Improving Access to the Internet

A Report to the Congress
as required by the E-Government Act of 2002 Section 215

> "We ought to have a universal, affordable access for broadband technology by the year 2007 and then we ought to make sure as soon as possible thereafter, consumers have got plenty of choices when it comes to purchasing the broadband …the more choices there are, the more the price will go down"
>
> *President George W. Bush, March 26, 2004.*

A Report of the
General Services Administration
January 24, 2005

Abstract:
Improving Access to the Internet
Report to the Congress

Background: This report was drafted as required by Section 215 of the E-Government Act of 2002, to discuss differences in Internet access and how these differences influence the effectiveness of online Government services. The report also includes recommendations to ensure online Government initiatives will not decrease public access to Government services.

Findings:

Sources of Information - The breadth and depth of studies and research available on Internet access are impressive. A very large body of research was found on the issue of disparities in access developed by governments (Federal, state and local), universities, industry and non-profit organizations. Myriad studies have been performed on almost every aspect of Internet access, and their findings are largely consistent.

Current State of Internet Access – Over the last several years, access to the Internet has grown rapidly. Sixty-three (63) percent of all adult Americans are online this year and more are moving online. In the past three years, senior citizens have significantly increased their online presence. Currently, more than 45 percent of all U.S. Internet users have broadband access from home, rising to 55 percent when one considers access from home, work or school. The rate of broadband adoption looks promising. In the past two years, American children, regardless of their age, income, or ethnicity, greatly increased their use of the Internet from home, school, or library. Yet even with this growth trend, children from under-served populations still significantly lag behind more advantaged children in access based on the Corporation for Public Broadcasting's report, "Connected to the Future."

Government and industry are working together to increase Internet access and broadband penetration. Governments are providing studies, analyses and programs supporting access to Internet services. Loans and grants are available to extend broadband access to rural areas. Grants have been provided to community technology centers and libraries to increase access. Some states have developed creative policies to advance broadband deployment, and 24 states have cross-subsidies to support universal service programs supporting Internet access in schools and libraries. Almost all (99 percent) of the public schools and 92 percent of classrooms are connected to the Internet. Through market forces and competition, industry lowered the cost of computers and competitive telecommunications environments have advanced broadband penetration. Localities are advancing economical wireless access programs to increase Internet access and reduce costs. Non-profit organizations are providing not only research and analysis to monitor Internet access issues, but also grants and computer training to libraries and community access centers. Tribal governments are working with the Federal and State Governments

and non-profits to increase connectivity and training. The overall magnitude and trend of increased penetration of access, progress and issues remaining are consistent and clear. The areas of disparities in Internet access are progressively closing.

Recommendations – To ensure differences in Internet access do not affect delivery of government information and services online, this report recommends the following: (1) continued support for universal affordable access for broadband technology for all Americans by 2007;
(2) no loss of access to Government information in an E-Government environment, continued use of the Federal Depository Library in accordance with OMB Circular A-130 to prevent loss of access to government information; (3) increased E-Government utilization and self-service models for those with Internet access to relieve pressure on the traditional channels of access so they are available for those without Internet access; (4) inclusion of public libraries in the Expand Computers for Learning Program so libraries can obtain computers from Government offices like the K-12 schools today; and (5) initiation of a study by the Institute of Museum and Library Services regarding methods to effectively deliver government services online.

Improving Access to the Internet

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Chapter 1 - Introduction
Purpose of Report

This report was drafted as required by Section 215 of the E-Government Act of 2002, to discuss differences in Internet access and how these differences influence the effectiveness of online government services. The report also includes recommendations to ensure online government initiatives will not decrease public access to government services.

Background

Under the leadership of the Office of Management and Budget (OMB), the E-Gov Access Working Group was formed with leadership from the General Services Administration (GSA) and Government Printing Office (GPO). This interagency group of Federal Government professionals from agencies with expertise on the subject of disparities in Internet access issues developed the report under the auspices of the Interagency Committee on Government Information (ICGI).

The Interagency Committee on Government Information (ICGI) was established to accomplish the goals of the E-Government Act of 2002, specifically Sections 207, 213, and 215. The Committee is comprised of four working groups to address the major areas in the ICGI. They are: E-Government Internet Access (this report), Web Content Management, Categorization of Information and Electronic Records Policy. The ICGI reports and recommendations can be found at http://www.cio.gov/documents/icgi.html. A listing of participants can be found at Appendix III.

Sources of Information

This report was developed from a survey of existing research. The breadth and depth of studies available in each topic area addressing Internet access and disparity issues are impressive. Myriad of studies have been performed by governments (Federal, state and local), universities, industry and non-profit organizations. We were successful in accomplishing the requirements of the Act by considering a wide variety of high quality studies of experts.

Despite the use of different metrics (e.g., percentage of Americans, percentage of households, percentage of adults, and percentage of Internet users) in the various studies surveyed, there is significant consistency among the findings with respect to trends in Internet access and broadband penetration. Especially helpful were a series of reports from organizations conducting longitudinal research programs in Internet access issues. They include the National Telecommunications and Information Administration (NTIA), the Federal Communications Commission, the Pew Internet & American Life Project, the Benton Foundation, Council for Excellence in Government, Hart-Teeter, Kaiser Family Foundation and the Bill and Melinda Gates Foundation. A full listing of all of the studies referenced in this study can be found in Appendix II.

Chapter 2 -The Importance of Access to Citizens and the Government

The Government is the largest single producer, collector, consumer, and disseminator of information in the United States. Government information is a valuable resource providing the public with knowledge of the government, society, and economy. The free flow of information between the government and the public is essential to a democratic society. E-Government services make it easier for citizens to access government information and services. Citizen-centered Government exists in an informed society where Government information is freely accessible. The Internet is an incredibly efficient and effective way to make information available to citizens and businesses. Just as public schools and libraries provide information for citizens and benefits to society, the Internet is a resource to provide answers to questions about everyday issues. Everyone benefits from increased Internet usage, and a more informed society lives a better quality of life.

Online information and services are in high demand. Citizens can find answers to questions, and submit transactions online without using Government walk-in service counters or call centers. In many cases, online applications provide improved quality of services to users, and are faster and cheaper than other channels of service (e.g., calling 800 numbers, writing in, or walking into an office). The Internet can also complement other methods of service delivery. Online technology can improve the quality of information, and have fewer errors requiring delayed resolution at higher costs.

As we transition to an online society, the Government must ensure information and services remain available to those without adequate online access. The Federal Government also must ensure such online information and services are accessible to and usable by persons with disabilities. In some cases, the people who need to be served most, those of low income, low education and persons who are limited English proficiency are not online. Online users reduce demand on traditional channels for public service leaving those channels available to serve those not online.

When a well-designed Web-based service delivery channel provides higher quality service compared to traditional channels, utilization of the channel grows. As a result, agencies can use the savings obtained from self-service online transactions to provide improved service levels to those attempting contact through other channels (e.g. phone-in or walk-in). Ultimately, tax dollars are more efficiently used to benefit all.

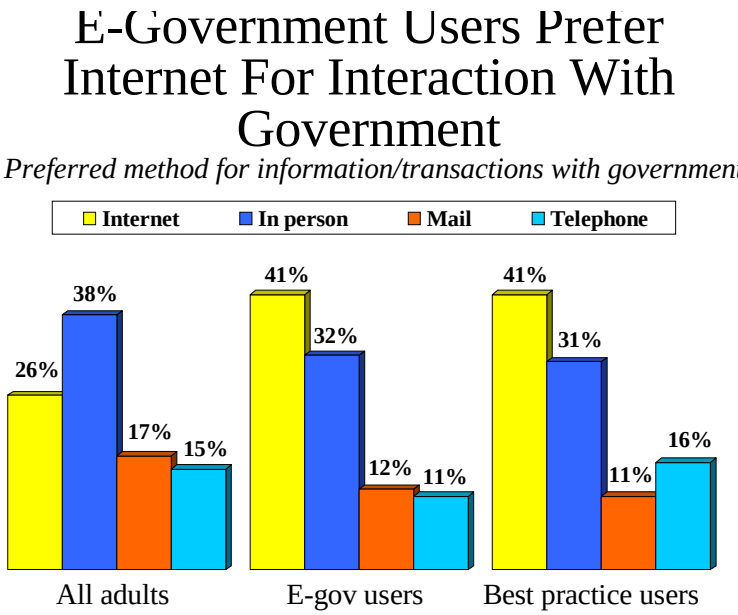
The importance of Internet access and its benefit to citizens and the Government is clear. One example is the Internal Revenue Service (IRS) forms distribution program. When the IRS mails forms in response to a taxpayer request, the cost is approximately $3.50. If the citizen instead prints these forms from the Internet, the cost to the Government is less than one cent with service delivery improvement. At a fraction of the cost, the Government provides better service with instant delivery to the taxpayer, 24 hours per day. In 2003, a total of 236.6 million forms were downloaded during the January to April 15, tax season. Internet self-service is being adopted by agencies and businesses around the world to make service offerings more efficient and cost competitive, and the potential

for savings and improved service throughout the Government is significant. Every public service offering can benefit from the Internet self-service model.

Chapter 3 –State of Internet Use and Citizen Preferences

Surveys and polls show citizens expect to obtain the same level of Internet service from the Government as from other commercial or institutional relationships – such as banks, airlines and utilities. The latest research from Pew Internet and American Life (Pew) (February 2004) indicates 63 percent of adult Americans are online. The Council for Excellence in Government (CEG) works with Hart-Teeter polling firm to conduct an ongoing study on E-Government. The studies compare E-Government and commercial Internet activity. In 2002, they found:

- Of Internet users, 77 percent use the Internet very or somewhat often.
- More than three-fourths of respondents said they had visited a Government Web site.
- 70 percent of those surveyed felt E-Government would improve functions in front line agencies supporting homeland security to coordinate effective responses to emergencies.
- 90 percent of those surveyed viewed data exchange between law enforcement as favorable.
- In 2004, a CEG/Hart-Teeter poll found 76 percent of Internet users felt E-Government should be a high priority for the Government. Interestingly, 68 percent of non-Internet users thought E-Government was important to pursue. This may be due to the perceived benefit of efficiency online Government provides to society. For Internet users, the Internet is the second most preferred method of contacting the Government (telephone being first). However, for those categorizing themselves as regular E-Government users, Internet is preferred (41percent) to telephones (32 percent).



Source: Council for Excellence in Government (April 2003)

Given access and the choice, many users opt to use the Internet service delivery channel above other choices. One major commercial investment firm found over 6 years, customers migrated to Internet self-service transactions. In 1998 only 37 percent of the customer service transactions were over the Internet, 47 percent of the transactions were handled by telephone representatives, and 17 percent by voice response units. By 2004, much lower-cost Internet self-service handled 85 percent of the transactions, use of voice response units were less than 9 percent and telephone representative calls were fewer than 7 percent.

Citizens perceive their Government to be more responsive and effective when agencies offer services online. The American Customer Satisfaction Index Report ranks commercial and Government services and Web sites. Citizens using online services ranked the National Library of Medicine – MedLine (http://medlineplus.gov) at an 86 percent satisfaction level. Overall, Government Web services ranked at the 72 percent level for Government portals compared to an eBay auction site (78 percent) and Priceline airline ticket purchase site (71 percent). Online users ranked IRS with a 77 percent satisfaction level, but those filing on paper rated IRS as a 53 percent satisfaction level. This indicates citizens are more satisfied with the Government when services are offered online. See full report at http://www.theacsi.org/government/govt-03.html.

