

## SUMMARY OF FINDINGS

### Library use is up

Despite the demands of work and the public's love affair with TV, public library use has substantially increased in recent years.

Sixty-six percent of Americans, more than 122 million people, reported using the public library in the past year. That figure is 15% higher than the 1978 Gallup findings. (The Gallup survey asked about visiting the public library; Equifax-Harris asked about using it, thereby also registering participation by those who contact the library by telephone.\*)

Of those who said they have used the public library in the past year, 42% said they have used library services 12 or more times (heavy use); 24% said they have done so 5 to 11 times (moderate use); and 33% said they have used the library 1 to 4 times (light use).

Although Equifax-Harris found a decline in the lightest use since the Gallup survey was conducted, it found increases in both moderate and heavy use.

### Who uses the library

- o People of all ages and backgrounds use libraries. Those 18-24 year-olds (78%) and 30-39 year-olds (73%) use the library more often than other age groups. Fifty-eight percent of blacks interviewed said they use the library; 62% of hispanics and 67% of whites reported using the public library.
- o Library use is slightly higher by women than men, with 68% of women using the library compared with 63% of men.
- o Education is a major factor in the level of library use. The highest level of use was found among those with the most education: 90% of those with postgraduate education reported use. College graduates were also high, with 83% reporting use, followed by 81% of those who had some college education.
- o Regional differences in library use are not great. Slightly more people in the East (70%) and West (69%) use public libraries than do those in the Midwest (63%) and South (63%).

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\* Evidence from the annual University of Illinois panel survey on growth of circulation and evidence from the Equifax-Harris survey on increased use of almost all specific library services (see table) leads us to believe that total use did increase in the time between the two surveys.

- o Differences by community are significant between suburbanites (71%) and those in rural areas (58%). Sixty-four percent in central cities reported use.
- o Income is a strong predictor of library use. The highest percentage of library users (81%) falls among those who make \$50,001 and over. Use then decreases with income, with 54% of those earning \$7,500 or less using the public library.

**Libraries attract those most active in cultural and civic affairs--also home computer owners**

Public library users are more likely to engage in cultural activity than non-users: 87% of those who attended an opera, ballet, or symphony in the past year have used the public library, compared with only 13% who attended such events but did not use the library.

They are also more likely to belong to a voluntary association. Eighty-one percent of voluntary association members use the public library, whereas only 18% do not.

Users are more likely to have a computer at home. Eighty-five percent of computer owners have used the public library, compared with 15% who have not.

**What services are being used**

The survey focused on specific library services that had also been studied in the 1978 Gallup survey. (It did not attempt to quantify many other important library uses, such as browsing, story hours for children.) The report found that in comparison with the 1978 survey, use of every library service listed has increased, with the exception of "read newspapers and magazines," which has remained constant (49%). "Took out a book" continues to be most popular, with 91% of library users; the Gallup survey found 75% used this service.

Library Service	Gallup%	Equifax-Harris%
Took out a book	75	91
Used reference materials	51	77
Read newspapers or magazines	49	49
Took out records, tapes, films	20	30
Heard a speaker; saw a movie	18	24
Took a class	6	12

Hispanics and blacks are heavily represented among those who took out a book, read a newspaper or magazine, and took out a record, tape, or film. Hispanics are also well represented among those who heard a speaker, saw a movie, and took a class. Blacks are the only prominent demographic group among moderate library users. People earning \$7500 a year or less are well represented among those who read newspapers or magazines (54%).

### Impact of technology

The report documents the growing availability of computers and computerized services in the public library. By 1986, 3,369 online databases were available to the public, and more than 34% of public libraries serving populations of more than 25,000 offered database searching. In addition, more than 43% of public libraries serving a population of more than 25,000 had microcomputers for public use. Experts estimate those percentages have increased significantly since 1986.

Availability of audio and videocassettes for borrowing, and use of CD-ROM for data searching are becoming increasingly popular in libraries throughout the country.

The Gallup survey had found that when library users were asked what newer services they were interested in, one of the most prominent was "a computer which you can use to search for information or books you want." The Equifax-Harris study found that 25% of library users had, in fact, used a computer terminal in 1990--an important finding for the future.

### Future possibilities

More than two-thirds of the American public--68% (representing over 125 million Americans)--feels that if they had a home computer, it would be either "very valuable" or "somewhat valuable" for them to be able to obtain online information from the public library or a nonprofit service.

The strongest percentages who viewed such a service as "very valuable" were found among respondents aged 18-24 (44%) and 30-39 (40%), those with either a postgraduate education (48%) or some college (43%), and respondents earning more than \$50,000. But low-income people also expressed considerable interest: 62% earning \$7500 or less felt it would be very or somewhat valuable; as did 60% of those earning \$7501-15,000. There was also substantial interest demonstrated by those with less than a high school education: 58% felt such a service would be useful.

Hispanics and blacks showed greater interest in the service than whites. Blacks, at 47%, had the highest percentages responding "very valuable." Taking "very valuable" and "somewhat valuable" together, Hispanics showed the highest interest, with 78%, followed by blacks, with 75%. Sixty-seven percent of whites were also interested.

These findings suggest that low-income people and minorities feel the need for more information than they are now obtaining from the sources available to them. However, because the Equifax-Harris survey also documented that these groups are the least likely to have a home computer today, there are serious questions about whether they will be able to obtain such connections in the near future.

## America's voluntary leaders are ready to use technology

The 17% of the American public--twenty-two million people--who are leaders of our nation's voluntary associations\* are both more likely to use the public library than the general public (75%, compared with 66%), and are among the heaviest users (50%, compared with 42%).

These organizational leaders are eager to use online connections that are meaningful to them: 72% of them think it would be valuable to be able to connect online with the public library or nonprofit service for expert advice and/or publications, and 41% think it would be very valuable. This compares with 34% of the public who think it would be very valuable.

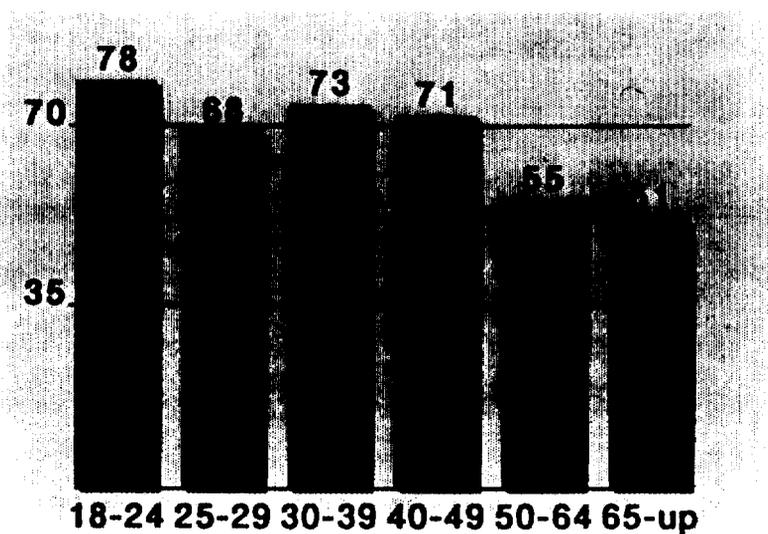
Sixty-five percent of organizational leaders think it would be valuable to be able to communicate online with a charity or civic group they are involved in, including 29% who think it would be very valuable. (Fifty-eight percent of the public felt such a service would be valuable, and 22% consider it very valuable.) The public library would be one major point of entry for such online connections.

