THE 1998 NATIONAL SURVEY OF U.S. PUBLIC LIBRARY OUTLET INTERNET CONNECTIVITY: FINAL REPORT

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EXECUTIVE SUMMARY

Previous national studies of public libraries and the Internet documented the state and changes of public library Internet connectivity, type of connectivity, public access services, and costs associated with such connectivity from public library central units or systems/ administrative units (Bertot, McClure, and Fletcher, 1997; Bertot, McClure, and Zweizig, 1996; McClure, Bertot, and Zweizig, 1994).

The 1998 data studied *all* library outlets (defined as both central or system/administrative units and branches, excluding bookmobiles and 227 outlets for which it was not possible to determine the geocodes), the poverty level of the users served by these outlets, and the library's metropolitan status as urban, suburban, and rural (see Figure 1 for a detailed breakdown of public library outlets and their poverty-metropolitan status categories). This comprehensive picture can provide the public library community, policy makers, and researchers with a more informed picture of which library outlets in different types of poverty and/or urban/rural settings provide what level and type of Internet connectivity. Such data provide an important benchmark describing how public library outlets support Universal Service objectives as legislated through the *Telecommunications Act of 1996* (P.L. 104-104). The data can also inform policy makers as to possible future changes and impacts resulting from the disbursement of funds to these public library outlets in support of Universal Service objectives.

Key Findings

Overall the study finds that there are some significant disparities among public library outlets in terms of their connectivity to the Internet, the type and speed of their public access connections to the Internet, and Internet-based service provision issues. The data also show, nationally, the degree to which public library outlets -- especially those in rural areas and areas with high poverty -- contribute to enhanced Universal Service as per the goals of the *Telecommunications Act of 1996.*

The key findings presented here offer highlights from the study. The following sections of this report contain detailed results and tables describing public library outlet Internet access, connectivity, and use of the Internet.

Internet Connectivity and Public Access [Figures 2-13]

Overall, the data show that 83.6% of all public library outlets have some type of connection to the Internet. The study also found that some disparities exist among public library outlets in terms of Internet access by metropolitan status. For example:

- 91.0% of urban public library outlets are connected to the Internet;
- 88.1% of suburban public libraries are connected to the Internet; and
- 78.4% of rural public library outlets are connected to the Internet.

The study also shows that disparities in terms of connectivity by different poverty levels is minimal:

- 84.1% of public library outlets are connected that serve areas with 20% or less poverty;
- 80.9% of public library outlets are connected that serve areas with 20-40% poverty; and
- 83.3% of public library outlets are connected that serve areas with more than 40% poverty.

A majority of public library outlets -- 73.3% -- provide public Internet access services (87.7% of connected public library outlets). However, there are disparities in public access by metropolitan status:

- 84.0% of urban library outlets provide public access (92.3% of connected urban public library outlets);
- 76.4% of suburban library outlets provide public access (87.1% of connected suburban public library outlets); and
- 67.6% of rural library outlets provide public access (86.3% of connected rural library outlets).

Thus, rural library outlet patrons are less likely to have access to a public library outlet that provides public access Internet services than urban and suburban library outlet patrons. Such disparities do not appear to exist when looking at public access services by poverty.

The data also show that 93.2% of public library outlets plan to have some type of Internet connection by June 1999. Of that 93.2%, 81.2% plan to provide public Internet access services and 12.0% will have an Internet connection for library staff use only. Once again, there is a projected disparity in public access Internet services by metropolitan status:

- 89.7% of urban library outlets will offer public Internet services by June 1999;
- 84.6% of suburban library outlets will offer public Internet services by June 1999; and
- 76.3% of rural library outlets will offer public Internet services by June 1999.

Again, rural library outlet patrons will be less likely to have access to a public library outlet that provides public access Internet services than urban and suburban library outlet patrons. Such disparities do not appear to exist when looking at public access services by poverty.

Type of Outlet Public Access Internet Services [Figures 14-22]

An important distinction regarding the type of connectivity is whether public library outlets have *graphical* public access to the Internet rather than only text-based access. For many Internet and web-based applications, graphical access is now essential. The 1998 data show that 68.6% of public library outlets provide their users with graphical access to the Internet. The data also show that this average varies only slightly by metropolitan status or poverty level.

Of those library outlets connected to the Internet, 5.8% provide only text-based access to the Internet. Urban outlets and outlets serving poverty levels of greater than 40% are more likely to provide only text-based public access Internet services. Of interest is that rural library outlets -- 86.9% -- are more likely to provide only graphical public access to the Internet as opposed to urban and suburban outlets, with 69.4% and 77.8% respectively.

Overall, however, the number of public access text-based terminals and graphical workstations are few. Indeed, 73.1% of library outlets offer five or fewer text-based public access terminals for patron use. Similarly, 73.6% of library outlets offer three or fewer graphical public access workstations for patron use.

Public Access Services Connection Speed [Figures 23-42]

A critical factor that determines the types of applications that are possible to use via a library outlet's public access connection is the speed -- bandwidth -- of that connection. Overall:

- 32.9% of public library outlets have public access connection speeds of 33.6kbps or less (primarily 28.8kbps -- 15.8% -- and 33.6kbps -- 12.9%);
- 32.7% of public library outlets have public access connection speeds of 56kbps; and
- 33.7% of public library outlets have public access connection speeds of greater than 56kbps (primarily T1 service -- 21.9%).

Urban settings have almost three times the percentage of outlets with T1 connectivity than rural outlets (36.5% versus 13.3%). Interestingly, however, 34.0% of outlets serving poverty levels of more than 40% have T1 connections whereas 20.4% of outlets serving poverty levels of less than 20% have T1 connectivity (a review of the data shows that this is likely due to urban library systems that have outlets in high poverty areas).

Issues with Public Access Internet Services [Figures 43-56]

Public library outlet survey respondents were asked to identify the extent to which their public Internet access services:

- Provided special software/hardware for persons with disabilities;
- Used filtering software; and
- Had acceptable use policies.

This section presents selected findings from these survey questions.

Overall, 2.9% of public library outlets provide special software/hardware for persons with disabilities on all of their public access terminals/workstations and 13.6% do so on some of their public access terminals/workstations. Urban library outlets are more likely to provide special software/hardware for persons with disabilities on all or some of their public access terminals/

workstations -- 26.4% -- as opposed to suburban public library outlets with 16.3% and rural library outlets with 12.5%.

A vast majority of public library outlets -- 85.3% -- do not use filtering software for their public access Internet services. This trend holds true across public library outlet metropolitan status and poverty classifications.

The data reveal, however, that 84.8% of public library outlets have a formal acceptable use policy for their public access Internet services. Another 12.2% of public library outlets are in the process of developing a formal acceptable use policy for their public access Internet services. By June 1999 or sooner, therefore, 97.0% of public library outlets will have some type of formal acceptable use policy for their public access Internet services in place.

Background

This study is the first national effort to identify the extent and type of Internet connectivity and Internet service provision issues at the public library *outlet* level. The term *outlet* includes 15,945 public library facilities of which 8,921 are central or system/administrative units and 7,024 are branch public libraries (National Center for Education Statistics, 1997). In addition, the study collected data to analyze library outlets in terms of the poverty levels of the community they serve and whether the library is in an urban, suburban, or rural setting.

The study collected data during May and June 1998 from 2,500[1] public library outlets that received a quick-response survey asking about the library outlet's connectivity, speed, access, and other topics related to their provision of Internet services (see Appendix A for a copy of the survey instrument). These libraries were selected by a carefully drawn weighted sample that resulted in a 75.5% response rate. An innovative aspect of the study was the use of geodata that linked Census Bureau poverty data to the geographic area served by individual public library outlets. Details of the study method and research design can be found in Appendix B.

One purpose of the study was to produce findings to better describe the role of public library outlets in promoting Universal Service objectives. The Universal Service Fund (USF), as established by the *Telecommunications Act of 1996* (P.L. 104-104), is charged with the responsibility of reimbursing public libraries for up to 90% of their telecommunications costs depending on (a) the poverty rate of the area served by the library (as measured by the percentage of students eligible for school lunch programs) and (b) their urban/rural status. This study is one means to monitor the implementation of Universal Service initiatives as defined in the *Telecommunications Act of 1996.*

[1] The original sample consisted of 2,560 library outlets based on 1994 public library data (NCES, 1997). However, due to library facility closures and consolidations, the sample was adjusted to 2,500 outlets.

Terms and Context

It is important to understand that the study relied on the Metropolitan Status codes used by the U.S. Bureau of the Census and ascribed to the communities served by the library outlets surveyed in this study. Those codes are: CC, Central City (urban); NC, Metropolitan area but not within central city limits (suburban); and NO, Not in a metropolitan area (rural).

Outlets were categorized based on the level of poverty among the individuals living within a specified radius of their buildings. The radius varied for central cities, suburbs (incorporated places within metropolitan areas, but not central cities), and non-metropolitan areas. Caliper Corporation Maptitude Geographic Information System software was used to estimate the amount of poverty within this circular area (defined as 1 mile for urban library outlets, 3 miles for suburban library outlets, and 10 miles for rural library outlets), which usually encompassed portions of several different census block groups. Outlets were divided into three groups, based on the calculated percentage of the population living below the Census's poverty threshold: less than 20%, 20-39%, and 40% or more. Additional detail about the terms and study method can be found in Appendix B.

As context for interpreting this data, the study shows that 17.1% of all public library outlets are in urban areas; 31.4% are in suburban areas; and 51.5% are in rural areas. Furthermore, 81.2% of public library outlets serve poverty levels of less than 20%; 16.8% serve users in poverty levels of 20-40%; and only 2.0% of public library outlets serve users in poverty levels of more than 40%.

Comparisons to Earlier Data

Data concerning public library involvement with and use of the Internet were collected in 1994, 1996, and 1997 (Bertot, McClure, and Fletcher, 1997; Bertot, McClure, and Zweizig, 1996; McClure, Bertot, and Zweizig, 1994). The 1994 through 1997 studies, however, collected data from public library *systems*, not outlets. Direct comparisons to the 1994 through 1997 data from data reported here should be made *only with extreme caution*.

Themes and Implications from the 1998 Findings

Findings from this survey suggest that overall, public libraries in the United States continue to make progress in connecting to the Internet and in the quality of their connectivity. On closer review of the data, however, there are other themes and issues requiring additional consideration. While there are numerous key themes and implications that can be discussed from the 1998 data, the following appear to be especially important.

Improved Public Library Internet Connectivity With Continued Disparities in Access

The data show that 83.6% of all public libraries have some type of connectivity and that by June 1999 approximately 93.2% are likely to have some type of connectivity to the Internet. But it is also important to recognize that, as of June 1998:

- 16.4% of public library outlets do *not* have an Internet connection; and
- 10.3% of those library outlets currently connected to the Internet do *not* provide public access.

Said differently, 26.7% of all public library outlets do *not* provide public access to the Internet. Disparities continue to exist in terms of which types of public libraries provide connectivity and public access.

Rural public libraries still lag behind urban and suburban public libraries in having an Internet connection and providing public access. Thus, continued effort by public libraries will be needed to meet the country's Universal Services goals with regard to the nation's rural populations.

Access to the Internet via Public Libraries from High Poverty Levels

The 1998 data indicate that 83.3% of the public library outlets serving communities with poverty levels of more than 40% have an Internet connection. But a context for this finding is that only 2.0% of all public library outlets (317 of the 15,718) serve communities with poverty levels of 40% of more. What is not known, however, is the extent to which there are *additional* communities with poverty levels of 40% or more that are not being served by a public library outlet -- to say nothing of library services that provide public access to the Internet. The issue of unserved populations by public library outlets requires additional study as Universal Service goals are implemented in high poverty areas.

Connection Speed and Type and Quality of Public Access Internet Services Provision

The fact that 66.4% of all public library outlets connected to the Internet that provide public access Internet services have connection speeds of 56kbps or higher, or that 21.9% of those connected have at least a T1 connection, again, suggests significant and ongoing improvement in the connection speeds used by public libraries. Connection speeds are critical for the provision of high quality services, Websites, interactive video, etc. But one must be cautious in explaining the data reported here with regard to public library services provision.

Simply because the data suggest that public libraries are increasing their use of high speed and dedicated lines for connectivity does not necessarily mean that they are *also* providing a range of high quality, interactive, and useful services to their users with these improved connection speeds. The data suggest that public libraries increasingly have the capability to

provide such networked-based services. But public libraries will need to move beyond connectivity issues and move into strategies for better services provision in the networked setting (Bertot and McClure, 1997). There is a need for additional study and research to know if, in fact public libraries are providing such services, what those services are, and the degree to which those services meet user or societal needs.

What Constitutes an Acceptable Level of Public Access to the Internet?

