, African-Americans and Hispanics account for substantially larger percentages of the newcomer population than they do the experienced user population. In suburban areas, Hispanics account for 17% of newcomers, and about 8% of experienced suburban users. In rural areas, African-Americans account for 7% of newcomers, and 5% of experienced users.

Part 2. Rural Internet Demographics: Who's Online?

Online experience and race/ethnicity In suburban and urban communities, the newcomer population is diversifying					
Community type		African-American	Hispanic	White	Other
Rural	Less than 3 years online	7%	3%	86%	4%
	3 years or more online	5	5	86	4
Suburban	Less than 3 years online	7	17	71	5
	3 years or more online	6	8	81	5
Urban	Less than 3 years online	26	22	45	7
	3 years or more online	12	15	66	7

Source: Pew Internet & American Life Project Surveys, March-August 2003. N=12209, Margin of error is ±1%.

Part 3.

The Activities Rural Internet Users Pursue

Rural users have waded knee-deep into the Web.

One way to gauge how much the Internet has become part of users' everyday lives is to examine the online activities that users pursue. In general, the Internet is less a fixture of rural residents' lives than urban and suburban residents' lives.

Some activities are universally popular, but transactions are less popular among rural users.

The percentage of rural users who have ever sent or read email is the same as the percentage of urban and suburban users who have done so. Moreover, on a typical day, rural users are equally likely to send or receive email than urban or suburban users. As of June 2003, about half of Internet users in each community type sent or checked their email on a typical day. Two other core activities -- using a search engine and looking for hobby information -- are also equally popular among rural, urban, and suburban users. And, like email usage, on a typical day, rural users are equally likely than urban and suburban users to use a search engine or seek hobby information. On a typical day, about 30% of Internet users consult a search engine, while about 20% of users in each community type look for hobby information. And when it comes to going online for no particular reason or for fun, about 23% of Internet users in each community type do so on a typical day. But rural users are less likely than urban and suburban users to get news online on a typical day. Twenty-two percent of rural users get news online on a typical day, whereas 27% of suburban users do so and 26% of urban users do so.

Rural users also participate in a number of other online activities, including online transactions. But in most cases, rural users are less likely than urban and suburban users to perform them. This is very likely connected to the fact that a relatively large number of rural Internet users are relative newcomers to the online world. As a general rule, newcomers are less likely than veterans to have performed transactions online.

Rural users are the least likely to bank online (28%), to make a travel reservation online (49%), or to buy a product online (57%). A lower proportion of rural users go online to do job-related research, and urban and suburban users are also more likely than rural users to conduct information searches for health, housing and employment. Urban users are noticeably more likely than others to have turned to the Internet when looking for a place to live (43%) or when looking for a job (52%).

Online activities in rural, suburban, and urban communities

The portions of Internet users in each type of community who have ever used the Internet for some popular online activities.

		Rural	Suburban	Urban
Uniform popularity				
Send or read e-mail		90%	93%	92%
Use a search engine		88	91	89
Look for info about a hobby		78	76	75
Look for health info		69	66	65
Surf for fun		69	65	69
Visit a government Web site		67	66	65
Play a game		42	38	39
More popular among rural users				
Send an instant message		51	44	50
Look for religious or spiritual information		35	29	24
More popular among suburban, urban users				
Get news		65	71	69
Buy a product		57	63	61
Make travel reservation		49	58	60
Perform job-related research		46	53	55
Get financial info		39	45	47
Look for info about a job		38	40	52
Bank online		28	35	35
Look for info about a place to live		26	35	43
Download music	June 2003	26	30	32
	November 2003	13	15	15

Source: Pew Internet & American Life Project Surveys. See Appendix C for sample sizes, margins of error, and survey periods for each activity.

The act of seeking religious and spiritual information is popular among rural users.

There are a few activities that rural users are more likely than urban or suburban users to have done online. Searching for religious or spiritual information is more popular among rural users (35%) than among suburban (29%) and urban (24%) users. In fact, among rural users, gathering religious or spiritual information is more popular than banking online (29%), looking for a place to live (26%), and downloading music (26%, June 2003). Compared to suburban users, rural users are more likely to send or receive instant messages.