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\* Respondents said they served as local, regional, or national officers in a religious congregation; labor union; or charitable, educational, voluntary, or public affairs organization.

## Use of the public library by age group (%)

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199 records found

[Abbot Public Library](#) (Marblehead - MA - US) (WWW)  
[Alachua County Library District](#) (Gainesville - FL - US) (WWW)  
[Allen County Public Library](#) (Ft. Wayne - IN - US) (WWW)  
[Ann Arbor Public Library](#) (Ann Arbor - MI - US) (WWW)  
[Appleton Public Library](#) (Appleton - WI - US) (WWW)  
[Atlanta/Fulton Public Library](#) (Atlanta - GA - US) (WWW)  
[Austin Public Library](#) (Austin - TX - US) (WWW)  
[Baldwin Public Library](#) (Birmingham - MI - US) (WWW)  
[Baltimore County Public Library](#) (Towson - MD - US) (WWW)  
[Bedford Free Public Library](#) (Bedford - MA - US) (WWW)  
[Berkeley Public Library](#) (Berkeley - CA - US) (WWW)  
[Birmingham Public Library](#)>[Birmingham Public Library](#) (Birmingham - AL - US) (WWW)  
[Bloomfield Township Public Library](#) (Bloomfield Hills - MI - US) (WWW)  
[Boston Public Library](#) (Boston - MA - US) (WWW)  
[Boulder Public Library](#) (Boulder - CO - US) (WWW)  
[Burlington County Library](#) (Westampton - NJ - US) (WWW)  
[Cambridge Public Library](#) (Cambridge - MA - US) (WWW)  
[Camden Public Library](#) (Camden - ME - USA) (WWW)  
[Canton Public Library](#) (Canton - MI - US) (WWW)  
[Carnegie Library of Pittsburgh](#) (Pittsburgh - PA - US) (WWW)  
[Carroll County Public Library](#) (Westminster - MD (Maryland) - US) (WWW)  
[Cedar Falls Public Library](#) (Cedar Falls - IA - US) (WWW)  
[Chicago Public Library](#) (IL - US) (WWW)  
[Chicago Public Library](#) (Chicago - IL - US) (WWW)  
[City of Anacortes Public Library](#) (Anacortes - WA - US) (WWW)  
[City of Palo Alto Libraries](#) (Palo Alto - CA - US) (WWW)  
[Clark Public Library](#) (Clark - NJ - US) (WWW)  
[Dayton & Montgomery County Public Library](#) (OH - US) (WWW)  
[Delaware Public Library WWW](#) (Dover - DE - US) (WWW)  
[El Dorado County Library](#) (Placerville - CA - USA) (WWW)  
[Ellsworth Public Library](#) (Ellsworth - ME - US) (WWW)  
[Eugene Public Library](#) (Eugene - OR - US) (WWW)  
[Evansville-Vanderburgh County Public Library](#) (Evansville - IN - US) (WWW)  
[Farmington Community Library](#) (Farmington - MI - US) (WWW)  
[Farmington Hills Library](#) (MI - US) (WWW)  
[Fayetteville Public Library](#) (Fayetteville - AR - US) (WWW)  
[Flint Public Library](#) (Flint - MI - US) (WWW)  
[Glenview Public Library](#) (Glenview - IL - US) (WWW)  
[GoMLink \(Virtual Library\)](#) (MI - US) (WWW)  
[Hawaii State Public Library System](#) (Hawaii - US) (WWW)  
[Hollis Social Library](#) (Hollis - NH - US) (WWW)  
[Houston Public Library](#) (Houston - TX - US) (WWW)  
[Indianapolis-Marion County Public Library](#) (Indianapolis - IN - US) (WWW)  
[Iowa City Public Library](#) (Iowa City - IA - US) (WWW)  
[Kokomo-Howard County Public Library](#) (Kokomo - IN - US) (WWW)  
[Lawrence Public Library](#) (Lawrence - KS - US) (WWW)  
[Longmont Public Library](#) (CO - US) (WWW)  
[Midwestern Michigan Library Cooperative](#) (MI - US) (WWW)  
[Milton Public Library](#) (Milton - MA - US) (WWW)  
[Monroe County Public Library](#) (Bloomington - IN - US) (WWW)  
[Monroe County Public Library](#) (Monroe - NY - US) (WWW)  
[Montgomery-Floyd Regional Library](#) (Christianburg - VA - US) (WWW)  
[Moscow Public Library](#) (Moscow - ID - US) (WWW)  
[Moscow-Latah County Library District](#) (Moscow - ID - US) (WWW)  
[Mount Arlington Public Library](#) (Mount Arlington - NJ - US) (WWW)

[New Castle - Henry County Public Library](#) (New Castle - IN - US) (WWW)  
[New Orleans Public Library](#) (New Orleans - LA - US) (WWW)  
[New York Public Library](#) (New York - NY - US) (WWW)  
[Norfolk Public Library](#) (Norfolk - VA - US) (WWW)  
[Novi Public Library](#) (Novi - MI - US) (WWW)  
[Pasadena Public Library](#) (Pasadena - CA - US) (WWW)  
[Planet Earth Home Page Virtual Library](#) (- US) (WWW)  
[Provo City Library](#) (Provo - UT - US) (WWW)  
[Public Library of Charlotte & Mecklenburg County](#) (Charlotte - NC - US) (WWW)  
[Public Library of Des Moines](#) (Des Moines - IA - US) (WWW)  
[Public Library of Nashville and Davidson County](#) (Nashville - TN - US) (WWW)  
[Riverside City and County Public Library](#) (River Side - CA - US) (WWW)  
[Rochester Hills Public Library](#) (Rochester Hills - MI - US) (WWW)  
[Sacramento Public Library](#) (Sacramento - CA - US) (WWW)  
[Saint Paul Public Library](#) (St. Paul - MN - US) (WWW)  
[San Francisco Public Library](#) (San Francisco - CA - US) (WWW)  
[Santa Cruz Public Libraries](#) (Santa Cruz - CA - US) (WWW)  
[Santa Fe Public Library](#) (Santa Fe - NM - US) (WWW)  
[Seattle Public Library](#) (Seattle - WA - US) (WWW)  
[SELCO \(Southeastern Libraries Cooperating\)](#) (MN - US) (WWW)  
[Sharon Public Library](#) (Sharon - MA - US) (WWW)  
[Southeastern Ohio Public Libraries](#) (OH - US) (WWW)  
[Southfield Public Library](#) (Southfield - MI - US) (WWW)  
[Spokane Public Library](#) (Spokane - WA - US) (WWW)  
[St. Charles City-County Library District](#) (Saint Peters - MO - US) (WWW)  
[St. Joseph County Public Library](#) (South Bend - IN - US) (WWW)  
[Taylor Public Library](#) (Taylor - TX - US) (WWW)  
[The Ferguson Library](#) (Stamford - CT - US) (WWW)  
[The Free Public Library of Philadelphia](#) (Philadelphia - PA - US) (WWW)  
[The Internet Public Library \(Virtual Library\)](#) (MI - US) (WWW)  
[Waldoboro Public Library](#) (Waldoboro - ME - US) (WWW)  
[Washoe County Library](#) (Reno - NV - US) (WWW)  
[Westerville \(OH\) Public Library](#) (Westerville - OH - US) (WWW)  
[Wicomico County Free Library](#) (Salisbury - MD (Maryland) - US) (WWW)  
[Willard Library](#) (Evansville - IN - US) (WWW)  
[Provincetown Public Library](#) (Provincetown - MA - US) (WWW)  
[Richardson Public Library](#) (Richardson - TX - US) (WWW)  
[Douglas County Public Library](#) (Castle Rock - CO - US) (WWW)  
[Jackson County Public Library](#) (Seymour - IN - US) (WWW)  
[Carnegie-Stout Public Library](#) (Dubuque - IA - US) (WWW)  
[Kinderhook Regional Library](#) (Lebanon - Missouri - US) (WWW)  
[Kansas City Public Library](#) (Kansas City - MO - US) (WWW)  
[Mahopac Public Library](#) (Mahopac - NY - US) (WWW)  
[Mead Public Library](#) (Sheboygan - WI - US) (WWW)  
[Millicent Library](#) (Fairhaven - MA - US) (WWW)  
[Topeka and Shawnee County Public Library](#) (Topeka - KS - US) (WWW)  
[St. Petersburg Public Library System](#) (St. Petersburg - FL - US) (WWW)  
[Round Rock Public Library](#) (Round Rock - TX - US) (WWW)  
[Miami-Dade Public Library System](#) (Miami - FL - US) (WWW)  
[Bridgeport Public Library](#) (Bridgeport - CT - US) (WWW)  
[Apache Junction Public Library](#) (Apache Junction - AZ - US) (WWW)  
[Santa Monica Public Library](#) (Santa Monica - CA - US) (WWW)  
[Mobile Public Library](#) (Mobile - AL - US) (WWW)  
[Garfield County Public Library](#) (New Castle - CO - US) (WWW)  
[Falmouth Public Library](#) (Falmouth - MA - US) (WWW)  
[Brookston-Prairie Township Public Library](#) (Brookston - IN - US) (WWW)  
[Bridgeport Public Library](#) (Bridgeport - CT - US) (WWW)