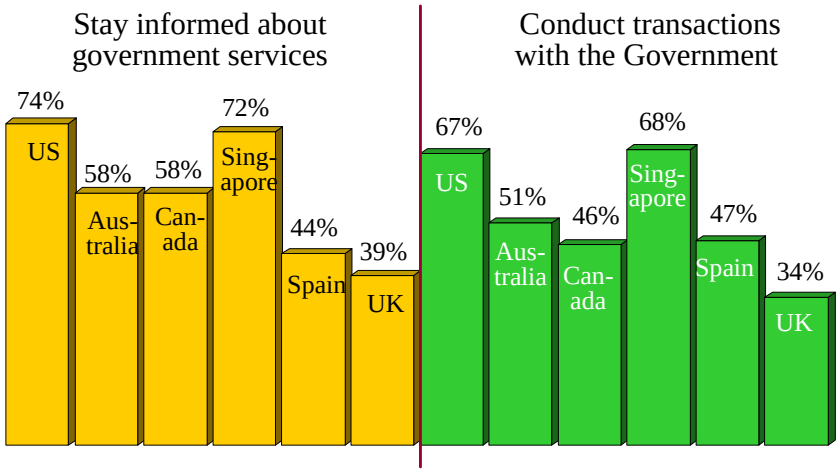
Moving more people to online services helps both citizens and the Government. Online services save money for agencies and make it easier for citizens to conduct transactions. The IRS Free File program, a Presidential E-Government initiative, is illustrative of this point. It represents a precedent-setting public-private partnership between the IRS and the Free File Alliance, LLC, to bring free online commercial tax preparation and electronic filing services to at least 60 percent of the individual taxpaying population targeted groups including lower and moderate income taxpayers. In general, it provides more free online filing options to taxpayers; makes tax filing and preparation easier; reduces the burden on individual taxpayers; and provides greater e-file access to taxpayers.

During the program's inaugural year in 2003, approximately 2.8 million taxpayers filed their Federal income tax return through one of 17 Free File Alliance companies. In 2004, over 3.5 million returns were submitted through 15 Free File Alliance members - a 26 percent increase in volume from the previous year. Total electronic returns filed for 2004, including Free File was 61.5 million. Electronic filing provided for faster refunds for citizens, and the much lower error rates and costs for the Government.

The trend towards E-Government is not uniquely American. In industrialized countries surveyed in the CEG/Hart –Teeter poll, citizens indicated E-Government makes it easier and more convenient to stay informed and process transactions (see chart below).

E-Government Users Internationally Agree
Information and Transactions Are Easier

E-Government makes it easier and more convenient to:



Source: The New E-Government Equation: Ease, Engagement, Privacy and Protection
Council for Excellence in Government (April 2003)

A number of reports identify what Internet users want to do online. Accessing Government information and performing online transactions rank high in demand for online activities. The Pew Internet and American Life (Pew) {Americans' Online Pursuits (December 2003)} indicates those seeking Government information online increased 56 percent from 2000 to 2002.

Overall Growth of Online Pursuits

Estimated growth in users who have ever done these activities (2000-2002)

	First time we asked this	*Most recent time*	*Growth*
Activity	**Have done this (millions)**	**Have done this (millions)**	**%**
Bank online	15 (March 2000)	34 (October 2002)	127%
Look for religious or spiritual info	18 (March 2000)	35 (November 2002)	94%
Buy or make a reservation for travel	31 (March 2000)	58 (December 2002)	87%
Participate in an online auction	13 (March 2000)	24 (December 2002)	85%
Check sports scores or info	30 (March 2000)	52 (September 2002)	73%
Download music files to your computer	21 (June-July 2000)	36 (October 2002)	71%
Buy a Product	41 (March 2000)	67 (December 2002)	63%
Look for health or medical info	46 (March 2000)	73 (December 2002)	59%
Look for political news or info	30 (March 2000)	47 (November 2002)	57%
Look for info from a government site	40 (March 2000)	66 (November 2002)	56%
Research a product or service	64 (March 2000)	97 (December 2002)	52%
Get news	52 (March 2000)	78 (December 2002)	50%
Research for your job	42 (March 2000)	61 (November 2002)	45%
Play a game	29 (March 2000)	42 (June-July 2002)	45%
Surf the Web for fun	54 (March 2000)	78 (January 2002)	44%
Look for info on a hobby or interest	65 (March 2000)	91 (January 2002)	40%
Buy or sell stocks	10 (March 2000)	14 (September 2002)	40%
Research for school or training	47 (March 2000)	63 (September 2002)	34%
Send an instant message	39 (March 2000)	52 (June-July 2002)	33%
Get financial info	38 (March 2000)	50 (September 2002)	32%
Send or read email	78 (March 2000)	102 (December 2002)	31%
Search to answer a question	79 (Sept -Dec 2000)	98 (September 2002)	24%
Participate in a chat room or discussion	24 (March 2000)	29 (June-July 2002)	21%

Source: Pew's America's Online Pursuits (December 2003)

FirstGov – Experiences in What Citizens Want

The adoption and use of E-Government demonstrates a desire by citizens to go online to transact business and other activities using the Internet. The central Internet access portal for the Federal Government is FirstGov.gov. It serves as a central site for information on government services. It allows citizens to find answers they are looking for without having to know the level of government, branch of Government, or the agency providing the service. FirstGov.gov organizes information by audience, topic, organization, location. The site had over 75 million visitors and 202 million page views for FY 2004. More than 114,000 Web sites link to www.FirstGov.gov (February 2004).

GSA's Office of Citizen Services and Communications (OCSC) links the FirstGov.gov Web site and e-mail services with citizen telephone service (1-800-FED-INFO) and consumer print publication (Pueblo, Colorado). OCSC provides a choice of channels (methods of public contact such Web, e-mail response, telephone response, and print) so citizens have access to Government information and services through the channel of their choice. FirstGov en Español (FirstGov.gov/Espanol/) launched in October 2003, and it includes over 900 external links to 60 Federal agencies and sub-agencies, 43 states, the District of Columbia and the Commonwealth of Puerto Rico. It also includes links to the Federal Government's more than 125,000 Spanish-language pages.

Dramatic Increases in FirstGov.gov Usage

	FY 2002	FY 2003	FY 2004
FirstGov.gov Site Visitors	33 million	63 million	78 million
FirstGov.gov Page Views	91 million	176 million	203 million
Subscribers to FirstGov.gov E-newsletter	28,532	45,075	65,946

Source: GSA FirstGov, 2004

GSA analyzes information requests through print, telephone, e-mail, and Web channels to understand what citizens want. FirstGov continuously reviews what citizens come to the Government for by reviewing the top clicked pages and links, frequently asked questions, and common search terms. The results show visitors look for a broad array of Government services with the most popular topics shown in the table below.

What Citizens Seek from Government Sites Online

(Listed in words citizens use.)

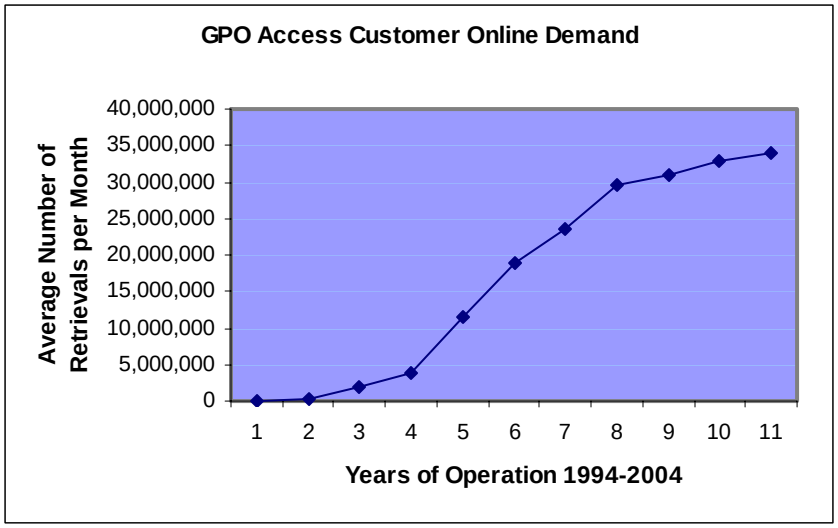
- How to get Government Benefits and Grants
  - –Help with buying a home
  - –Starting or running a small business
  - –Social security
  - –Government grants
  - –Disaster assistance
- How to get a Federal Job
- How to Buy Things from Government such as cars and homes
- International Travel
  - –Passport applications and questions
  - –What immunizations are needed
- Naturalization and Immigration
  - –Visas
  - –Check status of green cards
  - –Becoming a citizen
- Miscellaneous
  - –A-Z Index of Government Agencies
  - –Address change
  - –How to comment on legislation or contact Congress or the White House
  - –Money—taxes, investments, savings, credit, making a will
  - –Consumer Protection—scams and fraud, ID Theft, Do Not Call Registry

Source: GSA FirstGOV 2004

GPO Access (Online Portal) – Experiences in What Citizens Want

Online usage of Federal government information on GPO Access has also increased, while distribution of paper copies decreased. Since FY 1998, the number of paper copies of documents distributed by GPO has decreased by an average of 10 percent per year, while the number of retrievals from GPO Access has tripled. Since August 1994, users retrieved more than two billion documents from GPO Access. Usage increased from an average of about 20,000 monthly retrievals in 1994, to an average of about 34 million a month in 2004. The average number of monthly retrievals from GPO Access measures over 1.6 terabytes in size and is equivalent to over 808 million typewritten pages.

GPO customer demand for electronic access to government publications has steadily increased as the following chart illustrates. GPO has been making improvements to servers to improve the speed of access and has been adding electronic titles to the collection to increase distribution. GPO Access contains more than 161,000 electronic titles and points to more than 107,000 others for a total of more than 268,000 titles. This is a 144 percent increase over the 110,000 titles available in March 1999. The customer demand shift to the electronic medium drives the increased utilization of GPO Access.



Source: U.S. Government Printing Office (2004)

Through its Superintendent of Documents' programs, the GPO disseminates the largest volume of U.S. Government publications and information in the world. More than 30 million printed publications are usually distributed annually, and online nearly 34 million Government documents per month, or about 408 million per year, are downloaded from GPO Access at a cost to the Government of less than a penny per retrieval.

Chapter 4 - State of Access to the Internet

The overall magnitude and trend of increased penetration of access, progress and issues remaining are consistent and clear. The areas of disparities in Internet access are progressively closing.

According to the February 2004 survey by the Pew Internet & American Life Project:

- 63 percent of American adults are Internet users. (Approximately 75 percent of those aged 12 through 17 are online).
- About 55 percent of American Internet users have access to broadband either at home, school, or in the workplace.

Despite these levels of adoption, it is important to consider the reasons others are not online.

Generally, no single issue causes this difference; rather, a combination of factors may lead individuals to refrain from Internet use. To have Internet access, some basic requirements include electricity, a computer, and communications access. There is a portion of the U.S. population without these minimum requirements, or having little demand for Internet services. In other cases, additional economic and human challenges exist such as affordability, computer performance, currency of software, access speed, education, disabilities, computer literacy, limited English proficiency, and age related barriers.