Yet to be resolved by policy makers and public librarians are guidelines or national standards that define and measure the concept of "public access to the Internet via public libraries." For example, if a public library outlet serving a rural community with high poverty (meaning few computers and modems at home) provides one 28.8kbps public access workstation for its entire legal population area of 48,950, does such constitute acceptable public access?

Data reported here may be useful (in conjunction with the 1997 data) to begin national discussions as to what constitutes *acceptable* levels of public access for communities served by public library outlets. The following factors appear to be important considerations in developing such guidelines:

- The number of public access workstations per legal population served;
- The speed of those public access workstations; and
- The level of home connectivity in a particular public library's legal population served.

Other factors may also be considered in such a debate. An implication, however, from data reported here and in earlier studies by the authors is that there continues to be a need to better define the term "public library provided public access to the Internet."

Impact of the E-Rate on Public Library Connectivity

As this Executive Summary is written in August 1998, there continues to be much contentiousness on the appropriateness of the E-Rate as administered by the Universal Services Fund as a means to reduce disparities in access to the Internet for those in high poverty regions. The issues and data are complex and cannot be reviewed in detail here although an earlier discussion offered by the authors is still useful (Bertot and McClure, 1997, pp. 8-9).

The data reported here suggest that there are disparities -- at least in terms of public library Internet connectivity. Regardless of one's position on the E-Rate and its appropriateness, the data reported here can provide an important benchmark for longitudinal tracking of connectivity, type of connectivity speed, and other topics related to public library access to the Internet. Assuming that some disbursements to public libraries occurs from the Universal Services Fund it will be important to assess the degree to which those libraries that received such funds improved connectivity and access versus those that did not receive funds.

Defining Public Library Service Area Poverty

This study made use of an innovative and previously unused method for determining public library outlet poverty status (as discussed in Appendix B). To continue the evaluation process of public library outlet Internet connectivity in general and the impact of the E-Rate on public library outlet connectivity in particular, there needs to be continued discussion and acceptance of an appropriate methodology to characterize public library outlet poverty status. Agreement by policy makers, researchers, and public librarians will enable the longitudinal collection of Internet-related data from public library outlets.

Linking Data to Policy Debates and Strategic Planning

The national studies of public libraries and the Internet completed in 1994, 1996, 1997, and 1998 provide a wealth of information that can inform national policy making and strategic planning for improved public library connectivity and networked-based services. Data from these studies as well as a number of other studies are important to consider as policy makers and the public library community consider the future role of public libraries in the National and Global Information Infrastructures (NII and GII).

Evidence continues to mount that there are a number of disparities in access and levels of connectivity among different segments of the population depending on their geographic location and the poverty level of the community in which they live. Recent data reported by the National Telecommunications and Information Administration concluded (1998, p. 2):

> The gap between the information "haves" and "have nots" widened in the last three years. Blacks and Hispanic Americans lag even further behind white Americans in computer ownership and on-line access despite significant growth in computer ownership and overall computer usage in America.

Disparities in access also exist in terms of ethnicity and level of household income (Benton Foundation, 1998). Given such data, the role of the public library as a "safety net" for all people to have access to networked information resources and services continues to be important -- particularly in light of the relatively low levels at which households in general have the required computer and online access (26.3%, NTIA, 1998).

As the nation approaches the new millennium and works to implement the Universal Service goals outlined in the *Telecommunications Act of 1996*, there is a need for a comprehensive review of data sources and policy issues related to public access to the Internet. This review should lead to a national debate to develop goals and strategies for how best to:

- Provide equitable access to the Internet and networked information services;
- Determine the role of the Federal and State governments in implementing such goals; and
- Determine the degree to which public libraries should be part of the overall strategy.

Clearly, a strategic plan for accomplishing such goals will need the input from a number of stakeholder groups. But such discussions and strategic planning should begin soon if (1) disparities in access to and use of networked information resources and services are to be reduced in the near term, and (2) policy makers and librarians are to determine how public libraries can best contribute to providing equitable access for all members of the country.

Acknowledgments

As with previous national public library Internet studies conducted by these authors, there are numerous individuals who participated in the effort. First and foremost we thank those public librarians who completed the survey. Again, the assistance of the FSCS Coordinators at the state level was essential in encouraging libraries to respond and obtaining a high response rate. Dr. Dean Jue provided geocoded data and contributed to the development of the study methodology. Dr. Keith Curry Lance also assisted significantly in development of the study methodology. Judy Russell and Howard Harris at the National Commission on Libraries and Information Science (NCLIS) and Andrew Magpantay at the American Library Association Office for Information Technology Policy (ALA-OITA) also provided guidance and suggestions for the development of the study and for specific analyses and presentation of the data. Such guidance offers readers the opportunity to view study data from multiple perspectives.

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1998 PUBLIC LIBRARY OUTLET INTERNET CONNECTIVITY FIGURES

Figure 1. Public Library Outlets by Metropolitan Status and Poverty.

	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	10.1% (n=1,587)	5.6% (n=885)	1.4% (n=219)	17.1% (n=2,691)
Suburban	29.3% (n=4,602)	2.0% (n=313)	0.1% (n=18)	31.4% (n=4,933)
Rural	41.8% (n=6,568)	9.2% (n=1,446)	0.5% (n=80)	51.5% (n=8,094)
Overall	81.2% (n=12,757)	16.8% (n=2,644)	2.0% (n=317)	**100.0%*** (n=15,718)

***** According to NCES (1996), there are 16,792 public library outlets, of which 894 are bookmobiles. By subtracting the 894 bookmobiles, and other issues encountered by the study team, it was possible to geocode 15,718 outlets. See Appendix B of the final report for details on the outlet geocoding process.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

PUBLIC LIBRARY OUTLET INTERNET CONNECTIVITY AND PUBLIC ACCESS
Figures 2 through 13

Figure 2. Public Library Outlets Connected to the Internet (Both Public Access and No Public Access) by Metropolitan Status and Poverty (As a Percentage of All Library Outlets).

Base=15,718	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	91.1% (n=1,445)	91.9% (n=813)	87.2% (n=191)	91.0% +/- 2.9% (n=2,449)
Suburban	88.7% (n=4,082)	79.2% (n=248)	83.3% (n=15)	88.1% +/- 3.2% (n=4,345)
Rural	79.3% (n=5,207)	74.5% (n=1,077)	72.5% (n=58)	78.4% +/- 4.1% (n=6,343)
Overall	84.1% +/- 3.6% (n=10,735)	80.9% +/- 3.9% (n=2,138)	83.3% +/- 3.7% (n=264)	**83.6%** +/- 3.7% (n=13,137)

Note 1: The cell n's represent weighted estimates of all connected public library outlets.
Note 2: Readers should refer to Figure 1 for the total number of public library outlets within each poverty/metropolitan status cell.
Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 3. Internet Status for All Public Library Outlets by Metropolitan Status (As a Percentage of All Library Outlets).

	Internet Status			
Base = 15,718	**Connected with Public Internet Access**	**Connected with No Public Internet Access**	**Not Connected to the Internet**	**Total**
Metropolitan Status				
Urban	84.0% +/- 3.7% (n=2,261)	7.0% +/- 2.6% (n=188)	9.0% +/- 2.9% (n=242)	100.0% (n=2,691)
Suburban	76.7% +/- 4.2% (n=3,783)	11.4% +/- 3.2% (n=562)	11.9% +/- 3.2% (n=588)	100.0% (n=4,933)
Rural	67.6% +/- 4.7% (n=5,475)	10.7% +/- 3.1% (n=868)	21.6% +/- 4.1% (n=1,751)	100.0% (n=8,094)
Overall	73.3% +/- 4.7% (n=11,519)	10.3% +/- 3.0% (n=1,618)	16.4% +/- 3.7% (n=2,581)	100.0% (n=15,718)

Note 1: The cell n's represent weighted estimates of public library outlets connected to the Internet, not connected to the Internet, or connected to the Internet with public access services.

Note 2: Readers should refer to Figure 1 for the total number of public library outlets within each poverty/metropolitan status cell and Figure 2 for the total number of connected public library outlets within each poverty/metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 4. Internet Status for All Public Library Outlets by Poverty (As a Percentage of All Library Outlets).

	Internet Status			
Base = 15,718	**Connected with Public Internet Access**	**Connected with No Public Internet Access**	**Not Connected to the Internet**	**Total**
Poverty				
Less than 20%	73.2% +/- 4.4% (n=9,431)	10.9% +/- 3.1% (n=1,394)	15.9% +/- 3.7% (n=2,022)	100.0% (n=12,757)
20%-40%	72.8% +/- 4.5% (n=1,925)	8.1% +/- 2.7% (n=213)	19.1% +/- 3.9% (n=506)	100.0% (n=2,644)
More than 40%	79.5% +/- 4.0% (n=252)	3.8% +/- 1.9% (n=12)	16.7% +/- 3.7% (n=53)	100.0% (n=317)
Overall	73.3% +/- 4.7% (n=11,519)	10.3% +/- 3.0% (n=1,618)	16.4% +/- 3.7% (n=2,581)	100.0% (n=15,718)

Note 1: The cell n's represent weighted estimates of public library outlets connected to the Internet, not connected to the Internet, or connected to the Internet with public access services.

Note 2: Readers should refer to Figure 1 for the total number of public library outlets within each poverty/metropolitan status cell and Figure 2 for the total number of connected public library outlets within each poverty/metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 5. Public Library Outlets With No Internet Access that Plan to Connect to the Internet for Library Staff Use Only by June 1999 by Metropolitan Status and Poverty (As a Percentage of Library Outlets without Internet Access).

Base = 2,581 Non-response=53	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	7.1% (n=10)	25.0% (n=18)	N/A	11.6% +/- 3.2% (n=28)
Suburban	6.5% (n=34)	7.8% (n=5)	N/A	6.6% +/- 2.5% (n=39)
Rural	13.8% (n=182)	2.8% (n=10)	22.7% (n=5)	11.6% +/- 3.1% (n=197)
Overall	11.4% +/- 3.1% (n=226)	6.9% +/- 2.5% (n=34)	9.4% +/- 2.9% (n=5)	**10.4%** +/- 3.0% (n=265)

Note 1: The cell n's represent weighted estimates of non-connected public library outlets that plan to connect to the Internet for library staff use.

Note 2: Readers should refer to Figures 1 and 2 for the total number of public library outlets within each poverty/metropolitan status cell and the total number of connected public library outlets within each poverty/metropolitan status cell, respectively.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 53 of the 2,581 unconnected library outlets did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 6. Public Library Outlets With No Internet Access that Plan to Connect to the Internet for Library Staff Use and Public Access by June 1999 by Metropolitan Status and Poverty (As a Percentage of Library Outlets without Internet Access).

Base = 2,581 Non-response=53	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	71.6% (n=101)	50.0% (n=36)	53.6% (n=15)	62.8% +/- 4.8% (n=152)
Suburban	67.4% (n=351)	56.3% (n=36)	50.0% (n=2)	66.1% +/- 4.7% (n=388)
Rural	35.0% (n=461)	54.3% (n=195)	38.1% (n=8)	39.1% +/- 4.8% (n=664)
Overall	46.1% +/- 4.9% (n=912)	53.8% +/- 4.9% (n=267)	46.2% +/- 4.0% (n=24)	**47.6%** +/- 4.9% (n=1,204)

Note 1: The cell n's represent weighted estimates of non-connected public library outlets that plan to connect to the Internet for library staff use and public access.

Note 2: Readers should refer to Figures 1 and 2 for the total number of public library outlets within each poverty/metropolitan status cell and the total number of connected public library outlets within each poverty/metropolitan status cell, respectively.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 53 of the 2,581 unconnected library outlets did not respond to this question.

Note 5: The survey did not ask responding libraries that are currently connected to the Internet but do not provide public access to indicate their plans to convert to public access Internet services by June 1999.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 7. Public Library Outlets With No Internet Access that Do Not Plan to Connect to the Internet by June 1999 by Metropolitan Status and Poverty (As a Percentage of Library Outlets without Internet Access).

Base = 2,581 Non-response=53	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	21.3% (n=30)	25.0% (n=18)	46.4% (n=13)	25.6% +/- 4.3% (n=62)
Suburban	26.2% (n=136)	35.4% (n=23)	50.0% (n=2)	27.2% +/- 4.4% (n=160)
Rural	51.2% (n=675)	42.9% (n=154)	38.1% (n=8)	49.3% +/- 4.9% (n=837)
Overall	42.5% +/- 4.9% (n=841)	39.3% +/- 4.8% (n=195)	44.2% +/- 5.0% (n=23)	**41.9%** +/- 4.9% (n=1,059)

Note 1: The cell n's represent weighted estimates of non-connected public library outlets that do not plan to connect to the Internet.

Note 2: Readers should refer to Figures 1 and 2 for the total number of public library outlets within each poverty/metropolitan status cell and the total number of connected public library outlets within each poverty/metropolitan status cell, respectively.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 53 of the 2,581 unconnected library outlets did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 8. Public Library Outlets that Provide Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Connected to the Internet).