[City of Anacortes Public Library \(Anacortes - WA - US\) \(WWW\)](#)  
[City of Anacortes Public Library \(Anacortes - WA - US\) \(WWW\)](#)  
[Athenaeum of Photography \(Marblehead - MA - US\) \(WWW\)](#)  
[Altadena Public Library \(Altadena - CA - US\) \(WWW\)](#)  
[Dixon Public Library \(Dixon - CA - US\) \(WWW\)](#)  
[Livermore Public Library \(Livermore - CA - US\) \(WWW\)](#)  
[Monterey County Free Libraries \(Monterey - CA - US\) \(WWW\)](#)  
[Mountain View Library \(Mountain View - CA - US\) \(WWW\)](#)  
[San Diego Public Library \(San Diego - CA - US\) \(WWW\)](#)  
[Seaside Community Library \(Seaside - CA - US\) \(WWW\)](#)  
[Stanislaus County Free Library \(Modesto - CA - US\) \(WWW\)](#)  
[Sunnyvale Public Library \(Sunnyvale - CA - US\) \(WWW\)](#)  
[Woodland Public Library \(Woodland - CA - US\) \(WWW\)](#)  
[San Luis Obispo City-County Library \(San Luis Obispo - CA - US\) \(WWW\)](#)  
[ALEXANDRIA LIBRARY \(Alexandria - VA - US\) \(WWW\)](#)  
[Moorestown Public Library \(Moorestown - NJ - US\) \(WWW\)](#)  
[Morton Grove Public Library \(Morton Grove - IL - US\) \(WWW\)](#)  
[Evanston Public Library \(Evanston - IL - US\) \(WWW\)](#)  
[Santa Ana Public Library \(Santa Ana - CA - US\) \(WWW\)](#)  
[Southern Prairie Library System \(Altus - OK - US\) \(WWW\)](#)  
[Sonoma County Library \(Santa Rosa - CA - US\) \(WWW\)](#)  
[Cedar Falls Public Library \(Cedar Falls - IA - US\) \(WWW\)](#)  
[Multnomah County Library \(Portland - OR - US\) \(WWW\)](#)  
[Lincoln County Public Library \(Libby - MT - US\) \(WWW\)](#)  
[Missoula Public Library \(Missoula - MT - US\) \(WWW\)](#)  
[Teaneck Public Library \(Teaneck - NJ - US\) \(WWW\)](#)  
[Montclair Public Library \(Montclair - NJ - US\) \(WWW\)](#)  
[Glendale Public Library \(Glendale - AZ - US\) \(WWW\)](#)  
[Cleveland Public Library \(Cleveland - OH - US\) \(WWW\)](#)  
[Long Beach Public Library \(Long Beach - CA - US\) \(WWW\)](#)  
[Glendale Public Library \(Glendale - AZ - US\) \(www\)](#)  
[Algonquin Area Public Library District \(Algonquin - IL - US\) \(WWW\)](#)  
[San Antonio Public Library \(San Antonio - TX - US\) \(WWW\)](#)  
[Bancroft Memorial Library \(Hopedale - MA - US\) \(WWW\)](#)  
[Barrington Area Library \(Barrington - IL - US\) \(WWW\)](#)  
[Denver Public Library \(Denver - CO - US\) \(WWW\)](#)  
[Ela Area Public Library District \(Lake Zurich - IL - US\) \(WWW\)](#)  
[Watauga Regional Library \(Johnson City - TN - US\) \(WWW\)](#)  
[Jefferson-Madison Regional Library \(Charlottesville - VA - US\) \(WWW\)](#)  
[Toledo-Lucas County Public Library \(Toledo - OH - US\) \(WWW\)](#)  
[Saline District Library \(Saline - MI - US\) \(WWW\)](#)  
[Camden County Library \(Voorhees - NJ - US\) \(WWW\)](#)  
[Skokie Public Library \(Skokie - IL - US\) \(WWW\)](#)  
[Warren-Newport Public Library \(Gurnee - IL - US\) \(WWW\)](#)  
[Cook Memorial Library District \(Libertyville - IL - US\) \(WWW\)](#)  
[Morgan County Public Library \(Martinsville - IN - US\) \(WWW\)](#)  
[San Jose Public Library \(San Jose - CA - US\) \(WWW\)](#)  
[Pinellas Park Public Library \(Pinellas - FL - US\) \(WWW\)](#)  
[Wichita Public Library \(Wichita - KS - US\) \(WWW\)](#)  
[Kansas Regional Library Systems \(KS - US\) \(WWW\)](#)  
[Manhattan Public Library \(Manhattan - KS - US\) \(WWW\)](#)  
[Ocean City Free Public Library \(Ocean City - NJ - US\) \(WWW\)](#)  
[Hollis Social Library \(Hollis - NH - US\) \(WWW\)](#)  
[Los Angeles Public Library \(Los Angeles - CA - US\) \(WWW\)](#)  
[West Bloomfield Township Public Library \(West Bloomfield - MI - US\) \(WWW\)](#)  
[Riverside Regional Library \(Jackson - MO - US\) \(WWW\)](#)  
[Torrance Public Library \(Torrance - CA - US\) \(WWW\)](#)