Infrastructure Challenges

Internet access is dependent on the infrastructure to support it. Specifically, electricity, network access, and a computer are prerequisites for access to the Internet.

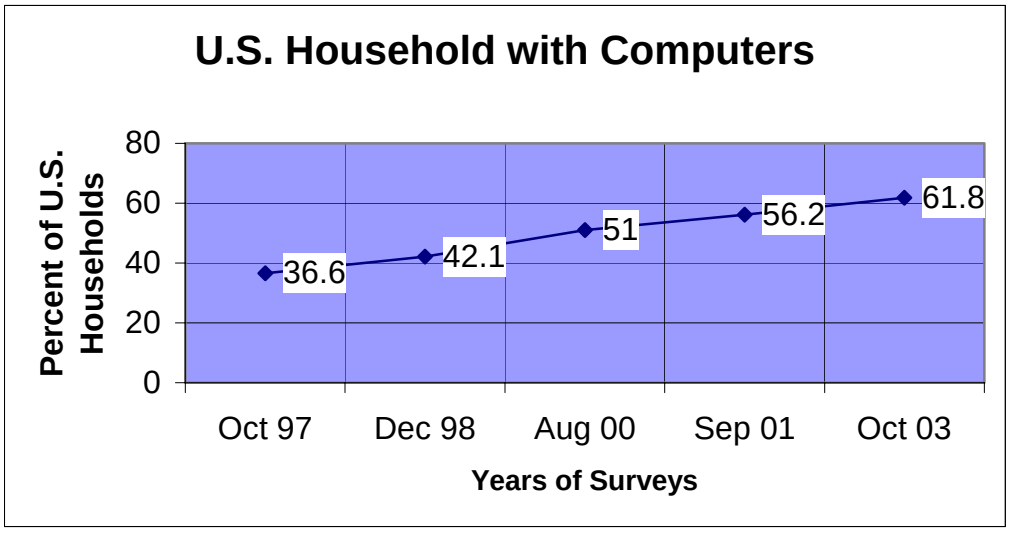
Households without Electricity

A March 2000 study by the Department of Energy indicated:

- 1.4 percent of all U.S. households are without electricity
- 14.2 percent of Native American households on reservations have no access to electricity. Those without electricity are assumed to be without because of affordability or remoteness. Approximately 37 percent of all households on the Navajo reservation, located primarily in Arizona but also in New Mexico and Utah, do not have electricity.

Households without Computers

According to a September 2004 NTIA study based on October 2003 Census data, "A Nation Online: Entering the Broadband Age," approximately 38 percent of American households do not have home computers.



(Source: U.S. Census as Published by NTIA 2004

According to a poll by Investors Business Daily (January 2004), the largest number of households without a personal computer is in lower income brackets. A report issued by TechnoMetrica Institute of Policy and Politics (TIPP) indicates the percentage of homes without PCs is greatest among Blacks and Native Americans.

According to the TIPP report, 98 percent of households own color TVs, 89 percent own videocassette recorders, 69 percent own cell phones, and 41 percent own DVD players. Households without children are more likely to be without computer compared to

households with children. About 26 percent of childless households don't own a computer, compared to 11 percent of those with children. Native American households report the lowest levels of computer ownership, next are black households. Asians report the highest level of computer ownership, with 87 percent indicating they own a computer. *(Source: IBD/TIPP poll survey).*

Homes Without Phones

Since many people access the Internet through dial-up service from telephone lines, telephone service becomes a key factor to whether someone has Internet access or not. A small segment of the U.S. population lacks telephone service, especially Native Americans on reservations and low-income citizens in urban centers. But the gap is closing. The Census Bureau's American Housing Survey for the United States of 2000 indicates:

- Only 2.4 percent of U.S. households (105 million) did not have telephones available, and the distribution is not evenly spread across the population.
- Renters make up only 33 percent of all households, but constitute 51 percent of households without telephones. Similar disparities exist for Blacks and Hispanics/Latinos who make up 13 percent and 9 percent, respectively, of total households, but 20 percent and 13 percent, respectively, of households without telephones.
- While 14 percent of households have incomes below the poverty level, they comprise 25 percent of the homes without phones. The percentages are higher in central cities. In 1998, there was a telephone in 79 percent of the nation's poorest households (annual income less than $5,000). For the 48 largest American Indian reservations — including all income levels — 47 percent had telephones.

	1990		2000		
	Housing units with no phones (thousands)	Percent	Housing units with no phones (thousands)	Percent	Percent change in homes (without access to phone)
U.S.	4,817	5.2	2,571	2.4	-46.6
Metropolitan Areas	2,942	4.3	1,560	2.0	-47.0
Non-Metropolitan Areas	1,307	8.6	715	4.1	-45.3

Source: Population Reference Bureau, analysis of data from the 1990 and 2000 Censuses

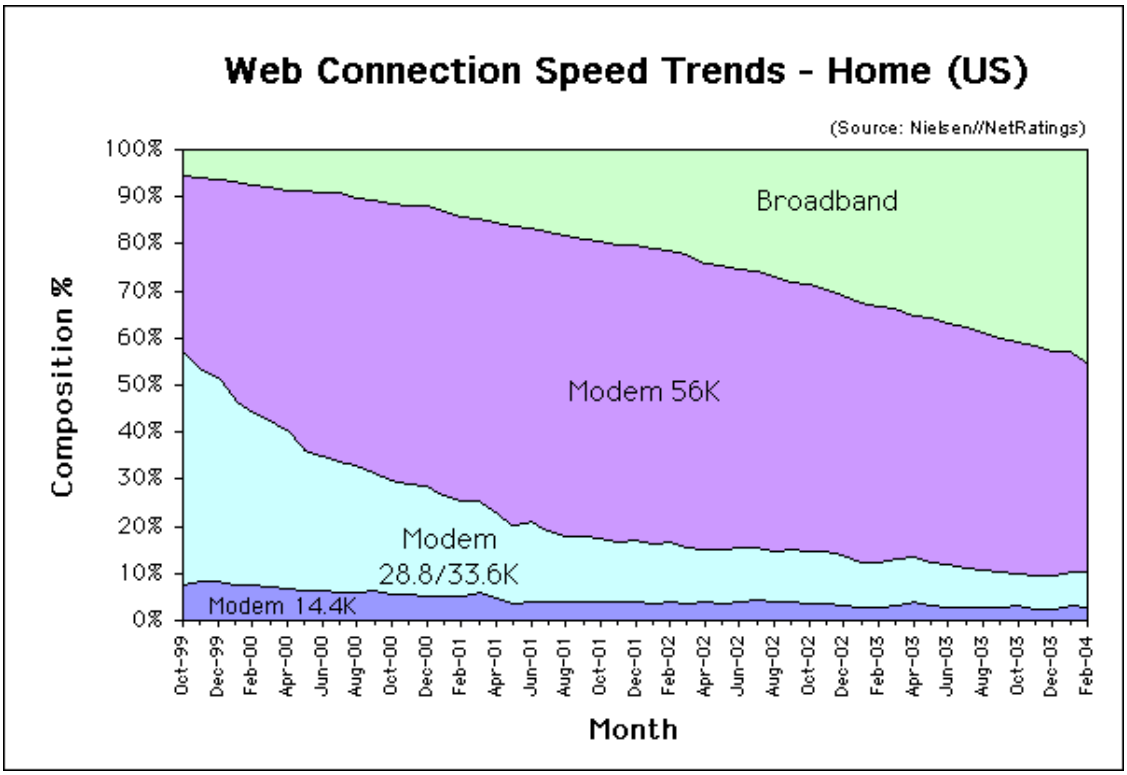
Recent reports show a drop in homes with phones in favor of cell only phone service, although it is not clear if these homes have less Internet uptake than homes with landlines. A 2004 analysis from Mediamark Research Inc. (MRI) showed an increase in homes without landline telephones, up sharply from the spring of 2000. This new trend in phone use is gaining momentum, with cell phones increasingly being used as the primary phone. The Cellular Telecommunications & Internet Association indicates:

- 7 million Americans use only cell phones (no landlines).
- 18 percent of Americans consider their cell phone their primary number, providing it to all contacts, even if there is a landline in the home.
- There are now 170 million cell phones in the country. (November 2004)

Dial-Up Connections

As of February 2004, about one-half of home users in the U.S. connect to the Internet using dial-up modems of 56 KBPS or less. At dial-up speeds Web-page downloads and interactions are much slower than broadband speeds. Statistics for dial-up modems show:

- 44.4 percent use 56 KBPS modems;
- 7.6 percent use 28/33.3 KBPS modems, and
- 2.9 percent use 14.4 KBPS modems.

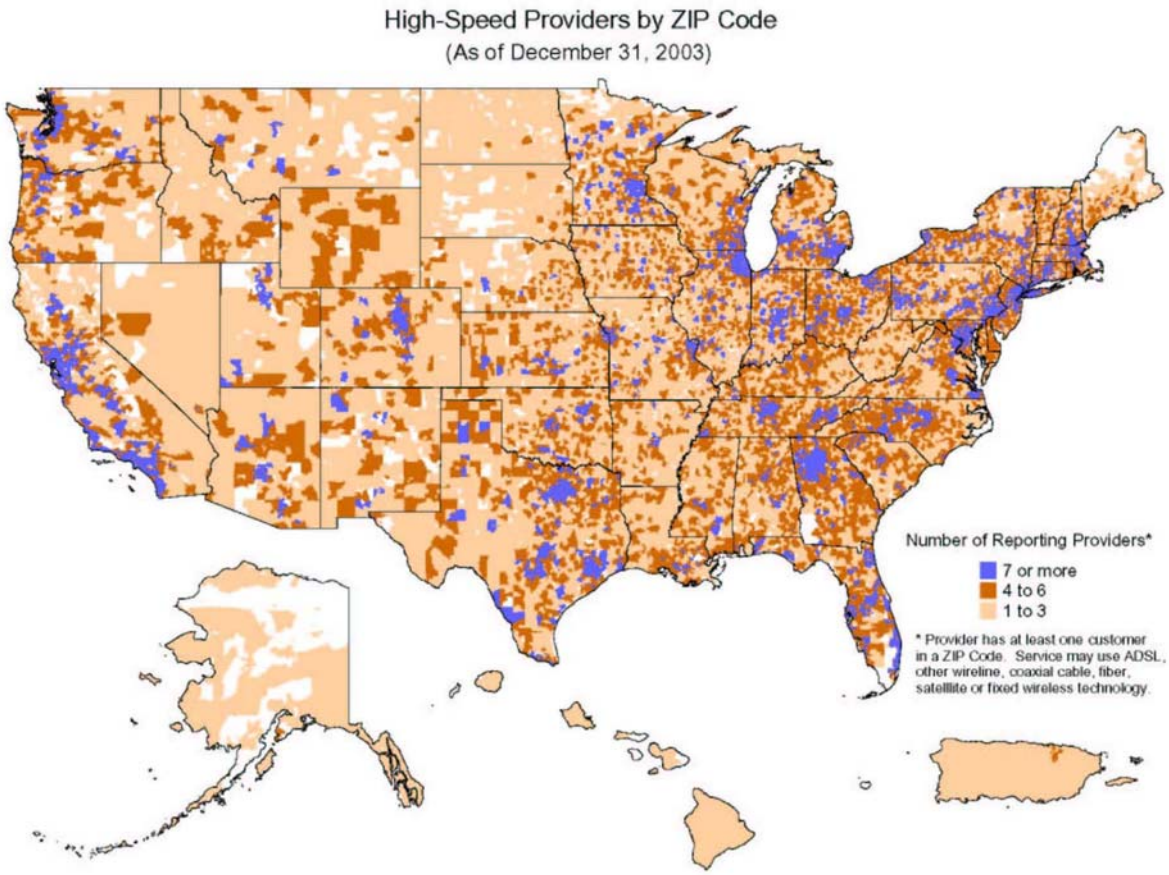


Source: Web Connection Speed Trends - Home Users (US) Nielsen//NetRatings

Lack of Broadband Service Availability

Broadband provides Internet users faster access to online services. User Internet connection speed is a major factor in users attempting online transactions and using the Internet to its full potential. Studies, including NTIA's study "A Nation Online: Entering the Broadband Age," demonstrate there is a significant difference in Internet

usage and experience for those with broadband access compared to those with a dial-up connection. A slow connection through dial-up substantially impacts the type of transactions to be performed online and the speed of data downloads. While Web site designers make efforts to take into account slower access speeds, many transactional programs work more effectively with faster connections provided through various broadband services. The map below shows ZIP Code areas (in white) where no terrestrial broadband service is available. Satellite high speed Internet access is available everywhere in the continental U.S. at generally higher cost and slower speeds than terrestrial broadband access.