Base = 13,137	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	93.7% (n=1,354)	88.9% (n=722)	96.3% (n=184)	92.3% +/- 2.7% (n=2,261)
Suburban	87.3% (n=3,562)	83.9% (n=208)	87.5% (n=14)	87.1% +/- 3.4% (n=3,783)
Rural	85.0% (n=4,425)	92.4% (n=984)	94.8% (n=55)	86.3% +/- 3.4% (n=5,475)
Overall	87.0% +/- 3.4% (n=9,341)	90.0% +/- 3.0% (n=1,925)	95.5% +/- 2.1% (n=252)	**87.7%** +/- 3.3% (n=11,519)

Note 1: The cell n's represent weighted estimates of all connected public library outlets that provide public access to the Internet.

Note 2: Readers should refer to Figure 2 for the total number of public library outlets within each poverty/metropolitan status cell that have an Internet connection.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 9. Public Library Outlets that Provide Public Internet Access by Metropolitan Status and Poverty (As a Percentage of All Library Outlets).

Base = 15,718	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	85.4% (n=1,354)	81.6% (n=722)	84.0% (n=184)	84.0% +/- 3.2% (n=2,261)
Suburban	77.4% (n=3,562)	66.5% (n=208)	73.7% (n=14)	76.7% +/- 4.2% (n=3,783)
Rural	67.4% (n=4,425)	68.8% (n=995)	68.8% (n=55)	67.6% +/- 4.7% (n=5,475)
Overall	73.2% +/- 4.4% (n=9,341)	72.8% +/- 4.5% (n=1,925)	79.5% +/- 4.0% (n=252)	**73.3%** +/- 4.3% (n=11,519)

Note 1: The cell n's represent weighted estimates of all public library outlets that provide public access to the Internet.
Note 2: Readers should refer to Figures 1 for the total number of public library outlets within each poverty/metropolitan status cell.
Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 10. Projected Internet Status for Public Library Outlets by Metropolitan Status As of June 1999 (As a Percentage of All Library Outlets).

	Internet Status			
Base = 15,718 Non-response=53	**Connected With Public Internet Access**	**Connected With No Public Internet Access**	**Not Connected to the Internet**	**Total**
Metropolitan Status				
Urban	89.7% +/- 3.0% (n=2,413)	8.0% +/- 2.7% (n=216)	2.3% +/- 1.5% (n=62)	100.0% (n=2,691)
Suburban	84.6% +/- 3.6% (n=4,171)	12.2% +/- 3.3% (n=601)	3.2% +/- 1.8% (n=160)	100.0% (n=4,932)
Rural	76.3% +/- 4.2% (n=6,139)	13.2% +/- 3.4% (n=1,065)	10.4% +/- 3.1% (n=837)	100.0% (n=8,041)
Overall	81.2% +/- 3.9% (n=12,723)	12.0% +/- 3.3% (n=1,883)	6.8% +/- 2.5% (n=1,059)	100.0% (n=15,664)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figure 1 for the total number of public library outlets within each poverty/metropolitan status cell, Figure 2 for the total number of connected public library outlets within each poverty/metropolitan status cell, and Figure 3 for the total number of public library outlets that provide public access to the Internet by metropolitan status.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 53 of the library outlets did not respond to this question.

Note 5: The survey did not ask responding libraries that are currently connected to the Internet but do not provide public access to indicate their plans to convert to public access Internet services by June 1999.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 11. Projected Internet Status for Public Library Outlets by Poverty As of June 1999 (As a Percentage of All Library Outlets).

	Internet Status			
Base = 15,718 Non-response=53	**Connected With Public Internet Access**	**Connected With No Public Internet Access**	**Not Connected to the Internet**	**Total**
Poverty				
Less than 20%	80.6% +/- 4.0% (n=10,253)	12.7% +/- 3.3% (n=1,620)	6.6% +/- 2.5% (n=841)	100.0% (n=12,714)
20%-40%	83.2% +/- 3.7% (n=2,192)	9.4% +/- 2.9% (n=247)	7.4% +/- 2.6% (n=195)	100.0% (n=2,634)
More than 40%	87.3% +/- 3.3% (n=276)	5.4% +/- 2.3% (n=17)	7.3% +/- 2.6% (n=23)	100.0% (n=316)
Overall	81.2% +/- 3.9% (n=12,723)	12.0% +/- 3.3% (n=1,883)	6.8% +/- 2.5% (n=1,059)	100.0% (n=15,664)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figure 1 for the total number of public library outlets within each poverty/metropolitan status cell, Figure 2 for the total number of connected public library outlets within each poverty/metropolitan status cell, and Figure 4 for the total number of public library outlets that provide public access to the Internet by poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 53 of the library outlets did not respond to this question.

Note 5: The survey did not ask responding libraries that are currently connected to the Internet but do not provide public access to indicate their plans to convert to public access Internet services by June 1999.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 12. Projected Internet Status for Public Library Outlets by Metropolitan Status As of June 1999 (As a Percentage of Library Outlets without Internet Access).

	Internet Status			
Base = 2,581 Non-response=53	**Connected With Public Internet Access**	**Connected With No Public Internet Access**	**Not Connected to the Internet**	**Total**
Metropolitan Status				
Urban	62.8% +/- 4.8% (n=152)	11.6% +/- 3.2% (n=28)	25.6% +/- 4.4% (n=62)	100.0% (n=242)
Suburban	66.1% +/- 4.7% (n=388)	6.6% +/- 2.5% (n=39)	27.2% +/- 4.4% (n=160)	100.0% (n=587)
Rural	39.1% +/- 4.9% (n=664)	11.6% +/- 3.2% (n=197)	49.3% +/- 5.0% (n=837)	100.0% (n=1,698)
Overall	47.6% +/- 5.0% (n=1,204)	10.4% +/- 3.1% (n=265)	41.9% +/- 4.9% (n=1,059)	100.0% (n=2,528)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figures 3 and 4 for the number of currently non-connected public library outlets within each poverty/metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 53 of the 2,581 unconnected library outlets did not respond to this question.

Note 5: The survey did not ask responding libraries that are currently connected to the Internet but do not provide public access to indicate their plans to convert to public access Internet services by June 1999.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 13. Projected Internet Status for Public Library Outlets by Poverty As of June 1999 (As a Percentage of Library Outlets without Internet Access).

	Public Library Outlet Special Software/ Hardware Status			
Base = 2,581 Non-response=53	**Connected With Public Internet Access**	**Connected With No Public Internet Access**	**Not Connected to the Internet**	**Total**
Poverty				
Less than 20%	46.1% +/- 5.0% (n=912)	11.4% +/- 3.2% (n=226)	42.5% +/- 4.9% (n=841)	100.0% (n=1,979)
20%-40%	53.8% +/- 5.0% (n=267)	6.9% +/- 2.5% (n=34)	39.3% +/- 4.9% (n=195)	100.0% (n=496)
More than 40%	46.2% +/- 5.0% (n=24)	9.4% +/- 3.0% (n=5)	44.2% +/- 5.0% (n=23)	100.0% (n=52)
Overall	47.6% +/- 5.0% (n=1,204)	10.4% +/- 3.1% (n=265)	41.9% +/- 4.9% (n=1,059)	100.0% (n=2,528)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figures 3 and 4 for the number of currently non-connected public library outlets within each poverty/metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 53 of the 2,581 unconnected library outlets did not respond to this question.

Note 5: The survey did not ask responding libraries that are currently connected to the Internet but do not provide public access to indicate their plans to convert to public access Internet services by June 1999.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

PUBLIC LIBRARY OUTLET TYPE OF PUBLIC ACCESS SERVICES
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Figure 14. Public Library Outlets that Provide Some Text-Based Terminals for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-reponse=241	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	30.4% (n=384)	28.0% (n=190)	42.9% (n=72)	30.6% +/- 4.6% (n=646)
Suburban	22.0% (n=780)	24.9% (n=51)	35.7% (n=5)	22.2% +/- 4.2% (n=836)
Rural	12.5% (n=546)	15.6% (n=154)	12.7% (n=7)	13.1% +/- 3.34 (n=707)
Overall	18.6% +/- 3.9% (n=1,711)	21.2% +/- 4.1% (n=395)	35.2% +/- 4.7% (n=83)	**19.4%** +/- 3.9% (n=2,188)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide text-based public access to the Internet.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 241 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 15. Public Library Outlets that Provide Some Text-Based Terminals for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of All Library Outlets).

Base=15,718 Non-response=241	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	25.7% (n=384)	22.6% (n=190)	35.5% (n=72)	25.4% +/- 4.4% (n=646)
Suburban	17.0% (n=780)	16.5% (n=51)	26.3% (n=5)	17.0% +/- 3.8% (n=836)
Rural	8.4% (n=546)	10.7% (n=154)	8.8% (n=7)	8.8% +/- 2.8% (n=707)
Overall	13.6% +/- 3.4% (n=1,711)	15.3% +/- 3.6% (n=395)	27.6% +/- 4.5% (n=83)	**14.1%** +/- 3.4% (n=2,188)

Note 1: The cell n's represent weighted estimates of all public library outlets that provide text-based public access to the Internet.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 241 library outlets did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 16. Public Library Outlets that Provide Some Graphical Workstations for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=241	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	84.8% (n=1,071)	92.0% (n=623)	78.0% (n=131)	86.6% +/- 3.4% (n=1,826)
Suburban	94.9% (n=3,353)	90.7% (n=186)	100.0% (n=14)	94.7% +/- 2.2% (n=3,558)
Rural	96.6% (n=4,222)	97.9% (n=964)	96.4% (n=53)	96.8% +/- 1.8% (n=5,239)
Overall	94.3% +/- 2.3% (n=8,651)	95.0% +/- 2.2% (n=1,773)	83.9% +/- 3.7% (n=198)	**94.2%** +/- 2.3% (n=10,623)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide graphical public access to the Internet.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 241 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 17. Public Library Outlets that Provide Some Graphical Workstations for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of All Library Outlets).

Base=15,718 Non-response=241	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	71.6% (n=1,071)	74.2% (n=623)	64.5% (n=131)	71.9% +/- 4.5% (n=1,826)
Suburban	73.3% (n=3,358)	60.0% (n=186)	73.7% (n=14)	72.5% +/- 4.5% (n=3,558)
Rural	64.8% (n=4,222)	67.1% (n=964)	66.3% (n=53)	65.2% +/- 4.8% (n=5,239)
Overall	68.7% +/- 4.6% (n=8,651)	68.6% +/- 4.6% (n=1,773)	65.8% +/- 4.8% (n=198)	**68.6%** +/- 4.7% (n=10,623)

Note 1: The cell n's represent weighted estimates of all public library outlets that provide graphical public access to the Internet.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 241 library outlets did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 18. Public Library Outlets that Provide Both Graphical Workstations and Text-Based Terminals for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=241	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	15.2% (n=192)	19.9% (n=135)	20.8% (n=35)	17.2% +/- 3.8% (n=363)
Suburban	16.9% (n=599)	15.6% (n=32)	35.7% (n=5)	16.9% +/- 3.7% (n=636)
Rural	9.1% (n=396)	13.5% (n=133)	9.1% (n=5)	9.9% +/- 2.9% (n=535)
Overall	12.9% +/- 3.4% (n=1,188)	16.1% +/- 3.7% (n=301)	19.0% +/-3.9% (n=45)	**13.6%** +/- 3.4% (n=1,534)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide graphical and text-based public access to the Internet.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 241 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 19. Public Library Outlets that Provide Only Text-Based Terminals for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=241	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	15.2% (n=192)	8.0% (n=54)	22.0% (n=37)	13.4% +/- 3.4% (n=283)
Suburban	5.1% (n=181)	9.3% (n=19)	N/A	5.3% +/- 2.2% (n=200)
Rural	3.4% (n=150)	2.1% (n=21)	3.6% (n=2)	3.2% +/- 1.8% (n=172)
Overall	5.7% +/- 2.3% (n=523)	5.0% +/- 2.2% (n=94)	16.1% +/- 3.7% (n=39)	**5.8%** +/- 2.3% (n=655)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide only text-based public access to the Internet.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 241 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 20. Public Library Outlets that Provide Only Graphical Workstations for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=241	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	69.6% (n=879)	72.0% (n=488)	57.1% (n=96)	69.4% +/- 4.6% (n=1,463)
Suburban	78.0% (n=2,759)	75.1% (n=154)	64.3% (n=9)	77.8% +/- 4.2% (n=2,922)
Rural	87.5% (n=3,825)	84.4% (n=831)	87.3% (n=48)	86.9% +/- 3.4% (n=4,704)
Overall	81.4% +/- 3.9% (n=7,464)	78.8% +/- 4.1% (n=1,472)	64.8% +/- 4.8% (n=153)	**80.6%** +/- 4.0% (n=9,089)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide only text-based public access to the Internet.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 241 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 21. Frequency Analysis of Public Library Outlet Text-Based Public Access Terminals.