Davidson County Public Library System (Lexington - NC - US) (WWW)  
Charleston County Library (Charleston - SC - US) (WWW)  
Wood County District Public Library (Bowling Green - OH - US) (WWW)  
Mid-Continent Public Library (Independence - MO - US) (WWW)  
West Islip Public Library (Long Island - NY - US) (WWW)  
Greenville County Library (Greenville - SC - US) (WWW)  
Champaign Public Library (Champaign - IL - US) (WWW)  
South Brunswick Public Library (South Brunswick - NJ - US) (WWW)  
Danbury Public Library (Danbury - CT - US) (WWW)  
Morgan County Public Library (Martinsville - IN - US) (WWW)  
Cumberland County Public Library (Fayetteville - NC - US) (WWW)  
Pioneer Library System (Newark - NY - US) (WWW)  
Fresno County Free Library (Fresno - CA - US) (WWW)  
Atlantic City Free Public Library (Atlantic City - NJ - US) (WWW)  
Holmes Public Library (Halifax - MA - US) (WWW)  
Marlborough Public Library (Marlborough - MA - US) (WWW)  
Newton Free Library (Newton - MA - US) (WWW)  
Pollard Memorial Library (Lowell - MA - US) (WWW)  
Reading Public Library (Reading - MA - US) (WWW)  
West Tisbury Free Public Library (West Tisbury - MA - US) (WWW)  
Worcester Public Library (Worcester - MA - US) (WWW)  
Clinton Public Library (Clinton - IN - US) (WWW)  
Oconee Regional Library (Dublin - GA - US) (WWW)  
Osceola County Library System (Kissimmee - FL - US) (WWW)  
Putnam County Library System (Cookeville - TN - US) (Cookeville - TN - US) (WWW)  
Rushville Public Library (Rushville - IN - US) (WWW)  
Springfield-Greene County Library (Springfield - MO - US) (WWW)  
Westchester Library System (Eimsford - NY - US) (WWW)  
Chesterfield County Public Library (Chesterfield - VA - US) (WWW)  
County of Henrico Public Library (Richmond - VA - US) (WWW)

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*Results generated Sunday, April 7, 1996 12:41:33 PM; seconds for parse, find & get, format: 0, 4, 1*



American Library Association

## APPENDIX E

### Office for Information Technology Policy

# Internet Services in Libraries

Whether it be the Alachua County Library District in Gainesville, Florida, the St. Charles City-County Library District, in St. Peters, Missouri, or the Seattle Public Library, in Seattle, Washington, today, according to a list maintained by the St. Joseph County, Indiana Library, nearly 200 public libraries, maintain WWW sites and make full use of this medium's graphical capabilities to provide information about the libraries' materials, to act as a host to community information, and to provide a neighborhood gateway to national and international resources such as....

#### Historical Documents

- ☐ The Gettysburg address(Library of Congress)
- ☐ An early draft of the Declaration of Independence (Library of Congress)
- ☐ The Dead Sea Scrolls (University of North Carolina)

#### Civics and Current Events

- ☐ Clips of the 1996 U.S. Presidential candidates: (CNN All Politics Web page) (*Requires Quicktime viewer*)

#### Math and Science

- ☐ A movie showing the sun's corona: (University of Amsterdam, Netherlands) (*Requires MPEG viewer*)

#### Art

- ☐ A history of traditional Japanese pottery: (NJK Company, Japan)

#### Business and Economics

- ☐ S&P 500 and NASDAQ composite indexes along with data on 452 other companies (Massachusetts Institute of Technology Artificial Intelligence Laboratory)

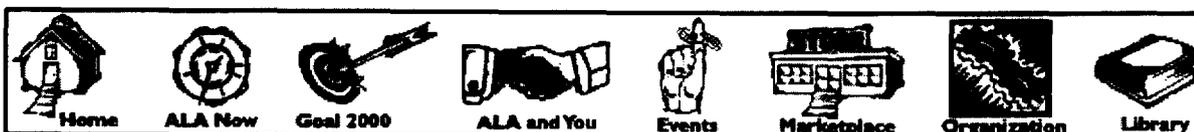
#### Biology and Anatomy

- ☐ The Heart: A Virtual Exploration(Franklin Institute Science Museum, Philadelphia)

#### Government Documents and Information

- ☐ Government Printing Office (Oklahoma State University)

More Example Web Sites



[ALA Home Page](#) | [ALA Now](#) | [ALAGoal 2000](#) | [ALA & You](#) | [ALA Events](#)  
| [ALA - The Organization](#) | [ALA Marketplace](#) | [ALA Library](#)

American Library Association  
For questions or comments, contact the [webmaster](#).  
[www.ala.org/fcc\\_appendix\\_e.html](http://www.ala.org/fcc_appendix_e.html)  
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## Information Resources on the Web

- The Gettysburg address (Library of Congress)  
<http://lcweb.loc.gov/exhibits/G.Address/frstdrt1.jpg>
- An early draft of the Declaration of Independence (Library of Congress)  
<http://lcweb.loc.gov/exhibits/declara/draft1.jpg>
- Clips of the 1996 U.S. Presidential candidates: (CNN AllPolitics Web page)  
<http://allpolitics.com/campaignland/campaign.96/index.shtml>
- The Dead Sea Scrolls (University of North Carolina)  
<http://sunsite.unc.edu/expo/deadsea.scrolls.exhibit/full-images/psalm-b.gif>
- A movie showing the sun's corona: (University of Amsterdam, Netherlands)  
<http://www.astro.uva.nl/michielb/sun/corona.htm> (netherlands)
- A history of traditional Japanese pottery: (NJK Company, Japan)  
<http://www.njk.co.jp/kutani/>
- The Heart: A Virtual Exploration - a Web page put up by the Franklin Institute Science Museum in Philadelphia. <http://sln.fi.edu/biosci/heart.html>
- StockMaster - graphs of stock market activity including the S&P500 and NASDAQ Composite indexes along with data on 452 other companies, hosted at the Massachusetts Institute of Technology Artificial Intelligence Laboratory.  
<http://www.ai.mit.edu/stocks/graphs.html>

# Cable Modems Are Tested and Found to Be Addictive

By MARK ROBICHAUX

Staff Reporter of THE WALL STREET JOURNAL

Boston College biology professor Grant Balkema raves about a speedy new service for his personal computer but acknowledges a problem: "Some nights I can't get off the thing," he says. "I've started some nights at around 10 and stayed up until 2 a.m. It's—dare I say?—addictive."

That is good news indeed for Continental Cablevision Inc. Dr. Balkema is part of the first large-scale test of cable modems, the long-awaited devices that provide lightning-fast access to the Internet via high-capacity TV cables plugged into a PC.

For the test, code named Project Agora, Continental has installed cable modems in more than 6,600 dormitory rooms, 2,500 classrooms and 400 offices on the Boston College campus—more lines than in some small towns the company serves. So far the project has shown that net surfers are natural speed freaks: With instantaneous connection, usage shoots up.

Cable's pitch is that its wire can carry digital data as much as 1,000 times faster than telephone lines, a feat cable-modem maker Motorola Inc. likens to "cramming three years into a day." Since their campus was wired several months ago, users at Boston College have marveled at how cable does away with annoying downloading delays: To receive a complex graphic image over cable takes about four seconds, versus 18.5 minutes over the fastest phone modems.