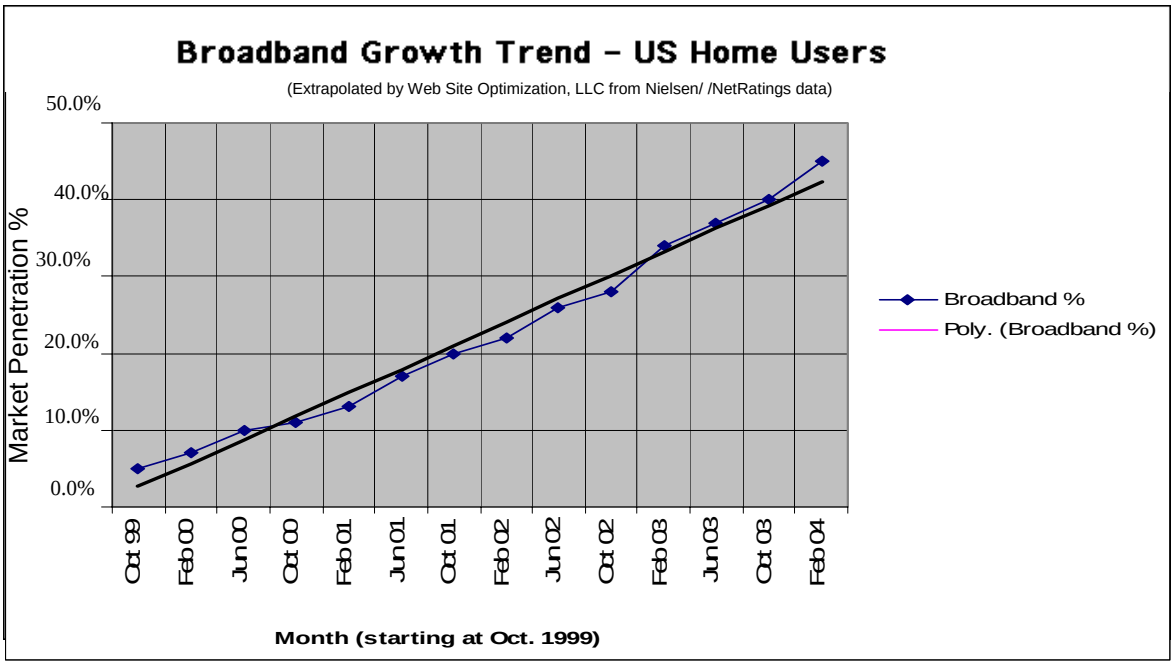


Source: FCC: High Speed Services for Internet Access, Status as of December 31, 2003

In a December 2003 FCC study on high speed service availability, carriers reported providing some service in 93 percent of the nation's ZIP Code areas, up from 88 percent one year earlier. In 78 percent of ZIP Codes, multiple carriers compete to provide service, generally leading to 10 percent lower prices. The number of ZIP Codes without any service fell during 2003.

During 2003, broadband service line connections increased by 42 percent to a total of 28.2 million lines. The biggest increase was in Digital Subscriber Lines (DSL) lines increasing 24 percent to 9.5 million lines. Broadband use in homes reached 45 percent of Internet users in March 2004, according to AC Nielsen Net Research. While availability

or access may be an issue for some, others choose not to subscribe to broadband service or use the Internet for other reasons such, as including choice and cost, as discussed below.

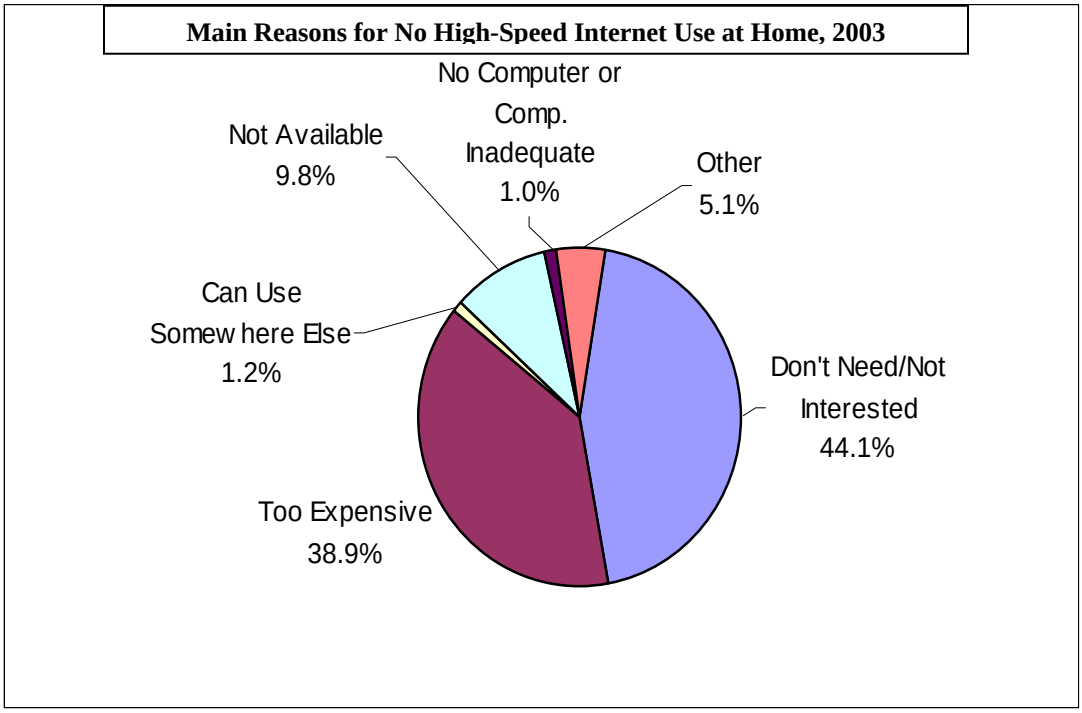


Source: Website Optimization, LLC from Neilson/Net Ratings Data

Geographically, broadband penetration and use is uneven throughout the country. According to Nielsen NetRatings, in August 2004, urban broadband penetration was highest in San Diego (69.6 percent), Phoenix (68.4 percent), Detroit (67.0 percent), New York (66.8 percent), and Sacramento (64.9 percent). In urban areas, broadband use was low in Columbus (26.9 percent), Charlotte (31.6 percent), Pittsburgh (33.3 percent), Salt Lake City (35.6 percent), and Milwaukee (39.3 percent).

Reasons for Broadband Non-Use

The NTIA study, "A Nation Online: Entering the Broadband Age", provides insights as to why some dial-up Internet households do not seek higher-speed service. Such households most often cite "Don't Need/Not Interested" (44.1 percent) and "Too Expensive" (38.9 percent) as main reasons for not having higher speed access at home. Only 9.8 percent indicated high-speed service was not available. Some distinct differences in rationale for non-users exist between urban and rural dial-up Internet users. For example, while only 4.7 percent of urban Internet households believed broadband was not available, 22.1 percent of rural Internet households surveyed believed they did not have broadband available to them. Urban and rural areas rate "Don't Need" and "Too Expensive" as the top two reasons for not subscribing to broadband.



Source: Department of Commerce, NTIA Report September 2004

Other Reasons Americans are Not Online

There are additional factors and choices impacting access and use of the Internet. These factors described below include: those who by choice don't want to use the Internet, education level, disabilities, computer literacy, limited English proficiency, and age related barriers. According to a Pew study published in April 2003, about 35 percent of adult Americans report they do not use the Internet for various reasons. Many simply do not have access, believe it is too expensive to get access, or do not think they can learn the computer skills required. Some have determined the Internet does not offer any relevant information to meet their needs, and still others are overwhelmed by the amount of information available.

There will always be those who by choice decide not to use the Internet. For this population segment, there is no compelling need to use computers to obtain the information and services the Internet has to offer. The chart lists these and other major and minor reasons provided for being non-users by Pew.

The reasons non-users aren't online *Major and minor reasons why non-users do not use the Internet (Pew May 2002)*	*Major Reason*	*Minor Reason*	*Not a Reason*
I don't want it	52%	16%	26%
I don't need it	52	19	24
I'm worried about online pornography, credit card theft and fraud	43	14	37
It is too expensive	30	18	42
I don't have time to use the Internet	29	17	49
The Internet is too complicated and hard to understand	27	19	43
Don't have a computer	11	n/a	n/a

Affordability

Dr. Benjamin Compaine's research addressing Internet affordability and willingness to pay, compares tradeoffs in what households choose to buy (such as telephone service, cable of satellite TV, and appliances) in rural and urban areas. Based on the continued increase in Internet adoption, it appears many Americans are still evaluating the value of the Internet in their daily lives. As more recognize the value of being online based on their own economics and value trade-offs the adoptions levels go up. When compared to the market uptake rates of technologies such as color television, microwaves, and VCRs, the Internet has had a remarkable adoption rate as reflected in Compaine's "Revisiting Cost and Affordability Assumptions for High Speed Data Services in Low Population Density Locations."

The reasons non-users aren't online: *Major and minor reasons why non-users say they do not use the Internet. By Pew.*	*Major Reason*	*Minor Reason*	*Not a Reason*
It is too expensive	30	18	42
Don't have a computer	11	n/a	n/a

In a Pew survey of those not online, 48 percent said expense was a major or minor factor for not going online. Responses of 11 percent said not having a computer was the major reason they were not online even though NTIA studies indicate 38 percent of American households are without computers. This data indicates some people are making choices unrelated to affordability or presence of infrastructure.

Education Level

Surveys and polls show education level is one of the strongest national predictors of Internet use. Education level may also influence other factors such as income level. In 2004, 84.9 percent of college graduates are online while only 15.5 percent of those with less than a high school diploma are online according to NTIA report based on October

2003 data. The National High School Alliance reports approximately 70 percent of Americans graduate from high school.