Base=2,116
Non-response=72

Quartile	Number of Text-Based Terminals Per Outlet	Percentage of Outlets for Each Quantity of Text-Based Terminals	Cumulative Percentage of Outlets for Each Quantity of Text-Based Terminals
1 (25%)	1	37.1%	37.1%
2 (50%)	2	17.4%	54.5%
	3	10.0%	64.5%
	4	4.1%	68.7%
	5	4.5%	73.1%
3 (75%)	6	6.1%	79.2%
	7	5.3%	84.5%
	8	5.7%	90.2%
	9	3.1%	93.3%
	10	0.5%	93.7%
	12	0.9%	94.7%
	13	0.5%	95.2%
	14	0.5%	95.7%
	15	0.1%	95.8%
	16	0.6%	96.3%
	18	0.5%	96.8%
	19	0.5%	97.3%
	21	0.1%	97.4%
	22	0.1%	97.5%
	25	0.2%	97.6%
	35	0.4%	98.0%
	39	0.1%	98.1%
	42	0.5%	98.6%
	45	0.5%	99.1%
	156	0.5%	99.6%
	183	0.4%	100.0%

Note 1: Readers should refer to Figure 14 for the number of public library outlets that provide text-based public access to the Internet by metropolitan status and poverty.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 22. Frequency Analysis of Public Library Outlet Graphical Public Access Workstations.

Base=10,251
Non-response=372

Quartile	Number of Graphical Workstations per Outlet	Percentage of Outlets for Each Quantity of Graphical Workstations	Cumulative Percentage of Outlets for Each Quantity of Graphical Workstations
1 (25%)	1	42.7%	42.7%
2 (50%)	2	21.5%	64.2%
	3	9.4%	73.6%
3 (75%)	4	7.4%	81.0%
	5	3.7%	84.7%
	6	3.9%	88.6%
	7	2.6%	91.2%
	8	2.3%	93.5%
	9	1.4%	94.9%
	11	0.7%	95.6%
	12	0.4%	96.0%
	13	0.2%	96.2%
	14	0.3%	96.5%
	15	0.5%	97.0%
	16	0.3%	97.3%
	17	0.2%	97.5%
	19	0.2%	97.7%
	23	0.2%	97.9%
	24	0.2%	98.2%
	25	0.1%	98.3%
	26	0.2%	98.5%
	28	0.2%	98.7%
	34	0.1%	98.8%
	35	0.1%	98.9%
	37	0.1%	99.0%
	41	0.1%	99.1%
	42	0.1%	99.2%
	44	0.3%	98.6%
	56	0.1%	99.7%
	82	0.1%	99.8%
	135	0.1%	99.9%
	215	0.1%	100.0%
	289*	0.0%	100.0%
	318*	0.0%	100.0%

* Due to rounding, frequencies that are less than 0.05% appear as 0.0%.

Note 1: Readers should refer to Figure 16 for the number of public library outlets that provide graphical public access to the Internet by metropolitan status and poverty.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

MAXIMUM SPEED OF PUBLIC ACCESS
Figures 23 through 42

Figure 23. Public Library Outlet Maximum Speed of Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

	Metropolitan Status			Poverty Level			
Base=11,519 Non-response=556	**Urban**	**Suburban**	**Rural**	**Less than 20%**	**20%-40%**	**More than 40%**	**Overall**
Maximum Speed							
14.4kbps	3.6% (n=76)	3.7% (n=133)	4.7% (n=248)	4.8% (n=431)	0.9% (n=16)	3.8% (n=9)	4.2% +/- 1.9% (n=456)
28.8kbps	4.9% (n=103)	13.4% (n=486)	21.8% (n=1,143)	16.9% (n=1,509)	11.3% (n=204)	7.7% (n=18)	15.8% +/- 3.6% (n=1,731)
33.6kbps	2.8% (n=59)	7.9% (n=288)	20.4% (n=1,071)	13.7% (n=1,224)	10.3% (n=186)	3.0% (n=7)	12.9% +/- 3.3% (n=1,417)
56kbps	33.5% (n=700)	35.1% (n=1,273)	30.7% (n=1,608)	32.0% (n=2,853)	34.8% (n=628)	42.6% (n=100)	32.7% +/- 4.6% (n=3,581)
64kbps	4.8% (n=100)	4.3% (n=156)	4.3% (n=223)	4.1% (n=368)	6.0% (n=108)	1.7% (n=4)	4.4% +/-2.0% (n=479)
128kbps	10.7% (n=223)	6.0% (n=218)	2.8% (n=148)	4.8% (n=432)	8.1% (n=146)	4.7% (n=11)	5.4% +/- 2.2% (n=589)
T1 (1.45mbps)	36.5% (n=764)	26.0% (n=946)	13.3% (n=695)	20.4% (n=1,823)	27.6% (n=498)	34.0% (n=80)	21.9% +/- 4.0% (n=2,401)
Cable (10mbps)	1.5% (n=32)	2.8% (n=103)	1.8% (n=96)	2.4% (n=218)	0.7% (n=12)	0.4% (n=1)	2.1% +/- 1.4% (n=231)
Other	1.7% (n=35)	0.6% (n=21)	0.2% (n=11)	0.6% (n=52)	0.5% (n=9)	2.1% (n=5)	0.6% +/- .07% (n=67)
Overall	100.0% (n=2,092)	100.0% (n=3,624)	100.0% (n=5,243)	100.0% (n=8,910)	100.0% (n=1,811)	100.0% (n=235)	100% (n=10,961)

Note 1: The cell n's represent weighted estimates of the maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 24. Public Library Outlet Maximum Speed of 14.4kbps for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	4.8% (n=61)	1.4% (n=9)	3.6% (n=6)	3.6% +/- 1.8% (n=76)
Suburban	3.6% (n=124)	3.4% (n=7)	15.4% (n=2)	3.7% +/- 1.8% (n=133)
Rural	5.8% (n=246)	N/A	3.6% (n=2)	4.7% +/- 2.0% (n=248)
Overall	4.8% +/- 2.1% (n=431)	0.9% +/- .09% (n=16)	3.6% +/- 1.9% (n=9)	**4.2%** +/- 1.9% (n=456)

Note 1: The cell n's represent weighted estimates of the 14.4kbps maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 25. Public Library Outlet Maximum Speed of 28.8kbps for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	5.6% (n=71)	4.1% (n=27)	3.0% (n=5)	4.9% +/- 2.0% (n=103)
Suburban	13.2% (n=452)	16.7% (n=34)	N/A	13.4% +/- 3.4% (n=486)
Rural	23.2% (n=986)	15.3% (n=144)	23.6% (n=13)	21.8% +/- 4.1% (n=1,143)
Overall	16.9% +/- 3.7% (n=1,509)	11.3% +/- 3.2% (n=204)	7.7% +/- 2.7% (n=18)	**15.8%** +/- 3.6% (n=1,731)

Note 1: The cell n's represent weighted estimates of the 28.8kbps maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 26. Public Library Outlet Maximum Speed of 33.6kbps for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	1.6% (n=20)	5.5% (n=36)	1.2% (n=2)	2.8% +/- 1.5% (n=59)
Suburban	7.9% (n=271)	7.8% (n=16)	N/A	7.9% +/- 2.7% (n=288)
Rural	22.0% (n=932)	14.1% (n=133)	9.1% (n=5)	20.4% +/- 4.0% (n=1,071)
Overall	13.7% +/- 3.4% (n=1,224)	10.3% +/- 3.0% (n=186)	3.0% +/- 1.7% (n=7)	**12.9%** +/- 3.3% (n=1,417)

Note 1: The cell n's represent weighted estimates of the 33.6kbps maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 27. Public Library Outlet Maximum Speed of 56kbps for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	37.6% (n=475)	24.7% (n=163)	36.9% (n=62)	33.5% +/- 4.7% (n=700)
Suburban	35.4% (n=1,210)	27.1% (n=55)	61.5% (n=8)	35.1% +/- 4.7% (n=1,273)
Rural	27.5% (n=1,168)	43.5% (n=410)	55.4% (n=30)	30.7% +/- 4.6% (n=1,608)
Overall	32.0% +/- 4.6% (n=2,853)	34.8% +/- 4.7% (n=628)	42.6% +/- 4.9% (n=100)	**32.7%** +/- 4.6% (n=3,581)

Note 1: The cell n's represent weighted estimates of the 56kbps maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 28. Public Library Outlet Maximum Speed of 64kbps for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	4.8% (n=61)	5.5% (n=36)	2.4% (n=4)	4.8% +/- 2.1% (n=100)
Suburban	4.0% (n=136)	9.9% (n=20)	N/A	4.3% +/- 2.0% (n=156)
Rural	4.0% (n=171)	5.4% (n=51)	N/A	4.3% +/- 2.0% (n=223)
Overall	4.1% +/- 2.0% (n=368)	6.0% +/- 2.3% (n=108)	1.7% +/- 1.2% (n=4)	**4.4%** +/- 1.9% (n=479)

Note 1: The cell n's represent weighted estimates of the 64kbps maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 29. Public Library Outlet Maximum Speed of 128kbps for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	9.6% (n=121)	13.7% (n=90)	6.5% (n=11)	10.7% +/- 3.1% (n=223)
Suburban	6.0% (n=204)	7.4% (n=15)	N/A	6.0% +/- 2.4% (n=218)
Rural	2.5% (n=107)	4.3% (n=41)	N/A	2.8% +/- 1.6% (n=148)
Overall	4.8% +/- 2.1% (n=432)	8.1% +/- 2.7% (n=146)	4.7% +/- 2.1% (n=11)	**5.4%** +/- 2.0% (n=589)

Note 1: The cell n's represent weighted estimates of the 128kbps maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 30. Public Library Outlet Maximum Speed of 1.45mbps (T1) for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	31.2% (n=394)	45.2% (n=298)	42.9% (n=72)	36.5% +/- 4.7% (n=764)
Suburban	26.2% (n=893)	22.5% (n=46)	25.0% (n=3)	26.0% +/- 4.4% (n=942)
Rural	12.6% (n=536)	16.3% (n=154)	9.1% (n=5)	13.3% +/- 3.4% (n=695)
Overall	20.4% +/- 4.0% (n=1,823)	27.6% +/- 4.5% (n=498)	34.0% +/- 4.7% (n=80)	**21.9%** +/- 4.0% (n=2,401)

Note 1: The cell n's represent weighted estimates of the T1 (1.45mbps) maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 31. Public Library Outlet Maximum Speed of 10mbps (Cable) for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	2.4% (n=30)	N/A	0.6% (n=1)	1.5% +/- 1.2% (n=32)
Suburban	3.0% (n=102)	0.5% (n=1)	N/A	2.8% +/- 1.6% (n=103)
Rural	2.0% (n=86)	1.1% (n=10)	N/A	1.8% +/- 1.3% (n=96)
Overall	2.4% +/- 1.5% (n=218)	0.7% +/- .08% (n=11)	0.4% +/- .07% (n=1)	**2.1%** +/- 1.4% (n=231)

Note 1: The cell n's represent weighted estimates of the cable (10mbps) maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 32. Public Library Outlet Maximum Speed Not Identified (Other) for Public Internet Access by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	2.4% (n=30)	N/A	3.0% (n=5)	1.7% +/- 1.2% (n=35)
Suburban	0.3% (n=11)	4.4% (n=9)	N/A	0.6% +/- .07% (n=21)
Rural	0.3% (n=11)	N/A	N/A	0.2% +/- .04% (n=11)
Overall	0.6% +/- .07% (n=52)	0.5% +/- .07% (n=9)	2.1% +/- 1.4% (n=5)	**0.6%** +/- .07% (n=67)

Note 1: The cell n's represent weighted estimates of the Other maximum speed of connected public library outlet public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 33. Public Library Outlets with Maximum Speed Less Than 56kbps* for Public Access Internet by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	12.0% (n=152)	10.9% (n=63)	7.7% (n=13)	11.3% +/- 3.0% (n=237)
Suburban	24.8% (n=848)	27.9% (n=55)	15.4% (n=2)	25.0% +/- 4.3% (n=906)
Rural	51.0% (n=2,164)	29.3% (n=277)	36.4% (n=20)	47.0% +/- 5.0% (n=2,461)
Overall	35.5% +/- 4.8% (n=3,164)	22.5% +/- 4.2% (n=406)	14.9% +/- 3.6% (n=35)	**32.9%** +/- 4.7% (n=3,605)