## Cable-Modem Tryout In Boston Is Getting Many Rave Reviews

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Inc. predicts the cable industry will have seven million modem customers by the year 2000, yielding more than \$1.3 billion in new revenue; others predict a market twice that size.

Forrester analyst Emily Green says cable operators will market different tiers of modem service and could wind up competing with traditional on-line providers. "Watch out for advertising campaigns about who really delivers the bits faster," she says.

Students and teachers at Boston College say they would pay between \$10 or \$20 a month to receive the service commercially. "If they don't charge a fortune, I'd definitely add it to my cable bill," says Dr. Balkema.

Initially, cable operators plan to lease the modems to subscribers for between \$15 and \$40 a month. In a few years, manufacturers will sell the modems directly to consumers. More than 25 cable, computer and equipment companies have agreed to adopt uniform standards so that a modem could be used in different cable systems.

Regional telephone companies are fighting back, offering a service known as ISDN, or dedicated lines that carry digital data at speeds that are high, but slower than cable.

John Seazholtz, chief technology officer for Bell Atlantic Corp., points out that ISDN has strong signals both upstream and downstream, and its speed isn't affected by the number of users. (Cable modems can slow down when too many users are pulling down big files simultaneously.) The ISDN service costs \$200 for the hardware, plus \$19.50 a month, and one to two cents a minute.

Still, the cable industry is betting that consumers will forgo all other choices for speed. "Face it—we're speed junkies," explains Avram Miller, a vice president at Intel Corp., a supplier of modems to several large cable operators' trials. "It's why it's important for you to get a dial tone when you pick up the phone instead of waiting 20 seconds."

## Where Content Bogs Down

	1.4 Mbps	3.1 Mbps	1.8 Mbps	4 Mbps
Download (100 megabits)	2.3 minutes	35.7 seconds	1.3 seconds	0.5 seconds
Download (10 megabits)	18.5 minutes	4.8 minutes	10.7 seconds	4 seconds
Download (1 megabit)	1.4 hours	21.5 minutes	48 seconds	18 seconds
Download (0.1 megabit)	3.5 days	21.4 hours	48 minutes	18 minutes

The cable industry began its headlong plunge into the on-line market last month, when the largest U.S. cable operators ordered more than 500,000 cable modems. They plan to begin leasing them to customers nationwide by early next year.

The new modems aren't foolproof, and it will be years before they are widely deployed. The nation's cable-TV network, chiefly used for one-way transmissions into homes, hasn't yet been tested for large-scale, two-way use.

But that's immaterial to fans at Boston College. In a dorm room decorated with posters of Blues Traveler, Star Wars and scantily clad women, sophomore Joseph Amatrucola explains why he became an instant cable convert: "No dialing, always connected, and it's astronomically faster."

The speed of Boston College's cable modems has given even technophobes new

appetite for the Internet. Mr. Amatrucola keeps his computer on constantly, listening for beeps that signify incoming e-mail.

In seconds, he checks his e-mail box to find the final-exam review questions for his European history course. He scans a menu containing his current course and exam schedules, transcript, the balance on all his student accounts and course options for spring-term registration. Looking for a book, he types in the word "Shakespeare" and locates one of 1,200 volumes on the Bard in the campus library.

Students tutor one another via electronic "news groups" for a given course. Their e-mail—preferred by most students to the phone—includes photos.

Student-designed World Wide Web sites are commonplace. At sophomore Chris Viens's site, friends can add paragraphs to his ongoing "netstory." There is also an

ever-changing Top 10 List, such as the recent "10 Least-Popular Automobile Extras." Says Mr. Viens: "We've got the whole enchilada here now, but it still can't take my exams."

The faculty, meanwhile, is exploiting the ability to zip massive research files to and from other institutions. Before getting cable modems, Dr. Balkema recalls wasting time downloading files of microscopic slides relating to his work in molecular biology. "It used to take 13 minutes to get one file," he says. "That same file takes a half-second now."

Continental Cablevision, the fourth-largest cable operator in the U.S., already sees a big potential market among employees who work at home and need to send files back and forth from the office. Dr. Balkema says he sometimes thinks, "Why leave home?"

Transmission isn't glitch-free, however. Currently, most cable systems transmit signals one way, "downstream" to homes from the cable company. The "upstream" path is susceptible to outside interference, such as CB radios or Christmas lights.

When Dr. Balkema's home modem was first installed, his screen would sometimes go blank in the middle of sending mail. "It was a little flaky in the beginning, but they eventually worked it out," he says. (On-line phone connections break down as well, of course.)

In a new report, Forrester Research  
Please Turn to Page 17, Column 4

# THE WALL STREET JOURNAL.

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★ ★ ★ WESTERN EDITION

WEDNESDAY, DECEMBER 27, 1995

RIVERSIDE, CALIFORNIA

## Where Content Bogs Down

Time it takes for each medium to transfer information

	Modem (14.4 Kbps)	ISDN (64 Kbps)	LAN (10 Mbps)	DATA OVER CABLE (4 Mbps)
Simple image (100,000 bits)	2.3 minutes	35.7 seconds	1.3 seconds	0.5 seconds
Complex image (1.1 megabits)	18.5 minutes	4.8 minutes	10.7 seconds	4 seconds
Short Audio (1.1 megabits)	1.4 hours	21.5 minutes	48 seconds	18 seconds
Long Audio (4.1 megabits)	3.5 days	21.4 hours	48 minutes	18 minutes

Source: Forrester Research, Inc.

**Report to the Congress**

**STUDY TO IDENTIFY MEASURES NECESSARY  
FOR A SUCCESSFUL TRANSITION  
TO A MORE ELECTRONIC  
FEDERAL DEPOSITORY LIBRARY PROGRAM**

**As required by  
Legislative Branch Appropriations Act, 1996**

**Public Law 104-53**

**U.S. Government Printing Office  
March 29, 1996**

**For additional information contact the Office of Congressional, Legislative and  
Public Affairs • U.S. Government Printing Office • Washington, DC 20401 •  
Telephone: (202) 512-1991**

**FEDERAL DEPOSITORY LIBRARY PROGRAM:  
Information Dissemination and Access  
Strategic Plan, FY 1999 - FY 2001**

Prepared For

**STUDY TO IDENTIFY FEATURES NECESSARY  
FOR SUCCESSFUL TRANSITION TO A MORE ELECTRONIC  
FEDERAL DEPOSITORY LIBRARY PROGRAM**

**As Required By  
Legislative Branch Appropriations Act, 1996**

**Public Law 104-53**

# FEDERAL DEPOSITORY LIBRARY PROGRAM: Information Dissemination and Access Strategic Plan, FY 1996 - FY 2001

## Executive Summary

This strategic plan focusses on the role of the Government Printing Office (GPO) as the administrator of the Federal Depository Library Program (FDLP), covering the period from the remainder of FY 1996 through the end of FY 2001. Emphasizing the incorporation of electronic information into the FDLP, this plan would affirmatively move the FDLP toward a significantly electronic information dissemination and access program. While this plan builds upon the Government Printing Office's December 1995 *Transition Plan*, it incorporates numerous changes which reflect the views and advice of the library community, Federal publishing agencies, and users of Government information.