Disabilities

The U.S. Census Bureau reports 53 million Americans have some level of disability. (1997). Persons with disabilities often have additional challenges to going online, especially those with vision, hearing, and dexterity impairments. Using the Internet requires the computer and Internet content to allow the user to successfully navigate the web and find the information they desire. While special accommodation devices and accessibility standards for web content help to ease the way, it is still difficult to get online and successfully retrieve the desired information or service. Many people with disabilities require specialized assistive technology, further adding cost and complexity. There are few accommodations to improve access for those with cognitive impairments and disabilities.

Americans with disabilities use the Internet at a rate of approximately 30 percent less frequently than the general population according to Pew: "The Ever Shifting Internet Population," (April 2003). Of non-users, 28 percent state their disability makes it difficult or impossible for them to go online. Overall, 26 percent of non-users report a disability as compared to 12 percent of Internet users.

Computer Literacy

Operating on the Internet requires one to have basic knowledge and skills to use personal computers, including the basic ability to use a keyboard and mouse, know what software to launch, and how to sign on to the Internet. Beyond the initial connection, one has to have what Dr. Sonia Livingstone calls "Media literacy" to operate on the Internet. In her analysis entitled "The Changing Nature of and Uses of Media Literacy" she describes the dimensions of Internet literacy, which include:

- Analytical competence requiring an understanding of the formal qualities of the Internet, including how Web sites are constructed, how hypertext links work, and the symbolic codes of the Web;
- Contextual knowledge requiring an awareness of the broader social, cultural, economic and political contexts in which Internet information is produced and consumed;
- Canonical knowledge requires knowledge of 'classic' Web sites and an understanding of why they may be considered important, reliable and useful.

Computer and Internet literacy must be learned, and this requires one to be willing and able to overcome the difficulties inherent in becoming literate. There are those without the Internet literacy and some feel it is too difficult to learn. According to a Pew study, 27 percent of non-users said that the Internet's complexity was a major reason why they did not use it, and another 19% said it was a minor reason.

Literacy

According to Christina Zarcadoolas's study, "Unweaving the Web: An Exploratory Study of Low-Literate Adults' Navigation Skills on the World Wide Web," most information on the Web is written at a 10th-grade reading level or higher, even though almost 50 percent of the population in the United States read at or below an 8th-grade level. For example, research on the credibility, accuracy and readability of health information shows 41 million U.S. adults are confused by most online health content available according to Zarcadoolas.

Limited English Proficiency (Non-English speakers)

Based on the Census survey (2000), 47 million people in American aged five and older speak a non-English language at home. Of this cohort, 45 percent indicate they have some difficulty with English. Approximately 21 million, indicated they speak English less than very well. The Internet features an abundance of information and knowledge to those who can use English, the predominant language of the Internet. Others are left to interpret visuals or imperfect online translation tools.

Age (Seniors 65+)

Age is also a very strong predictor of Internet usage. In every study with age cohorts, senior citizens (age 65 and over) are in the adult age cohort with the least online activity at 22 percent. The percentage of older adults who go online has jumped 47 percent between 2000 and 2004, according to a new report from Pew Internet & American Life. In a February 2004 Pew survey of Americans 65 or older, 8 million adults (or 22 percent) reported having access to the Internet, up from 15 percent in 2000. By contrast, 58 percent of Americans age 50-64, 75 percent of 30-49 year-olds, and 77 percent of 18-29 year-olds currently go online. Of the youngest adult cohort (age 18-24), 76 percent are online.

The Pew survey also indicated about 60 percent of wired seniors were men and about 40 percent were women in 2000. By February 2004, the study found the gender gap had closed, as the ratio among seniors accessing the Internet shifted to 50 percent men and 50 percent women.

Socio-Economic Issues

In reviewing statistics from multiple sources non-users are more likely to be minority, senior citizens, lower income, from rural areas or with low education attainment. For example, household income is a very strong predictor of the likeliness of online access nationwide. The chart at right by Pew reflects the percentage of each online demographic group.

Demographics of Internet Users

Here is the percentage of each group who go online. As an example, 61% of women go online.

	Go Online
Women	61%
Men	66
Age	
18-29	78%
30-49	74
50-64	60
65+	25
Race/ethnicity	
White, Non-Hispanic	67%
Black, Non-Hispanic	43
Hispanic	59
Community type	
Urban	62%
Suburban	68
Rural	56
Household income	
Less than $30,000/yr	44%
$30,000-$50,000	69
$50,000-$75,000	81
More than $75,000	89
Educational attainment	
Less than High School	32%
High School	52
Some College	75
College +	88

Source: Pew Internet & American Life Project, May-June 2004 Tracking Survey. N=2,200 adults 18 and older. Margin of error is ±2% for results based on the full sample.

Who are the Non-Users?

The Pew Internet chart at right shows those online and non-users through 2002. Since the time of the survey, seniors increased their participation online significantly. However, it may be more challenging to move non-users online because of economics, lack of computer competencies, interest, and motivation.

For those not online, many feel they do not want or do not need to use the Internet. Pew surveys found 56 percent of those not online said they would not go online given the opportunity. Of seniors, 76 percent of non-users said they would not go online. Among those citizens with disabilities, 65 percent responded indicated they also would not go online.

Pew surveys refer to 20 percent of non-users as "net evaders," as they may have access at home because of another household member, but will not go online themselves. A significant segment, fully 17 percent of non-users, are "net dropouts" - - they were online before, but are no longer. Approximately two-thirds of this group, however, stated they might go back on line.

Users and non-users of the Internet ***This table reports the share of the Internet population comes from each group. For example, reading the first line of the table: 50% of all Internet users are men; 46% of nonusers are men; 48% of the overall U.S. population are men.***

Source: Pew Internet and American Life: The Ever-Shifting Internet Population (April 2003)

	Internet Users	***Non-Users***	***All Americans***
Men	50%	46%	48%
Women	50%	54%	52%
Race/Ethnicity			
Whites	77%	71%	75%
Blacks	8%	14%	11%
Hispanics	9%	10%	10%
Age			
18-29	29%	14%	23%
30-49	47%	32%	42%
50-64	18%	22%	20%
65+	4%	28%	15%
Household Income			
Less than $30,000	18%	41%	28%
$30,000-$49,999	23%	17%	21%
$50,000-$75,000	18%	9%	14%
More than $75,000	26%	6%	18%
Educational Attainment			
Not high school graduate	5%	25%	14%
High school grad	23%	41%	35%
Some college	34%	21%	25%
College and graduate school degree	37%	11%	26%
Community Type			
Rural	21%	31%	26%
Suburban	52%	42%	48%
Urban	26%	26%	26%

From multiple reports, as a group, the greatest disparities in Internet access are with Native Americans on reservations. A report sponsored by the Department of Interior found parallels to Internet access on Native American Reservations. The same factors and trends found across U.S. socioeconomic indicators, including differences in access and usage rates stemming from the lower education levels, much higher unemployment and poverty levels on Indian Reservations compared to national averages. Educational

programs are most successful in introducing Internet services to Native American children and have the potential for closing the disparity gap of Internet use.

Chapter 5 - What is being done by Government - Solutions

The Federal Government delivers a variety of Federal programs to support Internet access, which could positively impact access to government information and services available online. President Bush called for universal, affordable broadband access across America by 2007. Programs and policies are promoting the development and deployment of broadband technologies and provide on-going research programs in Internet access issues including the Department of Commerce's National Telecommunications and Information Administration (NTIA), the U.S. Census Bureau, and the Federal Communication Commission.

The Federal Government's Technology Priorities:

Federal Rights of Ways - On April 26, 2004, the President signed an Executive Memorandum implementing Federal rights-of-way reforms to streamline the process for broadband providers in obtaining access to Federal lands when building high-speed infrastructure**.** The reforms will help to minimize burdens on industry by simplifying and standardizing the rights-of-way process across all relevant agencies while allowing agencies to use their resources wisely.

Spectrum - The Federal Government has identified 90 MHz of spectrum to be auctioned for next generation wireless services. Once the 90 MHz is auctioned, multiple wireless carriers will have the opportunity to become broadband carriers, thereby stimulating vigorous competition and bringing lower prices and improved services to consumers. The Federal Government has nearly doubled the amount of spectrum available for innovative wireless broadband applications such as Wi-Fi (Wireless Local Area Network) and Wi-Max (Wireless Metropolitan Areas Network). These technologies can provide a range of new services from granting consumers broadband access in restaurants, airports and other public places, in addition to providing an economically viable solution for providing broadband services in rural areas. To assist these developing technologies, the Wi-Max standard setting body has been established, chaired by the Department of Commerce's National Institute of Standards and Technology.

Expansion of Broadband Technology – NTIA has worked with the Federal Communications Commission (FCC) to develop the technical specifications to consider the widespread and responsible deployment of broadband over power lines (BPL). Having conducted 10 million measurements of BPL systems, NTIA has endeavored to chart a clear technical path forward for BPL to coexist with other critical uses of spectrum. Once deployed, BPL has the potential to turn every electrical outlet into a broadband access point. On October14, 2004, the FCC adopted an order to change Part 15 of its rules to permit the development of Access BPL systems while safeguarding existing licensed services against harmful interference.

Investment in Research and Development - Federal research and development helps to lay the foundation for advances in broadband technologies. In FY 2005, the National Information Technology Research and Development (NITRD) program is budgeted for $2.0 billion and includes research directly related to broadband technology. The President proposed making permanent the Research and Experimentation Tax Credit, which promotes private sector investment in research on new technologies such as broadband delivery.

Tax Incentives for Broadband Development and Deployment – The President signed into law an economic security package to speed depreciation schedules. Deploying the advanced telecommunications equipment and technologies needed for the high-speed Internet is capital intensive. Companies are more likely to make these important investments if they can depreciate the capital costs associated with broadband rollout over a shorter time period. Additionally, on December 3, 2004, the President signed into law a measure extending the moratorium on Internet access taxes until October 31, 2007.

Seeking Technology Industry Broadband Input – The President directed the President's Council of Advisors on Science and Technology (PCAST) to review and make recommendations on how to facilitate broadband deployment, focusing on issues related to consumer demand. PCAST is the President's private sector science and technology advisory panel. The Council consists of members of the academic and business community. PCAST released its report entitled "Building Out Broadband" in December 2002.

Pursuing Pro-Growth Telecommunications Policies - The Federal Government is working closely with industry and state and local governments to facilitate the development and deployment of new information technologies and services. On October 24, 2001, the Federal Government supported successful efforts to lift the wireless spectrum ownership limits constraining the wireless industry's ability to provide quality service.

Fiber to the Home - The FCC freed new fiber-to-the-home investments from legacy regulations. Deregulating new ultra-fast broadband infrastructure to the home removes a significant barrier to new capital investments

Universal Service Fund (USF) – The FCC manages the USF through regulation. The USF has four support mechanisms promoting affordable access to telecommunications. The schools and library mechanism (E-Rate program) provides telecommunications services discounts based on the number of children qualifying for free school lunches. Over 100,000 schools and libraries were supported in 2003, with a broad array of discounted services including internal wiring for Internet access in classrooms and discounts on monthly service costs.