* The less than 56kbps category combines the 14.4kbps, 28.8kbps, and 33.6kbps public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of public library outlet public access Internet services with a maximum speed of less than 56kbps.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty and Figure 23 for the number and percentage of library outlets by public access connection maximum speed.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 34. Public Library Outlets with Maximum Speed of 56kbps for Public Access Internet by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	37.6% (n=475)	24.7% (n=163)	36.9% (n=62)	33.5% +/- 4.7% (n=700)
Suburban	35.4% (n=1,210)	27.1% (n=55)	61.5% (n=8)	35.1% +/- 4.7% (n=1,273)
Rural	27.5% (n=1,168)	43.5% (n=410)	55.4% (n=30)	30.7% +/- 4.6% (n=1,608)
Overall	32.0% +/- 4.6% (n=2,853)	34.8% +/- 4.7% (n=628)	42.6% +/- 4.9% (n=100)	**32.7%** +/- 4.6% (n=3,581)

Note 1: The cell n's represent weighted estimates of public library outlet public access Internet services with a maximum speed of 56kbps.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty and Figure 23 for the number and percentage of library outlets by public access connection maximum speed.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 35. Public Library Outlets with Maximum Speed Greater Than 56kbps* for Public Access Internet by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519 Non-response=556	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	48.0% (n=606)	64.3% (n=424)	52.4% (n=88)	53.5% +/- 5.0% (n=1,119)
Suburban	39.1% (n=1,334)	40.4% (n=82)	25.0% (n=3)	39.1% +/- 4.8% (n=1,420)
Rural	21.2% (n=900)	27.1% (n=256)	9.1% (n=5)	22.2% +/- 4.1% (n=1,161)
Overall	31.8% +/- 4.6% (n=2,841)	42.2% +/- 4.9% (n=763)	40.9% +/- 4.9% (n=96)	**33.7%** +/- 4.7% (n=3,700)

* The greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of public library outlet public access Internet services with a maximum speed of more than 56kbps.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty and Figure 23 for the number and percentage of library outlets by public access connection maximum speed.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 36. Public Library Outlet Maximum Speed of Public Internet Access by Metropolitan Status (As a Percentage of Library Outlets Offering Public Internet Access).

	Speed of Public Access*			
Base=11,519 Non-response=556	**Less than 28.8kbps**	**28.8kbps to 56kbps**	**56kbps**	**Greater than 56kbps**
Metropolitan Status				
Urban	3.6% (n=76)	7.7% (n=161)	33.5% (n=700)	53.5% (n=1,119)
Suburban	3.7% (n=133)	21.3% (n=774)	35.1% (n=1,273)	39.1% (n=1,420)
Rural	4.7% (n=248)	42.2% (n=2,213)	30.7% (n=1,608)	22.2% (n=1,161)
Overall	4.2% +/- 1.9% (n=456)	28.7% +/- 4.5% (n=3,148)	32.7% +/- 4.6% (n=3,581)	33.7% +/- 4.7% (n=3,700)

* The less than 28.8kbps category is the 14.4kbps public access speed in survey question 5, the 28.8kbps to 56kbps category combines the 28.8kbps, and 33.6kbps public access speeds in survey question 5, and the greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of graphical public library outlet public access Internet services with a maximum speed of less than 28.8kbps, 28.8kbps to 56kbps, 56kbps, and greater than 56kbps.

Note 2: Readers should refer to Figure 23 for the total number and percentage of public access Internet services maximum speeds.

Note 3: Due to the weighted statistical analysis technique used to analyze the data, rounding, missing values, and not including the "other" speed category, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 37. Public Library Outlet Maximum Speed of Public Internet Access by Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

	Speed of Public Access*			
Base=11,519 Non-response=556	**Less than 28.8kbps**	**28.8kbps to 56kbps**	**56kbps**	**Greater than 56kbps**
Poverty				
Less than 20%	4.8% (n=431)	30.6% (n=2,733)	32.0% (n=2,853)	31.8% (n=2,841)
20%-40%	0.9% (n=16)	21.6% (n=380)	34.8% (n=628)	42.4% (n=763)
Greater than 40%	3.8% (n=9)	11.1% (n=26)	42.6% (n=100)	40.9% (n=96)
Overall	4.2% +/- 1.9% (n=456)	28.7% +/- 4.5% (n=3,148)	32.7% +/- 4.6% (n=3,581)	33.7% +/- 4.7% (n=3,700)

* The less than 28.8kbps category is the 14.4kbps public access speed in survey question 5, the 28.8kbps to 56kbps category combines the 28.8kbps, and 33.6kbps public access speeds in survey question 5, and the greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of graphical public library outlet public access Internet services with a maximum speed of less than 28.8kbps, 28.8kbps to 56kbps, 56kbps, and greater than 56kbps.

Note 2: Readers should refer to Figure 23 for the total number and percentage of public access Internet services maximum speeds.

Note 3: Due to the weighted statistical analysis technique used to analyze the data, rounding, missing values, and not including the "other" speed category, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 11,519 library outlets that provide public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 38. Public Library Outlets that Provide Graphical Public Internet Access by Speed of Connection (As a Percentage of Library Outlets with Graphical Public Internet Access).

Base=10,623 Non-response=356	**Graphical Public Internet Access**
Speed of Public Access*	
Less than 56kbps	32.4% +/- 4.7% (n=3,329)
56kbps	32.0% +/- 4.6% (n=3,303)
Greater than 56kbps	34.9% +/- 4.7% (n=3,580)
Total	**100.0%** (n=10,212)

* The less than 56kbps category combines the 14.4kbps, 28.8kbps, and 33.6kbps public access speeds in survey question 5; the greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of graphical public library outlet public access Internet services with a maximum speed of less than 56kbps, 56kbps, and greater than 56kbps.

Note 2: Readers should refer to Figure 23 for the total number and percentage of public access Internet services maximum speeds and Figure 16 for the total number of connected public library outlets that provide graphical public access to the Internet within each poverty/ metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data, rounding, missing values and not including the "other" speed category, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 356 of the 10,623 library outlets that provide graphical public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 39. Public Library Outlets that Provide Graphical Public Internet Access by Speed of Connection and Metropolitan Status (As a Percentage of Library Outlets with Graphical Public Internet Access).

	Speed of Public Access*			
Base=10,623 Non-response=356	**Less than 28.8kbps**	**28.8kbps to 56kbps**	**56kbps**	**Greater than 56kbps**
Metropolitan Status				
Urban	1.2% (n=21)	8.0% (n=143)	31.4% (n=558)	57.6% (n=1,024)
Suburban	2.8% (n=95)	21.5% (n=738)	34.6% (n=1,189)	40.9% (n=1,406)
Rural	4.1% (n=205)	42.1% (n=2,126)	30.8% (n=1,555)	22.8% (n=1,151)
Overall	3.1% +/- 1.7% (n=321)	29.3% +/- 4.5% (n=3,008)	32.2% +/- 4.6% (n=3,303)	34.9% +/- 4.7% (n=3,580)

* The less than 28.8kbps category is the 14.4kbps public access speed in survey question 5, the 28.8kbps to 56kbps category combines the 28.8kbps, and 33.6kbps public access speeds in survey question 5, and the greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of graphical public library outlet public access Internet services with a maximum speed of less than 28.8kbps, 28.8kbps to 56kbps, 56kbps, and greater than 56kbps.

Note 2: Readers should refer to Figure 23 for the total number and percentage of public access Internet services maximum speeds and Figure 16 for the total number of connected public library outlets that provide graphical public access to the Internet within each poverty/ metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data, rounding, missing values, and not including the "other" speed category, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 356 of the 10,623 library outlets that provide graphical public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 40. Public Library Outlets that Provide Graphical Public Internet Access by Speed of Connection and Poverty (As a Percentage of Library Outlets with Graphical Public Internet Access).

	Speed of Public Access*			
Base=10,623 Non-response=356	**Less than 28.8kbps**	**28.8kbps to 56kbps**	**56kbps**	**Greater than 56kbps**
Poverty				
Less than 20%	3.7% (n=314)	31.3% (n=2,624)	31.4% (n=2,630)	32.9% (n=2,758)
20%-40%	0.2% (n=3)	21.3% (n=360)	35.1% (n=594)	43.3% (n=733)
Greater than 40%	2.1% (n=4)	12.2% (n=24)	39.8% (n=78)	45.1% (n=88)
Overall	3.1% +/- 1.7% (n=321)	29.3% +/- 4.5% (n=3,008)	32.2% +/- 4.6% (n=3,303)	34.9% +/- 4.7% (n=3,580)

* The less than 28.8kbps category is the 14.4kbps public access speed in survey question 5, the 28.8kbps to 56kbps category combines the 28.8kbps, and 33.6kbps public access speeds in survey question 5, and the greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of graphical public library outlet public access Internet services with a maximum speed of less than 28.8kbps, 28.8kbps to 56kbps, 56kbps, and greater than 56kbps.

Note 2: Readers should refer to Figure 23 for the total number and percentage of public access Internet services maximum speeds and Figure 16 for the total number of connected public library outlets that provide graphical public access to the Internet within each poverty/ metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data, rounding, missing values, and not including the "other" speed category, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 356 of the 10,623 library outlets that provide graphical public access Internet services did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 41. Public Library Outlets that Provide Graphical Public Internet Access by Speed of Connection and Metropolitan Status (As a Percentage of All Library Outlets).

	Speed of Public Access*			
Base=15,718 Non-response=556	**Less than 28.8kbps**	**28.8kbps to 56kbps**	**56kbps**	**Greater than 56kbps**
Metropolitan Status				
Urban	0.8% (n=21)	5.3% (n=143)	20.7% (n=558)	38.1% (n=1,024)
Suburban	1.9% (n=95)	14.7% (n=738)	23.6% (n=1,189)	28.3% (n=1,406)
Rural	2.5% (n=205)	26.2% (n=2,126)	14.2% (n=1,555)	22.8% (n=1,151)
Overall	2.1% +/- 1.6% (n=321)	19.9% +/- 4.0% (n=3,008)	21.9% +/- 4.1% (n=3,303)	23.7% +/- 4.1% (n=3,580)

* The less than 28.8kbps category is the 14.4kbps public access speed in survey question 5, the 28.8kbps to 56kbps category combines the 28.8kbps, and 33.6kbps public access speeds in survey question 5, and the greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of graphical public library outlet public access Internet services with a maximum speed of less than 28.8kbps, 28.8kbps to 56kbps, 56kbps, and greater than 56kbps.

Note 2: Readers should refer to Figure 23 for the total number and percentage of public access Internet services maximum speeds and Figure 16 for the total number of connected public library outlets that provide graphical public access to the Internet within each poverty/ metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data, rounding, missing values, and not including the "other" speed category, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 15,718 library outlets did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 42. Public Library Outlets that Provide Graphical Public Internet Access by Speed of Connection and Poverty (As a Percentage of All Library Outlets).

	Speed of Public Access*			
Base=15,718 Non-response=556	**Less than 28.8kbps**	**28.8kbps to 56kbps**	**56kbps**	**Greater than 56kbps**
Poverty				
Less than 20%	2.5% (n=314)	20.6% (n=2,624)	20.6% (n=2,630)	21.6% (n=2,758)
20%-40%	0.1% (n=3)	13.6% (n=360)	22.5% (n=594)	27.8% (n=733)
Greater than 40%	1.3% (n=4)	7.6% (n=24)	24.6% (n=78)	27.8% (n=88)
Overall	2.1% +/- 1.6% (n=321)	19.9% +/- 4.0% (n=3,008)	21.9% +/- 4.1% (n=3,303)	23.7% +/- 4.1% (n=3,580)

* The less than 28.8kbps category is the 14.4kbps public access speed in survey question 5, the 28.8kbps to 56kbps category combines the 28.8kbps, and 33.6kbps public access speeds in survey question 5, and the greater than 56kbps category combines the 64kbps, 128kbps, T1 (1.45mbps), and cable (10mbps) public access speeds in survey question 5.

Note 1: The cell n's represent weighted estimates of graphical public library outlet public access Internet services with a maximum speed of less than 28.8kbps, 28.8kbps to 56kbps, 56kbps, and greater than 56kbps.

Note 2: Readers should refer to Figure 23 for the total number and percentage of public access Internet services maximum speeds and Figure 16 for the total number of connected public library outlets that provide graphical public access to the Internet within each poverty/ metropolitan status cell.