The FDLP will provide official Government information products in a variety of formats to the nation's nearly 1,400 depository libraries. Incorporating electronic Government information into the FDLP will augment the traditional distribution of tangible products with connected Government electronic information services. Electronic information will be accessible to the public directly or through depository libraries from a distributed system of Government electronic information services administered by the Government Printing Office (GPO), from other Government agencies, or from institutions acting as agents for the Government. The FDLP will point and link to electronic information services of other agencies or, when appropriate, obtain electronic source files from agencies for posting on GPO Access. Tangible Government information products will be distributed to libraries, including CD-ROM, diskette, paper or microfiche, as appropriate to the needs of users and intended use.

Permanent access to Government information is a critical issue in the electronic environment. GPO should, within the context of the FDLP, maintain electronic Government information products for permanent public access, in the same spirit in which all depository libraries provide permanent access to print products. This requires the development of a distributed system which includes all of the institutions and stakeholders in information producing agencies, GPO, depository libraries and the National Archives and Records Administration (NARA).

Effective public use of Government information, especially in the less-structured environment of the Internet, depends on the user's ability to identify and locate the desired information. Through continuation of its cataloging services and the development of the Pathway information locator services, GPO can meet this need. GPO should provide a suite of services, designed for use by the public as well as by depository librarians.

Significant progress toward a more electronic FDLP can be made by the end of FY 1998 with essentially flat funding. For the out years, FY 1999 and beyond, there are too many variables involved to accurately project program funding requirements at this time. GPO's FY 1997 funding request of \$30.8 million for the Superintendent of Documents (SOD) Salaries and Expense Appropriation assumed that some FDLP expenses, especially those associated with acquiring and shipping physical printed products, would decline as the use of electronic information dissemination technologies increases. However, there will be offsetting cost increases in other areas, such as expanding the capacity of the GPO Access system, acquiring and converting electronic source data files, software licensing fees, etc. An effective transition to a more electronic FDLP requires certain changes to existing law. It is critical to establish beyond question that electronic Government information products belong in the FDLP and to authorize the SOD to request that the originating agencies provide electronic source data files of such information products. Recommendations for legislative changes to 44 U.S.C. Chapter 19 have included a study report as task report 6 [Attachment D-5].

Also included in this plan is a brief discussion of the changing roles of regional and selected depository libraries with respect to electronic Government information, and what expectations for public service and access the depository libraries should meet in the future.

To effect significant progress toward accomplishing this transition, implementation assistance is required to determine the optimal approach to a number of complex issues. A statement of work for contractor support is presented in Appendix A.

## Depository Library Service Expectations

Incorporating a significant amount of electronic information into the FDLP will pose a significant challenge to depository libraries. Some depository libraries will have to accelerate their plans to obtain public access computer work stations, and deal with the demand for local printing and downloading. Depository librarians will have to balance the needs to serve the computer have-nots in our society, while preserving and providing access to the historical Government information products contained in their pre-electronic documents collections.

All depository libraries should provide no-fee public access to Government electronic information products identified in SOD Pathway services, without regard to where that information resides. Fulfilling this expectation will require depository libraries to offer users access to work stations with graphical user interface, CD-ROM capability, Internet connections, and the ability to access, download, and print extensive products. However, just as depository libraries may now charge users for photocopies, they may also charge users to recover the cost of printing information accessed electronically.

Such electronic capabilities are in accordance with the revised "Recommended Minimum Technical Guidelines" published by SOD in the January 15, 1995 issue of the *Administrative Notes* newsletter. Following the advice of the Depository Library Council to the Public Printing and Information Board, updated capabilities should become requirements for all depository libraries. Depository libraries should continue to be responsible for the startup and maintenance costs of computer equipment and Internet connectivity required to provide access to Federal Government information in electronic formats.

## Technology Grants

Some depository libraries lack the financial resources to acquire the requisite computer or telecommunications resources necessary to adequately serve the public with electronic FDLP information. Based on a preliminary analysis of the responses to the 1995 Biennial Survey of depository libraries, 25% of the libraries do not have public access work stations connected to the Internet. Many of these libraries are planning to provide public Internet access within two years, but approximately 12% of the responding libraries report no plans to provide Internet access to the public. The lack of public Internet access in depository libraries is a "critical mission gap" in making Government information available electronically.

GPO's funding request has authority to expend up to \$500,000 in FY 1997 for "technology grants" to depository libraries. If approved, the technology grants are intended to ensure reasonable public access and proximity to at least one electronically-capable depository in every Congressional district. These grants, at up to \$25,000 each, could be earmarked for public access work stations and Internet connections in depository libraries. This one-time financial assistance could enable depository libraries to achieve a minimum level of capability to serve the public with on-line electronic Government information. In order to be eligible for a technology grant, the depository library must demonstrate need and report that no other funding source is available for this purpose.

## Superhighway Speed Limit Abolished; Information Policy Swerves

*Fred W. Weingarten, senior policy advisor at ALA Washington Office, offers a traffic report*

Change in the underlying technologies that manipulate, communicate, present, and store information will accelerate into the foreseeable future, say the scientists and engineers who are creating it.

Policy makers refer to this technological revolution, and the realignments of the communication and information industries it is engendering, as the National Information Infrastructure, or NII. But the widespread use of the term doesn't mean there is any consensus among people over what the NII will really be or what government's role could or should be.

Technology is not the only thing that is changing. We are also experiencing significant changes in both the expectations and the constraints that society places on public institutions such as libraries. Pressured by social and technological change, many of the information policy "rules of the road" that determine the structure of the system and the flow of information within it are up for renegotiation.

### Neither panacea nor cesspool

It is easy to get caught up in hype, to overestimate both the rate and the effects of technological change. The history of technology teaches that we should be humble about our predictions. Often we overestimate the impact of technology in the short term but underestimate its effects in the long term.

From all sides of the political spectrum, visions abound of the brave (or frightening) new society that cyberspace brings. The Net is a panacea! The Net is a cesspool! Of course, the Net is neither. Despite the rhetoric about a revolution, daily users of the Internet and the World Wide Web exist in a constant state of schizophrenia: on the one hand excited by the extraordinary potential and rapid growth of the net and, on the other, frustrated by the limitations of the current system.

Reflecting their professional concerns, many librarians worry whether the NII will grow in a way that realizes its full potential as an open, accessible, and powerful new information medium

for the public. Misconceived policies, based on incomplete and inaccurate images of the NII—whether positive or negative—could warp or stunt its growth in ways we will later regret.

### Active NII policy debate is essential

The positions librarians take on information and technology policy issues raised by the NII depend on answers to two questions: 1) What will the library of the future look like when the new digital NII comes along? and 2) What will librarians of the future do?

Many models have been suggested. Will libraries become obsolete, replaced by technology? Will they change from physical facilities into virtual presences in cyberspace? Or will they become conservative, traditional defenders of the book, the last bastions of civilized values, offering their users only an occasional sip at the digital fountain? Although these three alternatives may seem more than a little overstated, they have all been predicted lately in visionary writings about the future information infrastructure.

The roles of libraries and librarians in a digital world, however, will be different from any of the visions above—more complex and more varied, responding to three technological conditions:

1. **Change as the constant:** We usually assume when we enter a period of rapid change that it will end, that we move from one steady state to another. The term "revolution," used by futurists to describe the change in digital information technology, typically means the replacement of one regime by another.