Tribal Telecommunications Initiative - In 2000, the FCC launched the Tribal Telecommunications Initiative to expand services to Native Americans. The FCC recognized the telecommunications penetration rate on many tribal lands fell far below the national average. It took a series of steps, through regulatory action, consumer

information and tribal outreach, to address the lack of telecommunications deployment and subscribership throughout the Indian Nations.

FCC Rural Telecommunications Program – The FCC launched this program to expand both wireline and wireless broadband services to rural areas. The rural action plan includes wireless policies to encourage rural broadband penetration, encouraging Wireless Internet Service Providers (WISPs) and competition in satellite broadband service offering, wireless and broadband to underserved areas.
http://www.fcc.gov/cgb/rural/welcome.html#facts

Library Services and Technology

Libraries are a valuable resource to address the disparities in access by providing Internet access in communities throughout the Nation. Federal library resources specifically addressing providing Internet access include the Institute of Museum and Library Services, and the Federal Depository Library Program.

The Institute of Museum and Library Services

The Library Services and Technology Act (LSTA), a section of the Museum and Library Services Act of 2003, promotes access to information resources provided by all types of libraries. Through the legislation, the Institute of Museum and Library Services (IMLS) provides funds to State Library Administrative Agencies using a population-based formula. State libraries may use the appropriation to support statewide initiatives and services; they also may distribute the funds through sub-grant competitions or cooperative agreements to public, academic, research, school, and special libraries in their state. The program:

- Develops library services providing all users access to information through local, state, regional, national, and international electronic networks;
- Provides electronic and other linkages between and among all types of libraries;
- Develops public and private partnerships with other agencies and community-based organizations;
- Targets library services to individuals of diverse geographic, cultural, and socioeconomic backgrounds, to individuals with disabilities, and to individuals with limited functional literacy or information skills;
- Targets library and information services to persons having difficulty using a library and to underserved urban and rural communities, including children from families with incomes below the poverty line.

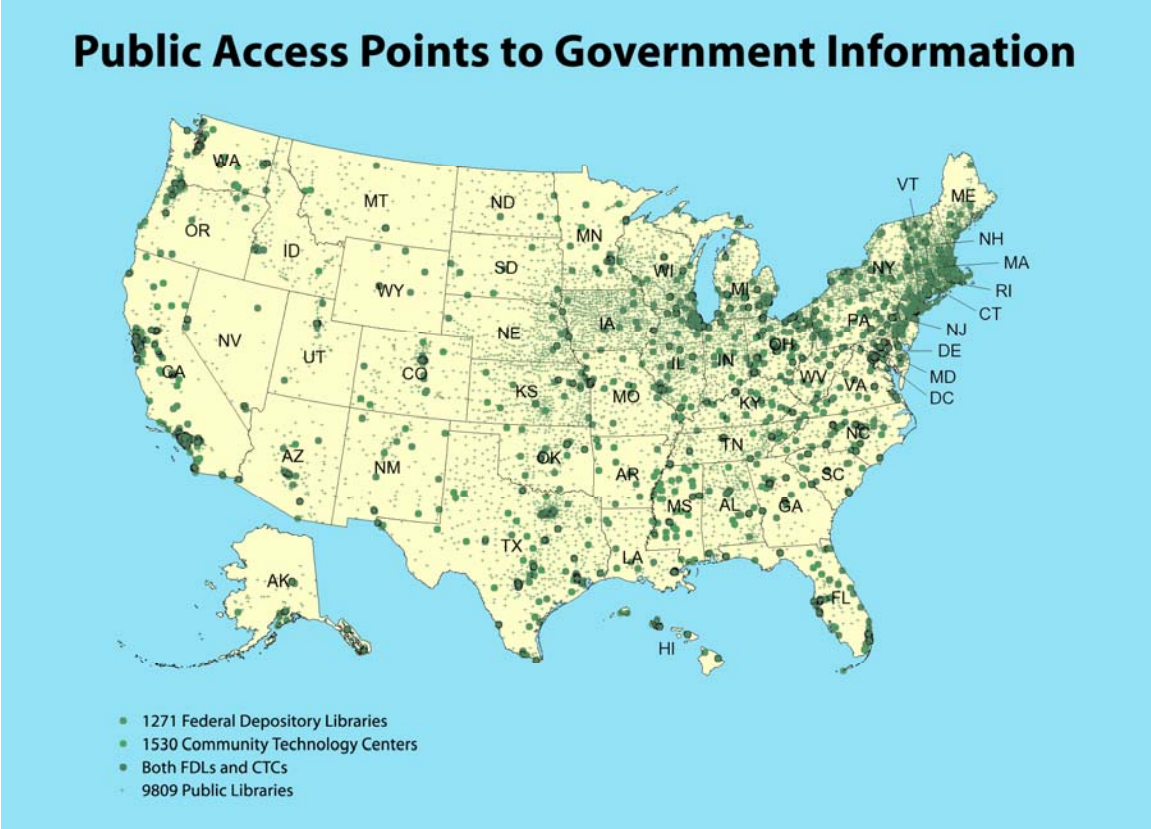
Federal Depository Library Program

The GPO manages a program of 1,271 Depository Libraries across the country distributing government documents for no cost to users. Approximately 99 percent of depository libraries provide Internet Access to the public for free.

GPO has kept citizens informed by producing and distributing Federal Government information products for more than 140 years. GPO combines conventional technology with state-of-the-art methods whether providing public access to Government information online, or producing or procuring printed publications serving the information needs of the U.S. Congress, Federal agencies, and the American public. Through the Superintendent of Documents programs, GPO disseminates the largest volume of U.S. Government publications and information in the world.

The Federal Depository Library Program (FDLP) is by far the largest and best known of the Superintendent of Documents programs. Established by Congress to ensure the American public has access to Government's information, this program involves the acquisition, format conversion, and distribution of depository materials and the coordination of Federal Depository Libraries in the 50 states, the District of Columbia and U.S. territories.

The mission of the FDLP is to disseminate information products from all three branches of the Government to 1,271 libraries nationwide. The FDLP Desktop has a map linking to locations of all the Federal Depository Libraries at http://www.gpoaccess.gov/libraries.html. Libraries designated as Federal depositories maintain these information products as part of their existing collections and are responsible for assuring the public has free access to the material provided by the FDLP. OMB Circular A-130 Section 8(6)(g) requires agencies to use the FDLP as a channel of distribution of information for Government publications.



Source: U.S. Government Printing Office (2004)

Policy Efforts for Managing Federal Agency Public Web Sites

Effectively managing Federal agency Web sites is critical to ensuring citizens continuously find Federal information easily and have a positive experience. To aid the Federal Government in consistently presenting Government information and services to the public, Web policies have been issued by OMB to promote these goals and to fulfill the requirements of section 207(f) of the E-Government Act of 2002. They can be found at: http://www.whitehouse.gov/omb/memoranda/fy2005/m05-04.pdf. Creating a more citizen centered Government requires agencies apply a thorough understanding of Federal information law and policy to the management of their public Web sites. Further, the Interagency Committee on Government Information (ICGI) published recommendations for managing Federal Web sites. A toolkit for Federal webmasters is being developed.

Efforts to Expand Accessibility

Sections 504 and 508 of the Rehabilitation Act were established to enable the ease of use of Federal Web sites and access to information and services by disabled persons. Section 504 states "no qualified individual with a disability in the United States shall be excluded from, denied the benefits of, or be subjected to discrimination under any program or activity either receives Federal financial assistance or is conducted by any Executive agency or the United States Postal Service." Requirements common to agency regulations include reasonable accommodation for employees with disabilities; program accessibility; effective communication with people who have hearing or vision disabilities; and accessible new construction and alterations. Each agency is responsible for enforcing its own regulations.

Section 508 establishes requirements for electronic and information technology developed, maintained, procured, or used by the Federal Government. Section 508 requires Federal electronic and information technology to be accessible to people with disabilities, including employees and members of the public (see http://section508.gov/). The Section 508 standards specifically include web sites.

An accessible information technology system is one operated in a variety of ways and without relying on a single sense or ability of the user. For example, a system providing output only in visual format may not be accessible to people with visual impairments and a system providing output only in audio format may not be accessible to people who are deaf or hard of hearing. Some individuals with disabilities may need accessibility-related software or peripheral devices in order to use systems Section 508 compliant.

Federal Plain Language Initiative

The Federal Plain Language Initiative is working with agencies to accelerate their translation of complex information into plain language to benefit all audiences.

Limited English Proficiency - Executive Order 13166, "Improving Access to Services for Persons with Limited English Proficiency" (August 11, 2000), requires each agency to ensure access to Government services by those citizens with limited English proficiency. The Interagency Working Group on Limited English Proficiency was established to build awareness of the need and methods to ensure limited English proficient persons have meaningful access to important Federal and Federally assisted programs, and to ensure implementation of language access requirements under Title VI, the Title VI regulations, and the Executive Order in a consistent and effective manner across agencies.

FirstGov en Espanol (http://www.espanol.gov) – FirstGov.gov launched a Spanish portal in October 2003, to serve as the official Government portal for the 28 million Americans who speak Spanish at home (Census 2000). This portal brings together Spanish-language Web sites and information from Federal and state governments into one place, organized in a way Spanish-speakers can find and use it.

Expanding Multi-Channel Service Delivery to Citizens

USA Services, a Presidential E-Gov Initiative, is working with all Federal agencies to offer multi-channel services to citizens so all can continue to have access to Government information and services via the Web, e-mail, phone and print publications. Agencies can use the Pueblo, Colorado distribution facility to distribute their consumer print publications. Agencies can ask the National Contact Center to answer their public e-mail and telephone calls or use a program to contract for these services.

Computer Literacy and Ease of Use

The Government is committed to reducing the paperwork burden on citizens and business and improving Government response time to citizens. To achieve these goals, citizens need to be able to access Government services quickly and easily by using the Internet. The Federal Government is aggressively developing policy, training, tools, and services to help Federal Web/Internet developer create usable, useful, and accessible sites. The ICGI developed a toolkit to help agencies develop useful Federal Websites.

GSA's Office of Governmentwide Policy recently launched a Government-wide usability effort to help agencies identify usability problems, measure usability performance, and improve usability of online applications. The goal of this Government-wide usability effort is to ensure Federal online services are easy to use, easy to learn, and easy to understand by providing Government-wide policies, recommendations, and tools to assist Federal agencies in optimizing users' (*i.e.*, citizens' and businesses') interactions with Government online information, products, and services. The effort (http://www.Usability.gov) helps agencies implement user-centered design of Federal online applications to ensure there is a consistent approach to developing and maintaining citizen-centric Web sites across Government. It also helps assure the public of effective, efficient access to Federal Government services online.

The American National Standards Institute (ANSI) defines usability as the extent "a product can be used by specified users to achieve specified goals with effectiveness, efficiency, and satisfaction in a specified context of use."

In addition to improving the usability of Federal Web sites, the Government-wide usability effort is intended to:

- Improve the effectiveness and efficiency of Federal online systems;
- Increase consistency of navigation, look and feel, terminology, and information architecture across Federal Web sites;
- Reduce Federal Web site development and maintenance costs by reducing duplication of effort among agencies, preventing replication of poor user experience practices, and providing models for effective user experience methods;
- Increase cross-agency sharing and implementation of Federal usability research data, best practices, lessons learned, and other resources;
- Encourage measurable improvements in the usability of Federal Web sites and other online applications.