Note 3: Due to the weighted statistical analysis technique used to analyze the data, rounding, missing values, and not including the "other" speed category, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: Non-response is indicated as a weighted non-response. Thus, 556 of the 15,718 library outlets did not respond to this question.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

SPECIAL SOFTWARE/HARDWARE FOR PERSONS WITH DISABILITIES, FILTERING SOFTWARE, AND ACCEPTABLE USE POLICIES FOR PUBLIC ACCESS INTERNET SERVICES

Figures 43 through 55

Figure 43. Public Library Outlets that Provide Special Software/Hardware for Persons with Disabilities on All of Their Public Access Internet Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	2.2% (n=30)	2.5% (n=18)	1.1% (n=2)	2.3% +/- 1.4% (n=51)
Suburban	1.3% (n=45)	N/A	N/A	1.2% +/- 1.0% (n=45)
Rural	3.4% (n=150)	8.3% (n=82)	N/A	4.2% +/- 2.0% (n=232)
Overall	2.4% +/- 1.5% (n=226)	5.3% +/- 2.2% (n=100)	0.8% +/- .09% (n=2)	**2.9%** +/- 1.6% (n=328)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on all public access Internet terminals/workstations.
Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty
Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 44. Public Library Outlets that Provide Special Software/Hardware for Persons with Disabilities on Some of their Public Access Internet Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	23.1% (n=313)	25.0% (n=181)	26.6% (n=49)	24.1% +/- 4.2% (n=543)
Suburban	14.9% (n=531)	18.8% (n=39)	N/A	15.1% +/- 3.6% (n=571)
Rural	7.8% (n=343)	10.4% (n=103)	14.5% (n=8)	8.3% +/- 2.7% (n=454)
Overall	12.7% +/- 3.3% (n=1,188)	16.9% +/- 3.7% (n=322)	23.0% +/- 4.2% (n=57)	**13.6%** +/- 3.4% (n=1,567)

Note 1: The cell n's represent weighted estimates of connected public library outlets that use filtering software on some of their public access Internet terminals/workstations.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 45. Public Library Outlets that Provide Special Software/Hardware for Persons with Disabilities on None of their Public Access Internet Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	74.6% (n=1,011)	72.5% (n=524)	72.3% (n=133)	73.8% +/- 4.4% (n=1,666)
Suburban	83.8% (n=2,985)	81.3% (n=169)	100.0% (n=14)	83.7% +/- 3.7% (n=3,166)
Rural	88.9% (n=3,932)	81.4% (n=810)	85.5% (n=47)	87.5% +/- 3.3% (n=4,789)
Overall	84.9% +/- 3.5% (n=7,928)	77.9% +/- 4.1% (n=1,503)	76.1% +/- 4.3% (n=193)	**83.6%** +/- 3.7% (n=9,624)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on none of their public access Internet terminals/workstations.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 46. Public Library Outlets that Provide Special Software/Hardware for Persons with Disabilities by Metropolitan Status (As a Percentage of Library Outlets Offering Public Internet Access).

	Special Software/ Hardware Status			
Base=11,519	**On all public access terminals/ workstations**	**On some public access terminals/ workstations**	**On no public access terminals/ workstations**	**Total**
Metropolitan Status				
Urban	2.3% +/- 1.4% (n=51)	24.1% +/- 4.2% (n=543)	73.8% +/- 4.4% (n=1,666)	100.0% (n=2,261)
Suburban	1.2% +/- 1.0% (n=45)	15.1% +/- 3.6% (n=571)	83.7% +/- 3.7% (n=3,166)	100.0% (n=3,783)
Rural	4.2% +/- 2.0% (n=232)	8.3% +/- 2.7% (n=454)	87.5% +/- 3.3% (n=4,789)	100.0% (n=5,475)
Overall	2.9% +/- 1.6% (n=328)	13.6% +/- 3.4% (n=1,567)	83.6% +/- 3.7% (n=9,624)	100.0% (n=11,519)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 47. Public Library Outlets that Provide Special Software/Hardware for Persons with Disabilities by Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

	Special Software/Hardware Status			
Base=11,519	**On all public access terminals/ workstations**	**On some public access terminals/ workstations**	**On no public access terminals/ workstations**	**Total**
Poverty				
Less than 20%	2.4% +/- 1.5% (n=226)	12.7% +/- 3.3% (n=1,188)	84.9% +/- 3.5% (n=7,928)	100.0% (n=9,342)
20%-40%	5.3% +/- 2.2% (n=100)	16.9% +/- 3.7% (n=322)	77.9% +/- 4.1% (n=1,503)	100.0% (n=1,925)
More than 40%	0.8% +/- .09% (n=2)	23.0% +/- 4.2% (n=57)	76.1% +/- 4.3% (n=193)	100.0% (n=252)
Overall	2.9% +/- 1.6% (n=328)	13.6% +/- 3.4% (n=1,567)	83.5% +/- 3.7% (n=9,624)	100.0% (n=11,519)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 48. Public Library Outlets that Use Filtering Software on All of their Public Internet Access Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	8.2% (n=111)	10.0% (n=72)	8.7% (n=16)	8.8% +/- 2.8% (n=199)
Suburban	7.0% (n=249)	11.1% (n=23)	14.3% (n=2)	7.2% +/- 2.5% (n=273)
Rural	7.3% (n=321)	8.3% (n=82)	3.6% (n=2)	7.4% +/- 2.6% (n=404)
Overall	7.3% +/- 2.6% (n=681)	9.3% +/- 2.9% (n=177)	7.7% +/- 2.6% (n=19)	**7.6%** +/- 2.6% (n=878)

Note 1: The cell n's represent weighted estimates of connected public library outlets that use filtering software on all public access Internet terminals/workstations.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 49. Public Library Outlets that Use Filtering Software on Some of their Public Internet Access Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	6.7% (n=91)	11.2% (n=81)	7.1% (n=13)	8.2% +/- 2.8% (n=185)
Suburban	9.5% (n=339)	8.7% (n=18)	14.3% (n=2)	9.5% +/- 2.9% (n=357)
Rural	4.8% (n=214)	4.1% (n=41)	3.6% (n=2)	4.7% +/- 2.1% (n=257)
Overall	6.9% +/- 2.5% (n=644)	7.2% +/- 2.6% (n=138)	6.9% +/- 2.5% (n=17)	**7.0%** +/- 3.4% (n=801)

Note 1: The cell n's represent weighted estimates of connected public library outlets that provide special software/hardware for persons with disabilities on some of their public access Internet terminals/workstations.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 50. Public Library Outlets that Use Filtering Software on None of their Public Internet Access Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	85.1% (n=1,152)	78.7% (n=569)	83.6% (n=153)	82.9% +/- 3.8% (n=1,875)
Suburban	83.5% (n=2,974)	80.7% (n=167)	78.6% (n=11)	83.3% +/- 3.7% (n=3,152)
Rural	87.9% (n=3,890)	87.6% (n=872)	94.5% (n=52)	87.9% +/- 3.3% (n=4,813)
Overall	85.8% +/- 3.5% (n=8,016)	83.1% +/- 3.8% (n=1,599)	85.4% +/- 3.5% (n=216)	**85.3%** +/- 3.7% (n=9,839)

Note 1: The cell n's represent weighted estimates of connected public library outlets that use filtering software on none of their public access Internet terminals/workstations.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 51. Public Library Outlets that Have an Acceptable Use Policy for Their Public Internet Access Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	85.8% (n=1,162)	89.9% (n=641)	88.5% (n=162)	87.3% +/- 3.3% (n=1,965)
Suburban	86.0% (n=3,064)	85.5% (n=178)	64.3% (n=9)	85.9% +/- 3.5% (n=3,250)
Rural	82.8% (n=3,665)	84.5% (n=841)	85.5% (n=47)	83.1% +/- 3.7% (n=4,553)
Overall	84.5% +/- 3.6% (n=7,891)	86.6% +/- 3.4% (n=1,660)	86.3% +/- 3.4% (n=214)	**84.8%** +/- 3.6% (n=9,769)

Note 1: The cell n's represent weighted estimates of connected public library outlets that have an acceptable use policy in place for their public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 52. Public Library Outlets that Do Not Have an Acceptable Use Policy for Their Public Internet Access Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	3.0% (n=40)	1.3% (n=9)	0.5% (n=1)	2.3% +/- 1.4% (n=51)
Suburban	2.9% (n=102)	1.4% (n=3)	N/A	2.8% +/- 1.6% (n=104)
Rural	3.9% (n=171)	2.1% (n=21)	N/A	3.5% +/- 1.8% (n=192)
Overall	3.4% +/- 1.8% (n=314)	1.7% +/- 1.2% (n=32)	0.4% +/- .07% (n=1)	**3.0%** +/- 1.7% (n=347)

Note 1: The cell n's represent weighted estimates of connected public library outlets that do not have an acceptable use policy in place for their public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 53. Public Library Outlets that are Currently Developing an Acceptable Use Policy for Their Public Internet Access Workstations by Metropolitan Status and Poverty (As a Percentage of Library Outlets Offering Public Internet Access).

Base=11,519	Poverty			
	Less than 20%	**20%-40%**	**More than 40%**	**Overall**
Metropolitan Status				
Urban	11.2% (n=152)	8.7% (n=63)	10.4% (n=19)	10.4% +/- 3.1% (n=234)
Suburban	11.1% (n=396)	13.1% (n=27)	35.7% (n=5)	11.3% +/- 3.2% (n=427)
Rural	13.5% (n=600)	13.5% (n=133)	15.7% (n=8)	13.5% +/- 3.4% (n=742)
Overall	12.3% +/- 3.3% (n=1,147)	11.7% +/- 3.2% (n=224)	13.0% +/- 3.3% (n=32)	**12.2%** +/- 3.3% (n=1,403)

Note 1: The cell n's represent weighted estimates of connected public library outlets that are currently developing an acceptable use policy in place for their public access Internet services.

Note 2: Readers should refer to Figures 3 and 4 for the total number of public library outlets that provide public access to the Internet by metropolitan status and poverty.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 54. Public Library Outlet Public Internet Access Terminal/Workstation Filtering Software Use by Acceptable Use Policy for Public Internet Access (As Applied to Library Outlets Offering Public Internet Access).[4]

Base=11,519	Internet Filtering Software Status		
	On all public access terminals/ workstations	**On some public access terminals/ workstations**	**On no public access terminals/ workstations**
Acceptable Use Policy for Public Internet Access Status			
Acceptable Use Internet Policy In Place	88.4% +/- 3.2% (n=775)	88.8% +/- 3.2% (n=711)	84.2% +/- 3.6% (n=8,283)
Currently Developing an Acceptable Use Internet Policy	11.5% +/- 3.2% (n=101)	8.7% +/- 2.8% (n=70)	12.5% +/- 3.3% (n=1,231)
No Acceptable Use Internet Policy in Place	0.1% +/- 0.03% (n=1)	2.5% +/- 1.5% (n=20)	3.3% +/- 1.8% (n=326)
Total	100.0% (n=878)	100.0% (n=801)	100.0% (n=9,839)

Note 1: The cell n's represent weighted estimates of connected public library outlets that have an acceptable use policy in place on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figures 48-50 for the total number of public library outlets that provide public access to the Internet and use filtering software on all, some, or none of their public access terminals/ workstations within each poverty/metropolitan status cell and Figures 51-53 for the total number of public library outlets that provide public access to the Internet and have, do not have, or are developing an acceptable use policy for their public access Internet services.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: The cells are calculated based on Internet filtering software status, so that each column totals 100%. Consequently, percentages cannot be added across rows. See Figure 55 for calculations based on acceptable use policy status and Figure 56 for calculations based on the overall distribution of filtering software and acceptable use policies.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 55. Public Library Outlet Acceptable Use Policy for Public Internet Access by Public Internet Access Terminal/Workstation Filtering Software Use (As Applied to Library Outlets Offering Public Internet Access).[4]

Base = 11,519	Internet Filtering Software Status			
	On all public access terminals/ workstations	**On some public access terminals/ workstations**	**On no public access terminals/ workstations**	**Total**
Acceptable Use Policy for Public Internet Access Status				
Acceptable Use Internet Policy In Place	7.9% +/- 3.2% (n=775)	7.3% +/- 3.2% (n=711)	84.8% +/- 3.6% (n=8,283)	100.0% (n=9,769)
Currently Developing and Acceptable Use Internet Policy	7.2% +/- 3.2% (n=101)	5.0% +/- 2.8% (n=70)	87.8% +/- 3.3% (n=1,231)	100.0% (n=1,403)
No Acceptable Use Internet Policy in Place	0.3% +/- 0.03% (n=1)	5.8% +/- 1.5% (n=20)	93.7% +/- 1.8% (n=326)	100.0% (n=347)

Note 1: The cell n's represent weighted estimates of connected public library outlets that have an acceptable use policy in place on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figures 48-50 for the total number of connected public library outlets that provide public access to the Internet and use filtering software on all, some, or none of their public access terminals/workstations within each poverty/metropolitan status cell and Figures 51-53 for the total number of connected public library outlets that provide public access to the Internet and have, do not have, or are developing an acceptable use policy for their public access Internet services.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

Note 4: The cells are calculated based on acceptable use policy status, so that each row totals 100%. Consequently, percentages cannot be added down columns. See Figure 54 for calculations based on Internet filtering software status and Figure 56 for calculations based on the overall distribution of filtering software and acceptable use policies.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

Figure 56. Overall Distribution of Public Library Outlet Acceptable Use Policy for Public Internet Access and Public Internet Access Terminal/Workstation Filtering Software Use (As a Percentage of Library Outlets Offering Public Internet Access).