That model was reasonably accurate in the telecommunications past: telephone technology has remained essentially the same for 70 years, television and radio for 50. But, it is probably the wrong model for the future. The NII will be a constantly changing and unpredictable set of technologies and applications; no new steady state is likely to appear. New services and resources, new ways to use them, and new user demands will continually appear, each time challenging anew what librarians do and how they do it.

2. **Addition, not substitution:** In general, electronic information services will add to, not replace, the many other functions libraries are expected to perform. That has been the case over the last century for most new communication and information media. There are exceptions, of course. Video cameras replaced movie cameras in most homes. Compact discs replaced vinyl records.

These are the exceptions that prove the rule. Although people modify their uses of older media when they adopt new technology, both the old and new find their natural niches in the household.

Elizabeth Eisenstein, in her book *The Printing Press as an Agent of Change*, points out that Gutenberg's printing press and hand copying coexisted for centuries. In the late nineteenth and early twentieth centuries, despite predictions, the camera did not replace the graphic artist; one might argue that more recently, in fact, desktop computers have revitalized design and the graphic arts. Television did not replace radio or the movies. Cable has not replaced broadcast television. Home VCRs have not bankrupted the movie industry. Each new wave of technology has increased the information formats available and created new media for libraries to organize and make accessible.

3. **Greater variety of institutional models:** If the two assertions above are true, we can speculate that more demands, not fewer, will be made on libraries. But, since libraries are unlikely to receive much more financial support to accommodate those demands in today's fiscal climate, they will need to set priorities.

Certainly, libraries have always received fewer resources than they needed to serve all the demands placed on them. But there will be a much larger set of choices in deciding what roles to play. Customers are also likely to need a wider variety of information services and resources, and libraries will adopt many different, specialized models based on the needs of each organization and community they serve.

From a public policy perspective, this may also mean that libraries will

find it increasingly difficult to speak with one voice on policy issues that affect the information infrastructure, simply because they will have different stakes in the outcomes. Such fragmentation could be a tempting weakness for politicians to exploit.

Most of the new roles and responsibilities presented by the NII are an evolution of services that libraries

have offered for many years. Not every library will adopt every role, and some may choose just to opt out of the digital age. But if libraries, as a group, eschew these responsibilities, society will surely recreate institutions to perform them. And we may call these new institutions "libraries."

The particular taxonomy presented here (see sidebar) may or may not

come to pass in this exact form. As the infrastructure evolves, new roles may emerge and others may be rendered obsolete. The important point is that the library community, far from being marginalized by new information technology, will play a variety of roles, some of them new. Libraries and librarians will be an essential part of, not just users of, the NII of the future. ♦

## FIVE GREAT ROLES FOR LIBRARIES AND LIBRARIANS WITHIN THE NII

**1. On-ramp of first resort:** Network services are continually expanding and putting more demands on the infrastructure. Therefore, there will always be advanced services that will require resources most people do not have, either because they are not available and affordable, or because the need for them is infrequent enough to make the investment in equipment and connectivity unattractive. Libraries will need to provide access to these leading-edge information services.

In this way, libraries will create markets for some information products and services by coalescing thin market demand and will indirectly stimulate new markets for other products by providing a chance for people to try them out and decide whether to invest in them. Although creating an information marketplace is surely not the principal role for libraries, there always has been such synergy between them and publishers. This synergy is also one reason why communication and information service providers should support the role of libraries as community access points to the NII.

**On-ramp of last resort:** Access to information and possession of the skills to use it are requirements for living in any society, no matter what the technological level. Libraries have long shared the social responsibility for providing basic access and information support. As the NII evolves, they will again need to play this role, for many barriers will impede universal use in the home. These barriers include the cost and complexity of setting up in-home access, unfamiliarity with the NII, and the inability of even the connected to find useful resources to tap.

Libraries will play the role of safety net by ensuring access to the NII. As our society places an ever greater premium on the ability to access and use electronic information, this role will be critical.

**3. Navigator/guide:** The Web has been likened to a library in which all the books have been dumped in a pile on the floor; the information is there in theory. Some technologists have said that "worms," "harvesters," and other such automated search tools are all that will be needed to allow users to find what they seek, but that seems doubtful.

These techniques begin to break down when the number of possible sources reaches a critical mass. As the Web becomes commercialized, providers will hide their valuable resources both to secure them and to avoid the drain on their computer resources from multiple browser inquiries. Automated browsers are already beginning to tie up computer resources at sites they "visit."

Search technology will need to be much more powerful as the amount of information on the network grows. But more sophisticated tools take more sophistication to use. The NII will for a long time depend on human information experts to find useful resources and to organize information in cyberspace. And that's what librarians do.

**4. Archivist/depository/authenticator:** If today's environment is any indication, Web sites will come and go. Today's popular site may vanish tomorrow. If we are to continue to exist as a society with a "memory," we will need institutions that are responsible for assuring that resources are available indefinitely. Some journals are beginning to allow authors to list as references Universal Resource Locators on the Web. Yet what does such

reference mean when the URL could be long gone before the article sees print? We are entering an age in which copious information will be easily available, yet ephemeral as a mayfly.

Similarly, since electronic information is so easily reproduced and just as easily changed, we will also rediscover a problem from the pre-Gutenberg age of scribes: the search for the original source. We will not only be required to find archived copies of information, but to assure that they are certifiably authentic.

**5. Organizer of the public information space:** There are four great currents of information in our society: commercial, private, public, and governmental. They overlap; but they are distinguished by the principles and rules that govern the way information flows within each current. Librarians are key custodians of the public flow.

To the extent that there will be public space in cyberspace, librarians will have to be involved in managing the boundaries between the public space and the commercial and government environments.

Much, if not all, information policy is really an attempt to mediate the tensions that exist between these four information currents. When the need for public information comes into conflict with the needs of commerce (in intellectual property law) or government (in issues of government surveillance or access to government information), librarians argue for a balance that takes into account the principles of public access to information and of free speech, and they must be strong voices in the upcoming NII policy debates. —F.W.



# Internet Costs and Cost Models for Public Libraries

Final Report  
June 1995

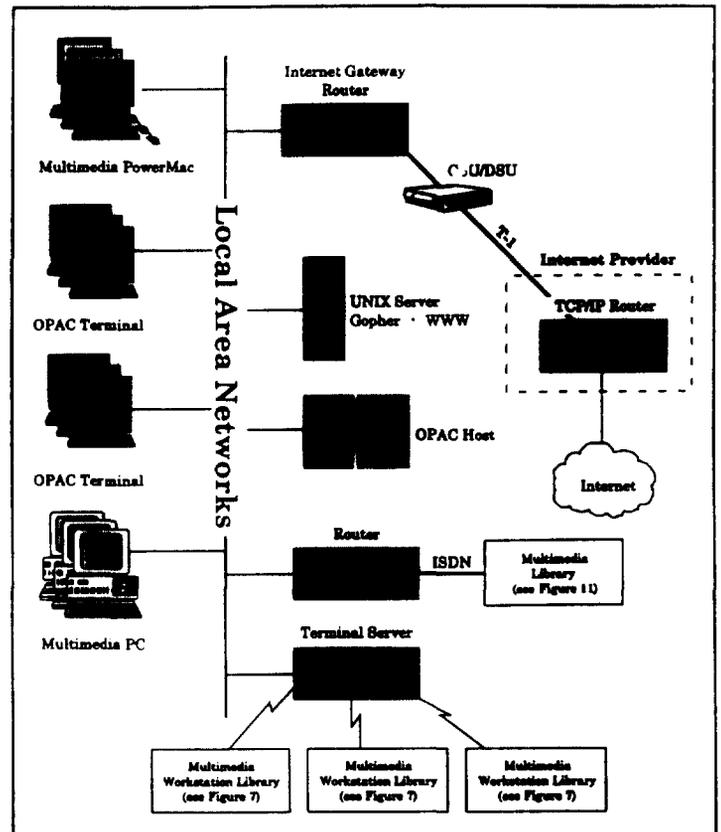


Figure 12. Multiple Workstations, Terminals, Single Library, Multimedia (With Existing LAN and OPAC System) Cost Worksheet