Computer Literacy in Schools: As part of the *No Child Left Behind Act of 2001* (NCLB, P.L. 107-110), the Enhancing Education Through Technology (ED Tech) program seeks to improve achievement in elementary and secondary schools through the use of technology, to assist students to become technically literate by the eighth grade, and to ensure teachers integrate technology into the curriculum to improve student achievement. There are also provisions in the act to provide funding for schools to purchase technology resources to further the program's goals.

The Department of Education released "The National Education Technology Plan" (January 2005), to help states and districts prepare today's students for the opportunities and challenges of tomorrow. It includes a seven action steps and accompanying recommendations. It also reflects the progress our nation has made as a result of a decade of increased Federal, state, local, and private investments in connecting classrooms to the Internet, providing students with computers, and equipping teachers with the skills they need to use technology as an instructional tool. Finally, it provides a set of action steps and recommendations that the nation's school systems can consider as they begin or continue to transform.

The USDA Rural Broadband Access Loan and Loan Guarantee Program

USDA Rural Development: Since FY 2003, Rural Development approved $659 million in loans and loan guarantees to provide broadband services in rural communities. These loans facilitate deployment of new and innovative technologies to provide two-way data transmission of 200 KBPS or more, in communities with populations up to 20,000. The loans or guarantees provide for the cost of construction, improvement, and acquisition of facilities and equipment for broadcast services in eligible rural communities.

Overall, USDA Rural Development utilized several loan and guarantee programs to help narrow the access gap in rural areas. Since 2001, over $3 billion in USDA's various telecommunication funding programs have assisted over 1.3 million rural subscribers gain critical access to new broadband technologies. Such access to rural broadband technologies is a pivotal recruitment and retention component for communities.

The USDA Rural Development also supports technology for rural health care and education. Internet infrastructure technologies are serving also as a conduit in rural areas to increase access to improved telemedicine and education curriculums. Students in some of America's most remote communities are now able to link together and receive educational instructions from nearby community colleges or universities, opening a new world of educational opportunities. Utilizing the broadband technologies, doctors and medical centers can erase the pressures of time and distance to bring more timely diagnosis and treatment to rural patients. Since 2001, over $177 million in Distance Learning and Telemedicine grants, loans, and loan/grant combinations including 2,998 rural educational and distance learning facilities expanded access to modern telecommunications technology.

Tribal Governments

Outreach to Native Americans – Most Native Americans belong to Tribes having at least some Internet capability, and Indian children have access to the Internet through their schools. Those living on tribal trust lands primarily have access to computers and the Internet through central community institutions such as health clinics, libraries and schools rather than in their homes. The Bureau of Indian Affairs has worked with tribes by developing an agency Web site and Web-based systems supporting program areas such as education and tribal self-governance.

State Governments

Universal Service Plans - Currently, 24 states collect at least $1.9 billion annually for their own Universal Service Plans, to subsidize a variety of telephone and Internet services to various target populations including low income consumers, rural areas and schools. These State Universal Service Plans are administered by State Public Utility Commissions, each are different and the degree of Internet support varies. A few additional states are considering establishing the funds, according to the National Association of Regulatory Utility Commissioners and the Wall Street Journal. Increasingly, state and local governments are actively pursuing efforts to increase the expansion of access to the Internet because of the potential it offers its citizens.

Municipal Wi-Fi – Municipally sponsored wireless local area access is being considered or implemented in many communities in the U.S. For example, Philadelphia now plans to install a city-wide wireless broadband Internet access with moderate access cost. One account could provide service to both home and work. It has been reported over 800 communities are considering this avenue to provide high-speed service to all and reduce costs.

Libraries and Public Access - There are more than 15,000 public libraries in the United States. According to Institute of Museum and Libraries Services (IMLS) funded research conducted by McClure and Bertot in 2002, almost all public library outlets have an Internet connection (98.7 percent). Almost all public library outlets (95.3 percent) also provide free public access to the Internet. Public libraries remain a key method of access

for many without Internet access at home or work. Of particular interest, 100 percent of urban library outlets surveyed provide public access to the Internet, up from 97.7 percent in 2000, and 100 percent of outlets with more than 40 percent poverty do as well, an increase from 93.5 percent in 2000.

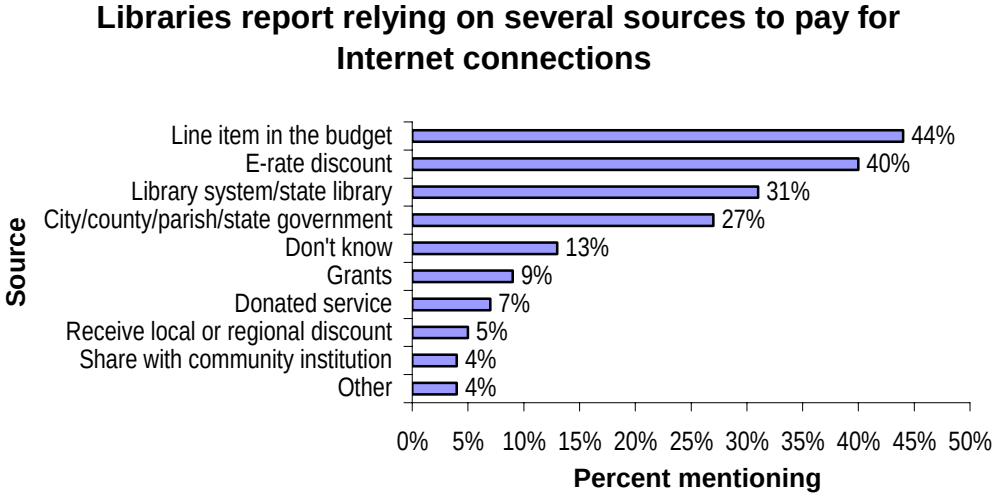
Public library outlets have almost tripled the number of public access workstations for patron use during the years 1998-2002. In 2002, one quarter of public library outlets have three or fewer workstations. Connection speeds for public access Internet services also increased. By 2002, 49.1 percent of outlets have T1 (1.544 mbps) or faster speed of connectivity for public access services, and 33.2 percent of rural library outlets and 47.2 percent of libraries with more than 40 percent poverty are able to provide T1 service or greater.

Another study by McClure, Ryan and Bertot for IMLS shows over the past five years, many public libraries have come to rely on sometimes small, but critically important, external sources of funding to establish and maintain their technology infrastructure, telecommunications services, and network-based resources and services. These external-funding sources may be from the Government such as the Federal Library Services and Technology Act (LSTA) Grants to State Library Agencies, the USF E-Rate program, or other Federal, state, and local government programs.

Public libraries use of sources of external funding in combination are able to achieve outcomes far greater than any single source could accomplish. Public libraries engaged in significant experimentation and innovation in information services development. Public librarians have successfully leveraged these external funds to:

- Offer new networked-based programs and services;
- Obtain additional resources and support for their libraries;
- Better integrate themselves into the local community's information infrastructure;
- Encourage economic development; and
- Increase the visibility and credibility of the public library as "the information place" in their community.

The Bill and Melinda Gates Foundation recently commissioned a study by Gordon, Moore and Gordon to follow-up on the libraries receiving the one-time Gates grants earlier. The study found these libraries continue to sustain public access Internet operations, but 25 percent of Gates grantee library Internet operations are considered fragile because of uncertain financial support. For instance, 28 percent of libraries are unable to afford to replace older Gates-grant computers and most libraries depend on splicing together multiple funding sources to pay for Internet network access. Often the external funds used comprised only one to three percent of the library's budget. Yet such funds allowed public libraries to experiment, innovate, and demonstrate how Internet services could be deployed and how such services could be of benefit to all members in the communities served by libraries. The chart below shows the funding sources for library Internet access services.



Source: Bill and Melinda Gates Foundation

The average library public Internet access arrangement has 8.3 workstations with Internet access (rural 4.9 and urban 17.3 workstations). Moreover, 25.3 percent of rural public libraries connect to the Internet via a dial-up 56kbps modem. The same study shows 62.1 percent of library outlets with 20-40 percent poverty and 69.6 percent of library outlets with more than 40 percent poverty designations make use of the E-rate discount to support their Internet connectivity services according to McClure, Ryan and Bertot.

Public Schools

Public schools at the K-12 level are nearly all wired for Internet service according to the National Center for Education Statistics (NCES) Report on Public School Connection to the Internet, October 2003. Using its Fast Response Survey System, NCES surveyed a sample of 1,206 public schools in the 50 states and the District of Columbia. The survey was part of a series of annual survey starting in 1994. A summary of the survey results shows the following:

- The percent of public schools with Internet access went from 35 percent in 1994 to 99 percent in 2002.
- The percent of public school instructional rooms with Internet access went from 3 percent in 1994 to 92 percent in 2002.
- In 2002, 94 percent of public schools with Internet access used broadband connections to access the Internet compared to 80 percent in 2000.
- In 2002, the ratio of students to instructional computers with Internet access in all public schools was 4.8 to 1, an improvement from the 12.1 to 1 ratio in 1998, when the ratio was first measured.

In 2002, the ratio of students to instructional computers with Internet access was also improved in schools with the highest poverty concentration, 5.5 to 1 (compared to 16.8 to 1 in 1998) and the all public school ratio of 4.8 in 2002.

Chapter 6 - What is being done through Non-Government and Joint Efforts

Research and Analysis

There are many initiatives addressing Internet access. Some of these receive funding from the Federal Government in the form of grants and loans. Non-profit organizations, universities and industry are producing a great deal of valuable research on Internet access. This analysis when published is informing and guiding the efforts of those attempting to improve access. Especially valuable are the works of organizations conducting longitudinal research programs in Internet access issues including E-Government issues. They include the Pew Internet & American Life Project, the Benton Foundation, Council for Excellence in Government, Council for Excellence in Government, Hart-Teeter, Kaiser Family Foundation and the Bill and Melinda Gates Foundation, Nielsen NetRatings, Brown University, and the Center for Public Policy and American Customer Satisfaction Index - University of Michigan.

Community Technology Centers

Community technology centers (CTCs) provide computer and Internet access at the community level. If informal arrangements are considered, there are over 30,000 such access centers. Most are non-profit organizations (including community and faith based organizations). Community technology centers may be independent organizations dedicated to this service, but the majority of organizations providing this access are those having broader missions. For example, educational organizations such as community colleges and public libraries, minority-serving institutions, social service organizations like Boys and Girls Clubs or Urban Leagues, small town alliances, socially disadvantaged and small farm organizations, and other private and public service organizations are providing this computer and Internet access along with other types of services. Many of the formal CTCs were funded, at least initially, through grants from Federal departments.

The purpose of the Department of Education's Community Technology Centers (CTC) program was to assist eligible applicants to create or expand community technology centers providing disadvantaged residents of economically distressed urban and rural communities with access to information technology and related training. For FY 2003, the Department of Education focused on the academic achievement of low-achieving high school students. Thus, grant recipients must meet this priority as they use grant funds to create or expand community technology centers.