Base = 11,519	Internet Filtering Software Status			
	On all public access terminals/ workstations	**On some public access terminals/ workstations**	**On no public access terminals/ workstations**	**Overall**
Acceptable Use Policy for Public Internet Access Status				
Acceptable Use Internet Policy In Place	6.7% +/- 3.2% (n=775)	6.2% +/- 3.2% (n=711)	71.9% +/- 3.6% (n=8,283)	84.8% +/- 3.6% (n=9,769)
Currently Developing and Acceptable Use Internet Policy	0.9% +/- 3.2% (n=101)	0.6% +/- 2.8% (n=70)	10.7% +/- 3.3% (n=1,231)	12.2% +/- 3.3% (n=1,403)
No Acceptable Use Internet Policy in Place	0.0% +/- 0.03% (n=1)	0.2% +/- 1.5% (n=20)	2.9% +/- 1.8% (n=326)	3.0% +/- 1.7% (n=347)
Overall	7.6% +/- 2.6% (n=878)	7.0% +/- 3.4% (n=801)	85.3% +/- 3.7% (n=9,839)	100.0% (n=11,519)

Note 1: The cell n's represent weighted estimates of connected public library outlets that have an acceptable use policy in place on all, some, or none of their public access Internet workstations/terminals.

Note 2: Readers should refer to Figures 48-50 for the total number of connected public library outlets that provide public access to the Internet and use filtering software on all, some, or none of their public access terminals/workstations within each poverty/metropolitan status cell and Figures 51-53 for the total number of connected public library outlets that provide public access to the Internet and have, do not have, or are developing an acceptable use policy for their public access Internet services.

Note 3: Due to the weighted statistical analysis technique used to analyze the data and rounding, not all cell n's will sum or cell percentages will total to 100.0%.

From: Bertot, John Carlo, and McClure, Charles R. (1998). *The 1998 National Survey of U.S. Public Library Outlet Internet Connectivity: Final Report.* Washington, D.C.: U.S. National Commission on Libraries and Information Science.

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APPENDIX A
1998 OUTLET STUDY SURVEY FORM

National Survey of Public Library Outlet Internet Connectivity

Instructions: The American Library Association and the National Commission on Libraries and Information Science are surveying a national sample of public library outlets regarding their connectivity to the Internet. Please respond to the questions that follow for the outlet listed on the backside of this survey form. Thank you for your participation! **PLEASE RETURN THE QUESTIONNAIRE BY MAY 29, 1998.**

1. Is this library outlet **currently connected** to the Internet in any way? (FILL IN ONE ● ONLY)

   ○ No (please go to question 2)
   ○ Yes (please go to question 3)

2. If this library outlet **does not now have any access to the Internet**, is there a plan to connect the outlet to the Internet in any way in the next 12 months? (FILL IN ONE ● ONLY)

   ○ YES, for library staff use only
   ○ YES, for library staff use AND public access
   ○ NO Internet connection planned

3. Does this library outlet provide **public access to the Internet**? (FILL IN ONE ● ONLY)

   ○ No (please return the survey. **THANK YOU!**)
   ○ Yes (please go to question 4)

4. Please indicate the **type(s) and number** of public access Internet terminals/workstations provided by this library outlet: (FILL IN ALL ● THAT APPLY)

   a. ○ Text-based (e.g., non-graphical). Please enter the number of terminals: _____
   b. ○ Graphical (e.g., can display images). Please enter the number of workstations: _____

5. Please indicate the **maximum speed** of this **library outlet's public access Internet service connection**: (FILL IN ONE ● ONLY)

   ○ 14.4 kbps or less
   ○ 28.8 kbps
   ○ 33.6 kbps
   ○ 56 kbps
   ○ 64 kbps ISDN 1B+D)
   ○ 128 kbps (ISDN 2B+D)
   ○ T1 (1.5 mbps)
   ○ Cable service (10 mbps)

6. Please complete the following questions about this library outlet's public access Internet services: (FILL IN ALL ● THAT APPLY)

		On all terminals/ workstations	On some terminals/ workstations	On no terminals/ workstations
a)	Our library offers special hardware/ software for individuals with disabilities	○	○	○
b)	Our library uses filtering software (e.g., blocking software for pornography)	○	○	○

7. Does this library outlet have an **acceptable use public access Internet policy** in place (e.g., a policy that informs the public about the use of the Internet by minors, pornographic material, chat rooms)? (FILL IN ONE ● ONLY)

   ○ Yes
   ○ No
   ○ Currently developing a policy

Thank you for your participation! Please return the survey in the enclosed stamped envelope.
(Survey contact information is on the other side).

For questions concerning the survey, please contact:

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APPENDIX B
1998 OUTLET STUDY SURVEY METHODOLOGY

INTRODUCTION

The 1998 public library outlet study (hereafter referred to as the 1998 Study) used two distinct methodologies: one for the survey component and one for the geocoding of all public library outlets based on the library outlet metropolitan status code and the poverty rate of the population an outlet serves. The authors were responsible for the survey methodology, with the geocoding component of the study coming from a variation of a study conducted by the American Library Association's Office for Information Technology Policy (available at http://www.ala.org/oitp/). This section describes both study methods.

1998 Study Survey Methodology

Funding for the 1998 Study was finalized in March 1998. Upon funding, the authors drafted an initial survey form for distribution to public library outlets. The authors pre-tested the initial survey form with public librarians, state library agencies, library association professionals, and state library data coordinators (those individuals responsible for the collection and submission of state-based public library statistics). In all, the authors received comments and input into the survey from 70 individuals. Based on these suggestions, the authors modified the survey form and made it available electronically (both via the Web and as an e-mail attachment) for review by the state data coordinators. Once again, comments and suggestions were incorporated into a final version of the survey by April 1998.

While the pre-test of the survey was in progress, the authors contracted with Dr. Dean Jue of Florida State University to:

- Recalculate the poverty radii for all public library outlets based on a 1 mile radius for urban library outlets, a 3 mile radius for suburban library outlets, and a 10 mile radius for rural library outlets. This recalculation was pre-tested with and recommended by the state data coordinators as well as library researchers.
- Draw a proportionate-to-size sample of 2,561 public library outlets based on outlet metropolitan status and poverty classifications. The sample surveyed all outlets in poverty/metropolitan status cells with fewer than 350 outlets (see Figure 1).
- Generate a label file for survey mailing.

This portion of the 1998 study was completed in mid-April 1998.

Upon the recommendation of the state data coordinators and public librarian survey pre-testers, the authors mailed survey forms during the first week in May to the library director of a public library outlet's central entity/administrative unit. For most library outlets, this meant that the central entity/administrative unit was the surveyed outlet (as only approximately 16% of public library systems have branches, according to NCES (1997)). For other library outlets, however, a central entity/administrative unit may have received multiple survey forms -- one for each sample outlet in that library's system. Survey data collection activities ended during the last week of June 1998 (see Appendix A for a copy of the final mail survey).

The survey form was also available for completion on the Web. Using Cold Fusion software for the electronic survey form design and Microsoft Access database software for the survey database, users were able to complete the responses for their library outlets electronically. Over 200 survey forms (approximately 11.1%) were submitted electronically.

Prior to the distribution of the mail survey forms, each state data coordinator received a copy of the final survey form and a list of the public library outlets surveyed in their respective states. The state data coordinators were critical contact points for the authors for the success of the survey. The authors kept in constant contact with the state data coordinators via a listserv and fax. This enabled the authors to keep the state data coordinators informed as to the progress of the survey in general and the survey in their states in particular.

Due to public library outlet closures and consolidations (between the 1993 public library data -- the most currently available for the geocoding component of the study -- and 1998), the original sample of 2,561 was adjusted to 2,500. Based on a sample of 2,500, 1,888 completed survey forms were received for a response rate of 75.5%.

Weighting of Survey Responses

To generate national estimates of public library outlet Internet connectivity, each responding outlet survey received a weight based on the outlet's metropolitan status/poverty classification. The weights ranged from 1.22 for urban library outlets in poverty areas of greater than 40% to 11.31 for suburban library outlets in poverty areas of less than 20%. Thus, for example, each suburban library outlet in a poverty area of less than 20%'s survey response would be multiplied by the 11.31 weight and counted as 11.31 outlets out of the total outlets for any given survey question.

By summing all the assigned weights, it is possible to project Internet connectivity for all 15,718 geocoded library outlets.[2] The weights are also used to project Internet connectivity within each poverty/metropolitan status cell. To provide national estimates and standard deviation figures, the authors used SPSS Standard Edition software, version 8.0.1.

The weighting necessitates the rounding of outlets and percentages throughout the figures presented in this report. **Thus, it is possible that not all cell n's and percentages will add correctly**.

Data Analysis and Data Verification Issues

Upon completion of the data collection phase of the 1998 survey, the authors, as well as NCLIS and ALA-OITP staff, reviewed the database and initial data analysis for inconsistencies.

[2] According to NCES (1996), there are 16,792 public library outlets, of which 894 were bookmobiles. By subtracting the bookmobiles, and other issues encountered by Dr. Dean Jue (see the following section of this appendix for additional detail on the geocoding process), the study team was not able to identify and geocode all outlets. In the end, the study team was able to geocode 15,718 outlets.

This review resulted in the need for corrections to the data set. The corrections took the form of both assumptions by the authors as well as follow-up questioning with survey respondents via phone and e-mail.

The corrections/assumptions took the following form:

- **Assumption/correction 1: Public Access**. If a library outlet responded that it has a connection and completed all the public access questions but left the public access question blank, a "yes" was entered for public access (survey question 3).
- **Assumption/correction 2: Software/Hardware for Disabilities**. If a library outlet answered all the survey questions, but entered nothing for the software/hardware question (survey question 6a), this was changed to a "on no terminals." The assumption here is that, in most surveys, questions are skipped/left blank if it does not pertain to the respondent.
- **Assumption/correction 3. Filtering Software**. If a library outlet answered all the survey questions, but entered nothing for the filtering software question (survey question 6b), this was changed to a "on no terminals." The assumption here is that, in most surveys, questions are skipped/left blank if it does not pertain to the respondent.

For other questions such as graphical workstation and text-based terminal public access, the authors had to contact participating library outlets/administrative units to correct/clarify responses. Generally, the follow-up questions were necessary for two reasons:

(1) The submitted surveys indicated a number of text-based terminals or graphical workstations, but had no indication that the library outlet provided either type of access. The authors wanted to ensure that the libraries indeed provided either text-based or graphical public Internet access.
(2) The submitted surveys indicated that the library outlet provided text-based terminals or graphical workstations, but had no indication of the number of such terminals/workstations.

The authors wanted to ensure the correct response for the outlet surveys in question so as to provide accurate data.

In all, the authors had to conduct survey follow-ups with approximately 30 public library outlets (which had a significant impact on the final analysis of the data due to the weighted nature of the sample).

Outlet Geocoding by Metropolitan Status and Poverty

This analysis was performed using two data sets obtained from other sources. One is a digital census tract map of the entire U.S. and the other is the Federal-State Cooperative System's (FSCS) database of public library outlets for 1993 (NCES, 1996). This document describes the procedure used to prepare the data sets used for this analysis.

A. Census Tracts

The census tract data set was purchased from Claritas, Inc. of Ithaca, New York. The data set consisted of a complete digital set of census tract maps of all 50 U.S. states and the District of Columbia (D.C.) in ESRI's Arc/Info format. These 51 files contained no census data other than a concatenated FIPS 15-character code comprised of the state, county, and census tract identification code.

The associated poverty data, also prepared by Claritas, were in 51 separate files. Each file had a FIPS 15-character code that could be linked to the digital census tract maps. These poverty data included all fields from the P117 table in the STF-3A files (i.e., the poverty status by age group data).

The Arc/Info command 'JOINITEM' was used to join each of the 51 poverty data files to its corresponding digital census tract files using the 15-character FIPS code as the link. The Arc/Info command 'MAPJOIN' was then used to merge the 48 contiguous states and D.C. into two coverages. The states west of the Mississippi River (22 states) were merged into a coverage named WESTUS and the states east of the Mississippi (26 states) plus Washington, D.C. were merged into a coverage named EASTUS. Hawaii and Alaska remained as separate and independent coverages.

