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FEDERAL COMMUNICATIONS COMMISSION  
OFFICE OF SECRETARY

United States  
National Commission on  
Libraries and Information Science

8 April 1996

The Honorable Reed E. Hundt, Chairman  
Federal Communications Commission  
1919 M Street, N.W. -- Room 814  
Washington, D.C. 20554

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Dear Chairman Hundt:

The U.S. National Commission on Libraries and Information Science (NCLIS) is pleased to submit comments in response to the Federal Communications Commission's (FCC) Notice of Proposed Rulemaking and Order Establishing Joint Board (FCC 96-93) in the matter of Federal-State Joint Board on Universal Service adopted 8 March 1996 (CC Docket No. 96-45).

The National Commission strongly supports those provisions of the Telecommunications Act of 1996 (P.L. 104-104) that establish universal service support mechanisms assuring that libraries have access to advanced telecommunications services at discounted rates. Recent advances in telecommunications and information technologies and services offer the potential to improve the national quality of life, to create new communities of interest, to improve educational effectiveness, and to enhance citizen participation in the democratic process. Libraries of all types (public, academic, school, state, and special) fulfill an essential educational role in providing the benefits of advanced technologies for all Americans, without discrimination.

In order to achieve universal service and access for the Nation, our libraries require reliable and consistent access to advanced telecommunications and information services at rates which will ensure affordable access to and use of such services for the benefit of their communities. Without effective special telecommunications service rate provisions, America's libraries will be unable to continue their long tradition of cooperation, connectivity, and computerization; our libraries will be unable to continue providing public access to knowledge and information that represent a diverse range of sources and viewpoints; and ability of libraries to provide support for the increasingly vital needs of the educational community will diminish.

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Most of all, however, if libraries are not provided effective universal service support mechanisms for high-speed interactive linkage to future advances in telecommunications and information technologies, access to these services will be denied to portions of American society. We cannot let economic differences or geographic distances hinder our efforts to provide equal opportunities to access the Nation's library, information, and educational resources; we cannot afford to widen the gap that separates information "haves" and "have nots", especially in the age of advanced global information networking technologies.

Since 1994, the Commission has conducted and sponsored three studies that examine public library involvement with the Internet. This research is consistent with the Commission's statutory mission (P.L. 91-345) which requires NCLIS to conduct studies, surveys, and analyses that appraise the adequacies and deficiencies of current library and information services in order to advise the President and the Congress on the implementation of national policy.

Findings from the Commission's recent investigations provide a fact-based information resource that can be used to guide the development of universal service policies assuring library access to advanced telecommunications and information services for educational purposes at rates less than the amounts charged for similar services to other parties. These recent NCLIS reports provide reliable descriptive information about the particular needs of libraries and the necessary mechanisms libraries need to be able to extend and enhance access to a wide variety of information services and resources.

NCLIS published *Public Libraries and the Internet: Study Results, Policy Issues, and Recommendations* in June 1994 based on findings of a study of public library use of the Internet. The Commission published *Internet Costs and Cost Models for Public Libraries* in June 1995 based on analyses of public library costs in use of the Internet. The findings from both these studies have been used in developing the Commission's comments on universal service included in the document attached to this letter.

In addition to these two published studies, the Commission is now analyzing the returns from a sample national survey of public libraries and the Internet conducted in early 1996. Findings from this latest NCLIS study are intended to be matched with the results of the 1994 survey to produce

longitudinal comparisons. In addition, the 1996 study will provide detailed information about public libraries' costs for Internet connectivity and services.

The preliminary results of this latest national sample survey of public libraries and the Internet are referenced in the Commission's comments included in the document attached to this letter. Final findings from this national sample survey that relate to universal service issues under consideration will be provided to FCC in the next few weeks, prior to the 3 May 1996 deadline for reply comments. The information the Commission plans to submit relates to current levels, costs, and type of public library connectivity.

NCLIS will be pleased to work with you and your staff to provide any required analysis of the National Commission's survey results that relate to specific universal service issues relevant to library access to telecommunications and advanced information services.

Thank you for the opportunity of presenting these comments related to libraries' access to advanced telecommunication and information services. Just as it is critical that school classrooms and educational institutions establish links to these services, it is just as essential that the Nation's libraries are afforded the opportunity to serve as community links to the global information age.

Sincerely,

A handwritten signature in black ink that reads "Jeanne H. Simon". The signature is written in a cursive, slightly slanted style.

Jeanne Hurley Simon  
NCLIS Chairperson

Attachment: Comments

U.S. National Commission on Libraries and Information Science

Comments

to

Notice of Proposed Rulemaking and Order Establishing Joint Board  
before the  
Federal Communications Commission  
FCC 96-93

in the matter of

Federal-State Joint Board on Universal Service  
CC Docket No. 96-45

8 April 1996

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## I. NCLIS Background Information

The U.S. National Commission on Libraries and Information Science (NCLIS) was established by P.L. 91-345 (19 July 1970) to conduct studies, surveys, and analyses that appraise the adequacies and deficiencies of current library and information services in order to advise the President and the Congress on the implementation of national policies.

Throughout the 25-year history of the National Commission, significant program attention has been devoted to the impact of network and information technologies on libraries and information services, and on the evolving roles of U.S. libraries. Activities have included the Commission's funding of a 1974 study by Westat, Inc. which resulted in the publication of *Resources and Bibliographic Support for a Nationwide Library Program*. The Commission's publication of *Toward a National Program for Library and Information Services: Goals for Action* in 1975 advanced the concept of a nationwide network of libraries. This was followed in 1976 by NCLIS's publication of a study titled *Evaluation of the Effectiveness of Federal Funding of Public Libraries*.