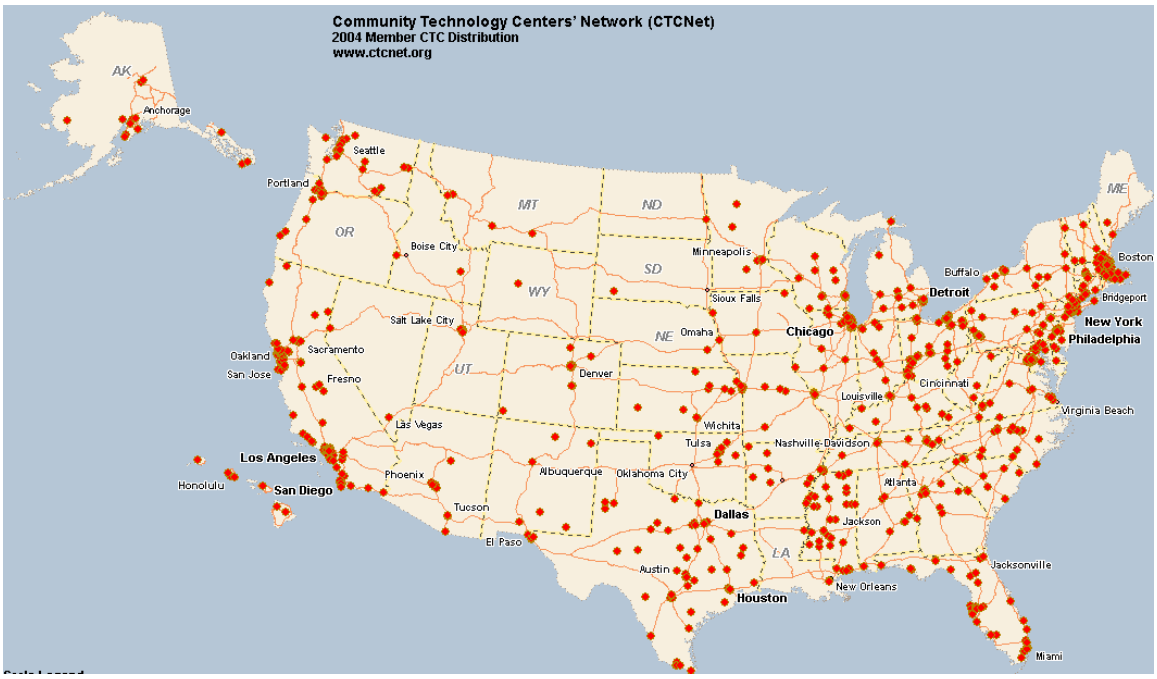
The Department of Education supported CTCs through a grant program. The program was appropriated and made grants of over $172 million (1999-2004) funding over 388 grants, many with multiple CTC locations.

Neighborhood Networks is a community-based initiative of the Department of Housing and Urban Development (HUD) encouraging the development of resource and computer-learning centers in privately owned HUD-assisted and/or insured housing. These centers work to build self-reliant neighborhoods to meet the needs of lower-income families and seniors where they live.

The National Science Foundation supported the development and maintenance of a network consortium containing more than 250 community technology centers where people get access to computers and computer-related technology, including the Internet.

Distribution of CTCs

Several networks of community technology centers exist in the United States. The largest among these is Community Technology Centers' Network (CTCNet) grew from a handful of centers in the northeast in 1990 to more than 1,000 independent member CTCs today, representing every state. CTCNet's membership includes representatives of other national programs, including the U.S. Department of Housing and Urban Development's "Neighborhood Networks" program and programs run by national nonprofits with local presences, including the National Urban League, YMCAs and Boys and Girls Clubs of America. CTCNet empowers people and strengthens communities by promoting technology to enhance learning, communication, and civic participation. Though community technology centers can be found in every state of the union (see below), CTCNet's member centers tend to be located in urban areas and on the east and west coasts. A sample of CTC types can be found at Appendix IV.



A separate report will be provided on CTCs as required by Section 213 of the E-Gov Act of 2002.

Bill and Melinda Gates Foundation

The Bill and Melinda Gates Foundation's Global Libraries Program seeks to increase access to technology for residents in low-income and disadvantaged communities through partnerships with public libraries in the United States and throughout the world.

Since it began in 1997, the U.S. Library Program has been dedicated to providing increased public access to computers, the Internet and digital information to library patrons in low-income communities throughout the United States. The mission of connecting libraries to the Internet has been accomplished; the challenge now is to help public libraries stay connected. The Gates Foundation found providing computers was not enough; libraries need packages of computers, software, network hubs, Internet access, technical support and training. By the program end of 2003, 10,000 libraries in 50 states benefited from the $250 million investment from the Foundation. The Foundation continues to provide grants to state libraries in support of public access to the Internet.

The goal of the Gates Foundation Native American Access to Technology Program (NAATP) is to empower Native communities through increased access to digital information resources. The program provides access to tools and technology to preserve local culture and heritage, as well as opportunities for communities to teach digital skills to its members. The NAATP has worked with 43 tribes in Arizona, Colorado, New Mexico, and Utah to provide computers, peripherals, training and technical support. NAATP has invested $9.6 million to provide 805 computers for 161 sites.

Chapter 7 - Recommendations

The chapters above reflect the breadth of Federal, state, local, and non-government efforts to address disparities in Internet access. Internet access is growing, both as individual households move online and through increasing public access through schools, libraries, and community technology centers. Moreover, adoption of high-speed broadband which enhances delivery of these services is also growing. Alongside these developments, some disparities in Internet access remain. A segment of the population, for a variety of reasons, has less access to the benefits of the Internet, including access to Government services available online. The following recommendations are focused on ensuring citizens' access to government services and information, while supporting the benefits of online access to these resources.

1. Support Affordable Broadband Services - The President has called for universal, affordable access for broadband technology by the year 2007, and wants Americans to have a variety of technology choices when it comes to purchasing broadband. The Committee recommends support of these initiatives. Broadband technology enhances the Nation's economic competitiveness and economic security, as well as improves opportunities for education, employment, and health care. Broadband high-speed Internet access connections improve the Nation's economic productivity and offer life-enhancing applications, such as distance learning, remote medical diagnostics, and the ability to work from home more effectively. The Federal Government has implemented a wide range of policy directives to create economic incentives, remove regulatory barriers, and promote new technologies to help make broadband affordable.

2. Maintain Traditional Methods of Access to Government Services– The Federal Government should ensure there is no loss of access to Government services when implementing E-Government. Agencies must be aware of citizen needs for their information and services, and plan to disseminate their information and services to meet those demands. The term "information dissemination product" (as defined in OMB Circular A-130) applies to both products and services and makes no distinction based on how the information is delivered. This includes providing paper copies, when needed. It requires agencies to plan information dissemination products throughout an extended information resource lifecycle, follow processes if there is a change in information dissemination pattern of a product and the use of the Federal Depository Library Program to ensure paper copies are available.

3. Drive Market Uptake of E-Gov – Increase E-Government utilization and use of the self-service model for those with Internet access to relieve pressure on the traditional channels of access so they are available for those without Internet access. The demand reduction on traditional channels of customer interface due to Internet uptake has been experienced in Government and industry. To implement this recommendation, OMB and GSA initiated market uptake analysis and plans for E-Government initiatives to engage industry expertise in aiding increased awareness, effectiveness and utilization of the E-Government initiatives.

4. Expand Computers for Learning (CFL) Program to Include Public Libraries - The Computers for Learning (CFL) program makes computers available for classrooms. The CFL program connects the needs of registered schools and educational nonprofit organizations with available computer equipment. The program allows Federal agencies and private sector entities to transfer unneeded computers and related equipment to schools and educational nonprofit organizations while providing special consideration to those with the greatest need. Public libraries provide much needed Internet service -to many who do not have access through other means (including the K-12 students outside of school hours). Adding the public libraries to the list of eligible recipients of CFL donated computers would expand the ability of libraries to provide access and potentially refresh outdated equipment for those libraries already providing access. GSA has agreed to advance this change.

5. Additional Study of Internet Access Issues – The Institute of Museum and Library Services will initiate a study to explore and analyze further some of the Internet access issues, including ways of effectively delivering government services and other content online, while maintaining traditional forms of access to government services.

Appendix I –

Excerpt from the E-Government Act of 2002 requiring this report.

SEC. 215. DISPARITIES IN ACCESS TO THE INTERNET.

(a) STUDY AND REPORT-

(1) STUDY- Not later than 90 days after the date of enactment of this Act, the Administrator of General Services shall request that the National Academy of Sciences, acting through the National Research Council, enter into a contract to conduct a study on disparities in Internet access for online Government services.

(2) REPORT- Not later than 2 years after the date of enactment of this Act, the Administrator of General Services shall submit to the Committee on Governmental Affairs of the Senate and the Committee on Government Reform of the House of Representatives a final report of the study under this section, which shall set forth the findings, conclusions, and recommendations of the National Research Council.

(b) CONTENTS- The report under subsection (a) shall include a study of--

(1) how disparities in Internet access influence the effectiveness of online Government services, including a review of--

(A) the nature of disparities in Internet access;

(B) the affordability of Internet service;

(C) the incidence of disparities among different groups within the population; and

(D) changes in the nature of personal and public Internet access that may alleviate or aggravate effective access to online Government services;

(2) how the increase in online Government services is influencing the disparities in Internet access and how technology development or diffusion trends may offset such adverse influences; and

(3) related societal effects arising from the interplay of disparities in Internet access and the increase in online Government services.

(c) RECOMMENDATIONS- The report shall include recommendations on actions to ensure that online Government initiatives shall not have the unintended result of increasing any deficiency in public access to Government services.

(d) AUTHORIZATION OF APPROPRIATIONS- There are authorized to be appropriated $950,000 in fiscal year 2003 to carry out this section.

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Appendix III –

The Interagency Committee on Government Information (ICGI) Executive Committee

Karen Hogan (Co-Chair)	Department of Commerce
Glenn Schlarman (Co-Chair)	Office of Management and Budget
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Beverly Godwin	General Services Administration
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Kimberly Nelson	Office of Management and Budget
John Ray	General Services Administration
Gretchen Schlag	Government Printing Office
Alan Vander Mallie	Department of Commerce
Michele Worthington	Government Printing Office

Appendix IV – A Sample of Types of Community Technology Centers

Museum	
Portland Museum Louisville, KY	The Museum targets an audience of older youth and community adults who do not have access to computers so as to offer them training in computer skills. A computer classroom will be available during the Museum's regular public hours and special training classes held on weekends and in the evenings.
Faith-Based	
Outreach Ministries – Outreach Community Center Carol Stream, IL www.outreachcommunityministries.com	At the Outreach Community Center in Carol Stream neighborhood children are given opportunities for structured activity, development of positive relationships with other children and adults, academic enrichment, and participation in cultural experiences and Christian education.
School/School-Based	
Seattle Public Schools - Community Technology Program Seattle, WA http://www.seattleschools.org/area/ocl/comtech.xml	Community Technology Initiatives help provide technology tools that students can access at home or as they travel. Students who need extra help aren't limited by the hours their teachers are on the job. Families can get guidance about which projects will help most as their students work to meet a particular learning standard. Some schools also are keeping their building doors open longer by allowing other organizations to operate community learning centers in schools during evenings and vacations. Students, families and neighbors can use computers and other learning tools there. This access is especially important for families who are without a computer at home.
Stand-Alone Technology Center	
Capitol Hill Computer Corner Washington, DC www.computercorner-dc.org	CHCC enhances the learning opportunities and personal growth of community residents and youth through innovative technology programs and curricula.