Even relatively experienced rural Internet users are less likely than their urban and suburban counterparts to engage online transactions.

With experience, Internet users are more likely to do more activities online.[8] Controlling for experience, the Internet is does not permeate the lives of rural users so much as it does the lives of urban and suburban users in terms of financial transactions and major life decisions, such as changing jobs or finding a new place to live.

Urban and suburban users with three or more years online remain more likely than rural users with three or more years online to engage in several activities. Even with three years of experience, rural users are less likely than urban and suburban users with the same experience to buy a product online, buy or make a travel reservation, or bank online. Rural users are also less likely to go online to look for a place to live, search for a job online, and seek out financial information. Though higher broadband penetration in urban and suburban areas may partly explain why some experienced rural users don't do more online, a chunk (30%) of rural users with three years of experience or more have a high-speed connection.

Experienced rural users are more likely than others to send and receive instant messages, and to seek health information, and look for religious and spiritual information online.

Rural users with three years of experience don't appear to do things much differently from the rural user population in general, but there are some things they do more often. More experienced users continue to send and receive IM at rates comparable to or greater than urban and suburban users. And among experienced users, searching for spiritual or religious information continues to be more popular among rural users (36%) than their suburban (30%) and urban (24%) counterparts. Among experienced users, those living in rural communities are more likely than others to seek out health information. About 73% of experienced rural users have sought health information online.

[8] See Horrigan, John and Lee Rainie. (March 2002) "Getting Serious Online: As Americans gain experience, they use the Web more at work, write emails with more significant content, perform more online transactions, and pursue more activities online," Pew Internet & American Life Project. Available at: <http://www.pewinternet.org/reports/toc.asp?Report=55>

Online activities and experience by community type

Rural users online for 3 years or more do more online, but are still surpassed by their urban and suburban counterparts on transactions.

		Rural	Suburban	Urban
Uniform popularity				
Send or receive e-mail		93%	94%	93%
Use a search engine		90	93	92
Look for info about a hobby		81	78	79
Visit a government Web site		70	69	68
Surf for fun		69	65	69
Get news		69	73	73
Download music	June 2003	27	30	32
	November 2003	14	16	15
More popular among rural users				
Look for health info		73	68	64
Send or receive an instant message		54	45	51
Play a game		43	37	36
Look for religious or spiritual information		36	30	24
More popular among suburban, urban users				
Buy a product		61	68	66
Make travel reservation		52	64	64
Perform job-related research		51	58	59
Get financial info		42	49	51
Look for info about a job		37	42	51
Bank online		31	38	40
Look for info about a place to live		29	38	44

Source: Pew Internet & American Life Project Surveys. See Appendix C for sample sizes, margins of error, and survey periods for each activity.

Part 4.

Rural Attitudes Toward the Internet

Another way to measure diffusion of the Internet is the attitudes and beliefs that users and non-users hold toward it.

Rural Internet newcomers have mixed feelings about computers and technology, but more experienced users are more positive about them.

For less experienced users, computers inspire mixed feelings. In all community types, larger percentages of new users than more experienced users harbor mixed feelings about computers and technology. This is especially the case for newer rural users. In a survey the Pew Internet Project conducted in October 2002, 50% of rural users with fewer than three years online reported "mixed feelings" towards computers and technology, whereas 32% of comparable urban users say this and 27% of suburban users say so.

However, fewer experienced users have mixed feelings in all community types. In fact, experienced rural Internet users are more positive about computers and technology than similarly experienced urban and suburban Internet users. While 23% of both urban and suburban users with four or more years experience online report mixed feelings, only 16% of rural users with three or more years experience hold mixed feelings about computers and technology. Most (84%) rural users with three years or more online report that they like computers and technology, whereas 75% of their urban counterparts and 76% of their suburban counterparts say this.

Most users say the Internet is a good place to look for information, stay in touch with friends and family, be entertained, and perform transactions.