Cost Categories and Elements	Quantity	Unit Price	Access to the Internet		Internet Service Provision	
			One-Time	Annual Recurring	One-Time	Annual Recurring
<b>System/Server Hardware</b>						
Workstations (Multimedia PCs)	5	\$3,000	\$15,000			
Workstations (Multimedia PowerMacs)	6	\$3,800	\$19,000		\$3,800	
PowerMac Internet Server (Note 1)	1	\$8,500			\$8,500	
Desktop Scanner	1	\$900			\$900	
Laser Printer (including consumables)	2	\$2,300	\$4,600	\$2,000		
Hardware Maintenance (Note 2)				\$2,200		\$400
<b>Communications Hardware/Fees</b>						
Internet Access Line (T1)	1	\$1,600	\$1,600	\$4,800		
Internet Gateway Router (Note 3)	1	\$2,200	\$2,200	\$420		
CSU/DSU	1	\$2,400	\$2,400	\$360		
PC Network Cards (transceiver)	5	\$125	\$625			
PowerMac Network Cards (transceivers)	5	\$50	\$250			
PowerMac (server) Network Cards (transceiver)	1	\$1,300			\$1,300	
16 Port 10Base-T Hub	1	\$800	\$800			
Print Server (to connect Laser to the LAN)	1	\$700	\$700			
Internet Provider Fees (T-1 service)				\$22,000		
<b>Software</b>						
Operating Systems (bundled) (Note 4)			n/c			
Commercial Internet Navigation Software	11	\$110	\$1,100		\$110	
OPAC Gateway	1	\$5,000	\$5,000			
Database Access Software (Note 5)					\$1,000	\$6,000
Tape Archival Software	1	\$130			\$130	
Gopher/Mosaic Server Software			n/c		n/c	
<b>Training and Education</b>						
Staff Training (materials)			\$100		\$500	
Public Training (materials)			\$250	\$300		
Internet Training Positions and Document Development	1	\$25,000	\$25,000	\$600		

**Figure 12. Multiple Workstations, Terminals, Single Library, Multimedia (With Existing LAN and OPAC System)  
Cost Worksheet (continued)**

<b>Facilities Upgrades/Maintenance</b>						
Cabling/Wiring	1	\$2,000	\$2,000			
Building Renovation (training rooms, work areas)	1	\$6,000	\$6,000			
Office Equipment/Furniture	13	\$250	\$2,750		\$500	
Server UPS	1	\$440			\$440	
<b>Content/Resource Development</b>						
Bowker's Books in Print						\$8,000
Carl Uncover (Internet access) (Note 6)						\$8,250
<b>Program Planning/Management/Staffing</b>						
Strategic Planning	0.25	\$30,000	\$7,500			
RFP Development/Analysis	0.25	\$30,000	\$7,500			
Consultant Fees			\$3,000	\$1,000		
Staff	1.5	\$25,000		\$25,000		\$12,500
<b>No-Cost Items (from other institutions)</b>						
Training and Education						
<b>Summary Costs</b>						
System/Server Hardware			\$38,600	\$4,200	\$13,200	\$400
Communications Hardware/Fees			\$8,575	\$27,580	\$1,300	\$0
Software			\$6,100	\$0	\$1,240	\$6,000
Training and Education			\$25,350	\$900	\$500	\$0
Facilities Upgrades/Maintenance			\$10,750	\$0	\$940	\$0
Content/Resource Development			\$0	\$0	\$0	\$16,250
Program Planning/Management/Staffing			\$18,000	\$26,000	\$0	\$12,500
No-Cost Items (from other institutions)						
			<b>One-Time</b>	<b>Recurring</b>	<b>One-Time</b>	<b>Recurring</b>
<b>Total One-Time and Annual Recurring Costs</b>			<b>\$107,375</b>	<b>\$58,680</b>	<b>\$17,180</b>	<b>\$35,150</b>

**Note 1** - A PowerMac 8150 with one gigabyte of disk storage has been included in this model to depict one technical alternative for providing a local information server capability (both Mosaic and Gopher). This model assumes the existence of a library OPAC, thus, there are no cost estimates for OPAC terminals.

**Note 2** - Maintenance contracts have not been recommended. However, funds should be set aside for repair or replacement of faulty equipment.

**Note 3** - Router and CSU/DSU are provided, installed, and maintained by the Internet Provider.

**Note 4** - The addition of 10 workstations could require the library to add additional user licenses for the network operating system (e.g., Novell).

**Note 5** - Some Opac vendors have additional charges to provide software that supports access to external databases.

**Note 6** - The Carl UnCover cost estimate includes \$5000 for standard access via the Internet and 500 articles downloaded at a cost of \$6.50 each.



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December 15, 1995

DEC 15 1995

FEDERAL COMMUNICATIONS COMMISSION  
WASHINGTON, D.C.

Mr. William F. Caton,  
Acting Secretary  
Federal Communications Commission  
1919 M Street, NW - Room 222  
Washington, DC 20554

Re: Ex Parte Presentation

CC Docket No.: 80-286

Amendment of Part 36 of the Commission's Rules and Establishment of a Joint Board

Dear Mr. Caton:

On Tuesday, December 12, 1995, in response to a request of the Common Carrier Bureau, Robert A. Mercer, Ph.D. of Hatfield Associates, Inc. made a presentation on Modeling the Cost of Local Telephone Service to the economic staff of the Commission as provided in the attachment. Michael Pelcovitz of MCI and Thomas Cosgrove of AT&T answered questions directed to them during the presentation. Following is a list of members of the Commission staff who were invited to the presentation:

Jay Atkinson	Pam Megna
Larry Atlas	Mark Nadel
Allen Baughcum	Melissa Newman
Anthony Bush	Greg Rosten
Doron Fertig	John Scott
Gwendolwyn Flowers	Florence Setzer
Doug Galbi	Bill Sharkey
Cathy Hsu	Rodney Small
Cameron Kashani	Tom Spavins
Evan Kwerel	Alan Stilwell
Richard Kwitakowski	Don Stockdale
Joseph Levin	Mark Uretsky
Joh Levy	Kevin Werhach
Susan McMasters	Brad Wimmer

Due to conflicts caused by other professional meetings, two copies of this Notice are being submitted to the Secretary of the FCC today in accordance with Section 1.1206(a)(3) of the Commission's rules.

Sincerely,

cc: Mr. Mark Uretsky

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