Because the poverty analysis relied on an accurate calculation of the size of each census tract over a fairly large area (e.g., the eastern U.S.), the four coverages were projected from their original latitude/longitude coordinate system into the Albers Equal-Area Conic projection. The standard parallels and central meridian used for each of the four projected coverages are:

	ALASKA	HAWAII	EASTUS	WESTUS
1st St. Parallel	55 00 00	8 00 00	29 30 00	29 30 00
2nd St. Parallel	65 30 00	18 30 00	45 30 00	45 30 00
Central Meridian	-150 00 00	-157 00 00	-82 00 00	-106 00 00

After the four coverages were projected into the Albers projection, several procedures were applied to all four of the coverages:

(1) The Arc/Info command 'ADDITEM' was used to add the variables NABPOV (the number of individuals above the poverty level, NBEPOV (the number of individuals below the poverty level), and ITAREA (the initial geographic area of the entire census tract) into the census tract coverages.

(2) The Info command 'CALCULATE' was used to calculate the values of NABPOV, NBEPOV, and ITAREA for all the census tracts in each of the four coverages. NABPOV was set equal to the sum of the first twelve values of the P117 table while NBEPOV was set equal to the sum of the last twelve values of the P117 table. Since no geographic modifications had been made to the census tract coverage yet, ITAREA was just equal to AREA, an area value maintained by Arc/Info for each polygon (i.e., the individual census tract in this case).
(3) The Arc/Info command 'DROPITEM' was used to drop attribute values from the census tract coverages that were no longer needed (e.g., the individual poverty by age group values of the P117 table).

The four census tract coverages were now ready to be used for the poverty analysis.

B. Public Library Outlets

The public library outlets digital file was provided to us by Dr. Keith Curry Lance and corresponds to the Federal-State Cooperative System's (FSCS) 1993 list of public library outlets. The list of 1993 library outlets was the most current as of late 1996. The list contains 16,792 public library outlets.

The list of outlets was sent to Qualitative Marketing Software (QMS) of Clearwater, Florida for geocoding. Using, in order of preference, either the street address, zip+4, or zip, QMS calculated a latitude and longitude value for the library outlets. There were 20 library outlets for which QMS was not able to derive a latitude/longitude value for which more individualized attention was needed. The returned file was in Dbase (.dbf) format.

The FSCS list of public library outlets included 894 bookmobile service outlets. It was agreed upon between FREAC and the ALA Washington office that poverty statistics for such outlets were meaningless because of the mobile nature of these services. Thus, bookmobiles were excluded from this poverty analysis. The maximum number of geocoded outlets that could be used in this poverty analysis then is 15,898 (16,792 – 894 bookmobiles). Subtracting the 20 library outlets that required more detailed attention reduced the initial group of geocoded library outlets to 15,878.

A perusal of the 15,878 geocoded library outlets showed an unanticipated problem that needed resolving. Some library systems used the same mailing address for all their library outlets. Under such circumstances, it is impossible to determine the poverty rate around these library outlets because their mailing addresses (which was used to geocode the outlet's location and resulting service area) would be identical to that of the central outlet.

The duplicates wizard was used in Microsoft's Access 97 to find library outlets that were geocoded to the identical latitude and longitude (and thus have the same mailing address). This procedure identified 405 libraries representing 188 locations that had duplicate addresses. Some of these duplicate sites were joint public library and school library locations. Others were branch

outlets whose mail were being sent to a central library location. In very rural areas, different towns had the same zip codes.

The decision was made to incorporate these duplicate libraries into the poverty analysis by selecting just one of the duplicate sites based on the following criteria:

1) Use the 'CE' library outlet whenever possible
2) Use public library outlets over school outlets
3) Use the 'CE' library outlet over regional libraries
4) If all the outlets having the same address are 'CE' outlets, arbitrarily pick one.

For rural locations in which different towns had the same zip code, the *U.S. Gazetteer* at the U.S. Census Bureau's web page provided latitude and longitude values for the center of some of these towns. The URL for the *U.S. Gazetteer* is http://www.census.gov/cgi-bin/gazetteer. If these latitude and longitudes were different for the towns in question, then these values were used for distinguishing and geocoding the formerly duplicate library outlets. The assumption is that the library outlet is very close to the center of town in these locations. The elimination of library outlets with duplicate addresses from the initial group of 15,878 outlets reduced the total number of outlets for the poverty analysis down to 15,707.

The *U.S. Gazetteer* was also used on the 20 library outlets that QMS was not able to geocode. A review of the information associated with these 20 outlets showed that all of them had invalid zip codes (e.g., a zip code value beginning with '3' but with the town supposedly in California). The decision was made to attempt to geocode these 20 outlets using just the town and state information since the zip code information was obviously wrong. Using the *U.S. Gazetteer*, eleven of these 20 library outlets were geocoded. Thus, the final library group used for the poverty analysis included 15,718 libraries out of a total universe of 15,898 total (98.868% inclusion).

The .dbf file provided by QMS was modified to reflect the corrections described above for the applicable library outlets. An ASCII comma delimited file was then generated from the .dbf file that included the longitude and latitude for each of the 15,718 library outlets generated from the QMS geocoding process. This ASCII file could then be entered into Arc/Info using the 'GENERATE' command for point data. The library coverage was named ALLLIB. The command 'PROJECTDEFINE' was used to define the locational values in ALLLIB as being in decimal degrees.

The library attributes associated with each library provided with the FSCS data file were read into a Microsoft Excel 97 file. After organizing this attribute file, the file was exported into a formatted ASCII text file, with blanks separating each of the fields in the records. This allowed the text file to be read into an Info file using the 'GET' command into a file named ALLLIBS.ATT. This Info file of library attribute data was then linked to the ALLLIB geographic coverage using the Arc/Info command 'JOINITEM.'

Arc/Info's ARCEDIT program was then used on the ALLLIB coverage to select out library outlets relative to their location. This resulted in four separate library coverages that

corresponded to those of the census tract coverages. Each of these four library coverages was also projected into the Albers projection to correspond to that of the census tract coverages. Each of the four library coverages was then further divided into (potentially) four coverages depending on the outlets' metropolitan status. A breakdown of the public library outlets' distribution by area of the country and type is:

Status	**Alaska**	**Hawaii**	**East U.S.**	**West U.S.**	**TOTAL**
CC	4	7	1,628	928	**2567**
NC	0	0	3,142	1,613	**4,755**
NO	89	14	4,388	3,484	**7,965**
Unknown	0	27	390	14	**431**
TOTAL	**93**	**48**	**9,548**	**6,029**	**15,718**

Thus, there were a total of 13 library coverages, one for each of the cells in the above table that does not have a value of zero and that is not a total.

At this point, the U.S. Bureau of the Census's CD-ROM (SSTF17) entitled "Poverty in the U.S." which is based on poverty statistics collected from the 1990 census was used. This CD-ROM also had two pieces of information associated with each census tract: whether it was part of a CMSA/PMSA and whether it was part of a central city. Based on this information, the following assignments could be made to all census tracts:

(1) If a census tract was "central city", a library outlet in that tract should be 'CC';
(2) If a census tract was part of a CMSA or PMSA but not part of a central city, then a library outlet in that tract should be 'NC'; and
(3) If a census tract was not part of a CMSA or PMSA, then a library outlet in that tract should be 'NO'.

This information was extracted from the CD-ROM and then read into an Info file. This Info file was then merged (using Arc/Info's 'JOINITEM) with the respective census tract coverages for the three regions in which there were 'UK' libraries (Hawaii, eastern U.S., and western U.S.). By overlaying this information with the original library point files for these regions, it was possible to assign a metropolitan status code to all the libraries with 'UK' status in the original FSCS files. The results of this analysis were:

124 'CC' library outlets
178 'NC' library outlets
129 'NO' library outlets
431 old 'UK' library outlets

These libraries were placed into their appropriate library coverage files, giving the table below:

Status	**Alaska**	**Hawaii**	**East U.S.**	**West U.S.**	**TOTAL**
CC	4	14	1,732	941	**2,691**
NC	0	9	3,310	1,614	**4,933**
NO	89	25	4,506	3,474	**8,094**
TOTAL	**93**	**48**	**9,548**	**6,029**	**15,718**

The Arc/Info 'REGIONBUFFER' command was then used on each of the coverages to generate a buffer around each library point. Central city (CC) library outlets had a buffer of one mile (1610 meters). NC library outlets had a buffer of both two miles (3220 meters) and three miles (4830 meters). Rural (NO) libraries had buffers of both five miles (8050 meters) and ten miles (16,100 meters). REGIONBUFFER was used instead of the 'BUFFER' command because REGIONBUFFER allows for overlapping polygons (i.e., the market area of one library outlet in close proximity to another may overlap that of the other).

Each of these buffered library files was then overlaid on top of its appropriate census tract area coverage using the Arc/Info 'INTERSECT' command. This resulted in the creation of new polygons as the census tract polygons would be cut into smaller polygons by the market area(s) of library outlets created by the REGIONBUFFER command. Note that the census statistics on poverty would NOT be modified by this action. For instance, if only one-tenth of the original census tract actually fell into a market area buffer, the entire census tract population statistics would still be assigned to this new small census tract polygon created by the INTERSECT command. To account for this splitting of census tracts, the variables PBEPOV and PABPOV were added to each of the 10 library coverages (See below for how they were used.).

In order to analyze the poverty statistics in the census tract polygons created by the INTERSECT command, it was necessary to use the Arc/Info 'REGIONQUERY' command due to the existence of overlapping market areas, especially for two-mile diameter market areas in central city areas. This command analyzed each market area region for each library outlet relative to its census tract region.

After this procedure was completed, the Info program was used within Arc/Info for each of the 10 library market area coverages for the following calculations:

```
CALC PBEPOV = ( AREA / ITAREA ) * NBEPOV
CALC PABPOV = (AREA / ITAREA ) * NABPOV
```

These two calculations divide the actual area of a census tract within a library outlet market area (AREA, which is automatically calculated by Arc/Info) by the initial size of the entire census tract region (ITAREA). This value is then multiplied by the number of individuals within the entire census tract region that are below poverty (NBEPOV) or above poverty (NABPOV) and puts the result into the newly-defined variables (PBEPOV and PABPOV). This procedure re-calculates the number of individuals that are above or below poverty assigned to the library market area from each of the census tracts relative to the percentage of the total census tract that actually falls within the library outlet's market area.

A library outlet's market area and associated poverty statistics could now be calculated from the many small polygons. The Arc/Info's FREQUENCY command was used to sum the total number of individuals within each census tract polygon that was below or above poverty level status for each library outlet after the above calculations. The Arc/Info command 'INFODBASE' was then used to convert the results from these calculations into a Dbase file format that could be read by Microsoft Excel.

The Excel program was used to calculate the poverty percentage rate for each library outlet's market area. This was calculated by dividing the number of individuals below poverty status for each market region by the total number of individuals within each region for whom poverty status was determined. Excel was also used to find the absolute number as well as the relative percentage of library outlets within each poverty percentage point.

C. Random Sampling

Once the radius of the market area was determined, then the exact Arc/Info coverages to be used was identified because each coverage contained one particular radius (market area) for one particular library type (i.e., either urban, suburban, or rural). The radii of one, three, and ten were selected for urban, suburban, and rural libraries, respectively, by Dr. John Bertot (as discussed in the Survey Methodology section above). The breakdown of library types by poverty was as following using those radii:

Status	**< 20.5% Poverty**	**20.51–40.5% Poverty**	**>40.5% Poverty**	**TOTAL**
Urban	1587 (58.97%)	885 (32.89%)	219 (8.14%)	**2,691**
Suburban	4602 (93.29%)	313 (6.35%)	18 (0.36%)	**4,933**
Rural	6568 (81.15%)	1446 (17.87%)	80 (0.99%)	**8,094**
TOTAL	**12,757**	**48**	**9,548**	**15,718**

At this point, Dr. Bertot decided that all the libraries that fell within four particular cells would be included in the study. These were all libraries surrounded by extreme poverty, regardless of their location, as well as those suburban libraries serving populations in poverty. The rest would have a proportional sample drawn to approximate 2000 libraries. Using this technique, the following number of libraries were actually to be included in the sample:

Status	**< 20.5% Poverty**	**20.51–40.5% Poverty**	**>40.5% Poverty**	**TOTAL**
Urban	202	113	219	**343**
Suburban	586	313	18	**628**
Rural	836	184	80	**1030**
TOTAL	**1624**	**610**	**317**	**2551**

To draw the sample itself for those cells that needed sampling, the random number generator function within Microsoft Excel was used. The random number assigned to each library branch within each coverage was calculated as follows:

=INT(RAND()*10000)

Once this random number was assigned to each branch in each coverage, the Excel spreadsheet was sorted by the column containing the randomly-generated number. The top 'X' libraries within that coverage was then used for the sample. For instance, for the coverage containing the 1,587 libraries in urban areas whose market area had poverty less than 20.5%, the 202 libraries that were randomly assigned the highest numbers were selected to be included in the sample. The associated address information for all those selected libraries were then sent to Dr. Bertot.

References

National Center for Education Statistics. (1997). *Public libraries in the United States: FY 1994*. Washington, D.C.: U.S. Department of Education Office of Educational Research and Improvement [NCES 97-418].

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