Internet users in all three community types say that the Internet is good for a variety of pursuits. First and foremost, they say it is good for getting daily information such as weather reports, news, and sports scores. Next, the majority of users in each community type – over 80% of them – say that the Internet is a good way to send and receive greetings and invitations, and to communicate with friends and family. Third, it is a place in which to be entertained. These sentiments corroborate findings from 2002, which found that most Internet users expect to find what they are looking for when going online.[9]

However, online transactions are less accepted amongst rural users than urban and suburban users. Compared to rural users, a significantly larger percentage of urban and

[9] Horrigan, John and Lee Rainie. "Counting on the Internet." Washington, D.C.: Pew Internet & American Life Project, December 2002. Available at: http://www.pewinternet.org/reports/toc.asp?Report=80.

suburban users say that the Internet is a good place to conduct tasks and transactions such as shopping, banking, and purchasing movie and concert tickets.

Using the Internet to stay in touch with friends and family has been almost universally appreciated for some time.

Data collected from the Pew Internet Project's first survey in March 2000, shows there is no difference between rural, urban and suburban users' estimations of the Internet's impact on connections to family.[10] About 31% said that those connections had improved a lot because of the Internet, 24% said those connections improved some, and 15% said those connections to family had improved only a little. Another 30% of Internet users in each community type said that the Internet had not improved their connections to family at all. A year later, a longitudinal survey was conducted. About 40% of the sample was successfully re-contacted. When asked again about the Internet's impact on their connections to family, rural residents' responses were very similar to responses recorded a year earlier.

Rural, urban and suburban users rated the impact of the Internet on connections with friends slightly differently from each other. A larger percentage of rural users (26%) said that the Internet had not improved their connections to friends, while 20% of suburban users said this and 22% of urban users said this. These past similarities are a prelude to the current consensus that the Internet is good for communicating with friends and family and to the ubiquity of email.

Rural users' online connections to groups are more likely to stretch beyond their physical community.

As of February 2001, 84% of Internet users – about 90 million people – say they have used the Internet to contact or get information from a group.[11] These groups range from support groups that help members cope with illness to fan groups that discuss their favorite television series online. Professional associations, political groups, sports leagues and civic groups are also some of the groups to which Internet users belong. The Pew Internet Project asked Internet users about their experiences with the groups with which they had the most contact through the Internet.

Urban and suburban users' online communities are more localized than rural users'. While 15% of suburban users and 19% of urban users say that most members of their online group live "in my local community," only 8% of rural users' say that most of their group's members live in the same local community. Rural users' online community connections are more likely than those of urban and suburban users to be directed beyond their physical location. Half of rural users say that most of the other members of their online

[10] Source: March-December 2000 tracking survey. N= 3015, margin of error ± 2 %

[11] Horrigan, John and Lee Rainie and Susannah Fox. "Online Communities: Networks that nurture long-distance relationships and local ties." Washington, D.C.: Pew Internet & American Life Project, October 2001. Available at: http://www.pewinternet.org/reports/toc.asp?Report=47.

group live "all over the country." By comparison, 42% of suburban users say so, and 39% of urban users say so. Not surprisingly then, rural users are more likely than others to say that the Internet is more useful for becoming involved in things going on outside their local community. 77% of rural users say so, while 66% of suburban users and 64% of urban users say so.

The Internet has made a smaller dent in rural users' major life moments than in those of urban and suburban users.

While rural, urban and suburban users have agreed upon the Internet's impact on their contacts with friends and family, this has not been the case with intermittently weighty matters.

In 2002, the Pew Internet Project gauged the impact of the Internet by asking to what extent users incorporate the Internet into "major life moments" – big decisions and occasions such as making large purchases, changing jobs, or dealing with an illness – that respondents had experienced in the two previous years. Revisiting that data reveals that the Internet is less likely to be a part of major occasions in rural users' lives than in urban and suburban users' lives.[12]

In terms of employment, 72% of rural users say the Internet played no role in a job change. By comparison, 55% of urban users and 61% of suburban users said the Internet played no part in their job change.

Internet users' decision to purchase a car also shows substantial differences between community types. Of car buyers, 63% of rural users say that the Internet had nothing to do with making the decision. However, for 50% of urban and 50% of suburban users buying a car, the Internet was part of the decision. Ten percent of each group reported that the Internet was crucial to their decision.

For those who had recently moved, a slightly larger percentage of rural users (68%) than urban users (64%) and suburban users (63%) say that the Internet played no part in finding a new place to live.

Rural users were also less likely than suburban users to have used the Internet to deal with an illness or health condition, but more likely than urban users to have done so. While 37% of suburban users say that the Internet played no part in dealing with their illness, 46% of rural users say so. Meanwhile, 57% of urban users said that the Internet was not a part of coping with their condition.

Finally, most rural and suburban users starting new romantic relationships say the Internet had nothing to do with it (75%) while 60% of urban users say so.

[12] Source: January 2002 tracking survey. N=1,415, margin of error is ±3%

Methodology

The main analysis here has been built around data gathered in surveys between March and August 2003.

The samples for these surveys are random digit samples of telephone numbers selected from telephone exchanges in the continental United States. The random digit aspect of the sample is used to avoid "listing" bias and provides representation of both listed and unlisted numbers (including not-yet-listed numbers). The design of the sample achieves this representation by random generation of the last two digits of telephone numbers selected on the basis of their area code, telephone exchange, and bank number.

For each survey period, new sample was released daily and was kept in the field for at least five days. This ensures that complete call procedures were followed for the entire sample. Additionally, the samples were released in replicates to make sure that the telephone numbers called are distributed appropriately across regions of the country. At least 10 attempts were made to complete an interview at every household in each sample. The calls were staggered over times of day and days of the week to maximize the chances of making contact with a potential respondent. Interview refusals were re-contacted at least once in order to try again to complete an interview. 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 Current Population Survey (March 2002). This analysis produces population parameters for the demographic characteristics of adults age 18 or older, living in households that contain a telephone. 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.

Other data here was gathered from surveys done in November-December 2003, December 2002, November 2002, October 2002, March-May 2002, August-September 2001, March 2001, February 2001, and from a combined data set of surveys administered during 2000.

Appendices

Appendix A – Internet service providers

The following list of ISPs was generated from survey responses. Respondents were posed an open-ended question: *Who is your primary Internet service provider at home?*

Adelphia
Ameritech
AOL
AOL Time Warner
AT&T Worldnet
Bell South/Pacific Bell
Cablevision
Charter
Comcast
CompuServe
Cox
Earthlink/Mindspring
Juno Web
Media One
MSN
Prodigy
Road Runner
Verizon (East and West)
WorldCom

Appendix B – Demographic tables

Community population, online population, and Internet penetration by educational attainment

With some college, Internet use in each community type exceeds the national Internet penetration rate*

Community type		none, or 1-8	high school incomplete	high school graduate	business/ technical/ vocational school after high school	some college	college graduate	post-graduate training
Rural	general population	6%	15%	38%	4%	21%	10%	6%
	online population	1	8	34	5	27	15	10
	Internet penetration	8	24	47	60	73	84	84
Sub.	general population	2	10	31	5	24	18	11
	online population	1	5	25	5	28	23	14
	Internet penetration	18	35	54	68	74	83	89
Urban	general population	3	12	29	3	24	20	10
	online population	-	6	22	4	29	25	14
	Internet penetration	8	35	54	62	80	88	89

*Numbers sometimes do not add up to 100 because of rounding.

Source: Pew Internet & American Life Project Surveys, March-August 2003. General population: N = 20732, Margin of error is ±1%. Online population: N=3103, Margin of error is ±2%. Internet penetration: N=4907, Margin of error is ±2%.

Community population, online population, and Internet penetration by household income

$30,000 yearly household income is a threshold for Internet penetration in each community type*

community type		Under $10K	$10K-under $20K	$20K – under $30K	$30K – under $40K	$40K-under $50K	$50K-under $75K	$75K-under $100K	$100K or more
Rural	General population	12%	16%	19%	14%	12%	15%	7%	5%
	online population	5	8	13	18	15	24	10	6
	Internet penetration	19	35	39	66	73	85	76	89
Sub.	General population	6	10	13	14	11	20	13	14
	online population	3	8	10	13	10	23	16	17
	Internet penetration	36	46	50	67	67	79	85	92
Urban	General population	9	14	16	13	10	16	11	11
	online population	5	10	14	13	13	21	12	13
	Internet penetration	38	52	54	70	79	83	93	90

*Numbers sometimes do not add up to 100 because of rounding.

Source: Pew Internet & American Life Project Surveys, March-August 2003. General population: N = 16905. Margin of error is ±1%. Online population: N=2624, Margin of error is ±2.5%. Internet penetration: N=4007, Margin of error is ±2%.

Differences in educational attainment and income between rural African-Americans and Whites

Rural African-Americans differ from rural Whites on two predictors of Internet usage*

	none, or 1-8	high school incomplete	high school graduate	some college	college graduate	**post-graduate training**
rural whites	6%	14%	41%	21%	11%	7%
rural African-Americans	13	25	31	23	7	1

	Under 10K	10K- under 20K	20K –under 30K	30K – under 40K	40K- under 50K	50K- under 75K	75K- under 100K	**100K or more**
rural whites	9%	16%	19%	15%	12%	16%	8%	6%
rural African Americans	27	23	22	10	8	7	1	1

*Numbers sometimes do not add up to 100 because of rounding.

Source: Pew Internet & American Life Project Surveys, March-August 2003. ***Education:*** N = 20,394 Margin of error is ±1%. ***Income:*** N=16,761 Margin of error is ±1%.

Appendix C – sample sizes and margins of error

activity	sample size (N)	margin of error (95% confidence)	survey dates
Send or receive email	3110	± 2 %	August 2003
Use a search engine	2474	± 2.5	June 2003
Visit a government Web site	3105	± 2	August 2003
Get news online	2487	± 2.5	June 2003
Job-related research	2778	± 2.5	November 2002
Look for health info	2087	± 2.5	December 2002
Get financial info	3109	± 2	March-May 2003
Look for info about a job	3118	± 2	March-May 2003
Look for religious or spiritual information	3115	± 2	March-May 2003
Look for info about a place to live	3116	± 2	March-May 2003
Buy a product	3119	± 2	March-May 2003
Make a travel reservation	3114	± 2	March-May 2003
Bank online	2485	± 2.5	June 2003
Look for info about a hobby	3116	± 2	March-May 2003
Surf for fun	3110	± 2	March-May 2003
Send or receive an instant message	3117	± 2	March-May 2003
Play a game	3118	± 2	March-May 2003
Download music	2492	± 2.5	June 2003
	2217	± 2.5	November 2003

Internet users online three years or more			
activity	**sample size (N)**	**margin of error**	**survey dates**
Send or receive email	2666	± 2.5 %	August 2003
Use a search engine	2070	± 2.5	June 2003
Visit a government Web site	2661	± 2.5	August 2003
Get news online	2076	± 2.5	June 2003
Job-related research	2295	± 2.5	November 2002
Look for health info	1701	± 3	December 2002
Get financial info	2620	± 2.5	March-May 2003
Look for info about a job	2629	± 2.5	March-May 2003
Look for religious or spiritual information	2627	± 2.5	March-May 2003
Look for info about a place to live	2628	± 2.5	March-May 2003
Buy a product	2629	± 2.5	March-May 2003
Make a travel reservation	2626	± 2.5	March-May 2003
Bank online	2073	± 2.5	June 2003
Look for info about a hobby	2628	± 2.5	March-May 2003
Surf for fun	2624	± 2.5	March-May 2003
Send or receive an instant message	2629	± 2.5	March-May 2003
Play a game	2628	± 2.5	March-May 2003
Download music	2078	± 2.5	June 2003
	1924	± 2.5	November 2003