In the area of technical standards for a national network, the Commission published the results of a NCLIS/NBS Task Force on Computer Network Protocol in 1977: *A Computer Network Protocol for Library and Information Science Applications*. Additional Commission publications in the area of national networking include the 1978 study of *The Role of the Library of Congress in the Evolving National Network* and in 1982 publication of *Toward a Federal Library and Information Systems Network: A Proposal*.

Over the past eight years the National Commission has worked closely with the National Center for Education Statistics (NCES) at the U.S. Department of Education on developing cooperative programs for improving the collection and distribution of national statistics related to academic, public, school, and special libraries. This closely coordinated work involves the annual transfer of non-reimbursable appropriated funding from NCES to NCLIS for various support and coordination services relating the statistical specialists at NCES to the various library communities.

The Commission's statute [P.L. 91-345 (July 20, 1970)] was amended 14 August 1991 by P.L. 102-95 to include the following function in Section 5 (a)(6):

*"The Commission shall...promote research and development activities which will extend and improve the Nation's library and information handling capability as essential links in the national and international communications and cooperative networks."*

## II. NCLIS Research Related to Library Networks and the Internet

The National Commission continues to be involved with programs related to recommendations resulting from the 1991 White House Conference on Library and Information Services (WHCLIS). One of the priority 1991 WHCLIS recommendations receiving current NCLIS program emphasis calls for libraries to "Share Information Via Network 'Superhighway.'" This recommendation calls for the developing national "*information superhighway*" network to "*...be available in all libraries and other information repositories at every level.*" This and other recommendations relating to the role of libraries and information services in national networks received strong endorsement from the 2,000 1991 WHCLIS delegates who represented librarians, citizens, and elected officials from all 50 States, the territories, and Indian Nations.

Since the 1991 Conference, the National Commission has sponsored a number of events and studies related to the implementation of recommendations relating libraries with information network technologies. The first of these involved representatives from national organizations and allied groups offering testimony to an NCLIS open forum on the recommendations from the 1991 White House Conference. This forum was held in Washington, D.C. 10 March 1992. A second Commission-sponsored open forum was held in Washington, D.C. 20-21 July 1992 to focus specifically on identifying and clarifying the issues and concerns of the library and information services community, both as providers of information to be carried on the National Research and Education Network (NREN). The event involved representatives of large groups of users and potential users of the network. The results of the NCLIS Open Forum on the National Research and Education Network were conveyed to the Office of Science and Technology Policy in a *Report on Library and Information Services' Roles in the National Research and Education Network* issued in November 1992.

One clear and consistent message resulting from these Commission activities involving the role of library and information services in the emerging national networked information infrastructure, concerns the need for reliable and current national and state statistics on the extent of the library community's involvement and use of the Internet and network services. Additionally, effective planning for deployment of advanced communications and information infrastructure requires current descriptive statistical information about the rapid changes occurring in the public library community. While many academic and research libraries in colleges, universities, and research institutes are involved with Internet/NII applications accessible through computer center links to global high-performance network interconnections, many public libraries are in the early stages of involvement with advanced communications and information services and networks such as the Internet. Without current statistics and longitudinal statistics on public library use of the Internet and analysis of the potential of network service capabilities in public libraries, national policy formulation cannot proceed.

More recently, in 1994 the Commission sponsored survey research about the extent of public library involvement with the Internet. The results of this project were included in the publication *Public Libraries and the Internet: Study Results, Policy Issues, and Recommendations*<sup>1</sup> which was issued and distributed by NCLIS in June 1994. Over 3,000 copies of this publication have been distributed in response to demand from the public. The report has been widely cited and serves as the basis for several bills introduced to the 104th Congress to update and reauthorize the Library Services and Construction Act. In addition, the NCLIS study formed the basis for the work of the National Information Infrastructure Advisory Council's MegaProject II which researched the costs of involving schools, libraries and community centers in the NII.<sup>2</sup>

The *Public Libraries and the Internet* report served as the basis for NCLIS briefings on libraries and the Information Superhighway which were conducted in Washington, D.C. 21-22 September 1994. The first briefing included reports by State Library Agencies from 15 states on statewide

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<sup>1</sup> U.S. National Commission on Libraries and Information Science. Public Libraries and the Internet: Study Results, Policy Issues, and Recommendations. Washington, D.C., June 1994. [A copy of this publication is included as an appendix to these comments.]

<sup>2</sup> United States Advisory Council on the National Information Infrastructure. KickStart Initiative: Connecting America's Communities to the Information Superhighway. Washington, D.C., January 1996. p. 96-98.

projects involving Internet/NII services and public libraries. Further, this briefing on statewide networking was followed by a briefing focusing on federal networking activities and initiatives. The federal networking session included representatives from Congress and the Administration, as well as state and local sectors, discussing ways to coordinate the involvement of public libraries in the Internet.

The Commission's 1994 study resulted in the first national statistics describing the services and resources of public libraries that included information on public library use of the Internet or of information network services, costs, applications, and usage. As a result of the Commission's survey, data elements about networking activities in public libraries have been identified for inclusion in future surveys of the Federal State Cooperative System for Public Library Statistics. This annual survey is administered by the National Center for Education Statistics with program coordination by the National Commission.

In 1995, NCLIS sponsored research into the cost elements, cost categories, and cost models for public libraries and NII technologies. The study resulted in the Commission issuing *Internet Costs and Cost Models for Public Libraries*<sup>3</sup> in June 1995. This study addresses public library community's need for practical cost information related to Internet connectivity and services. The realization of the need for reliable and current information about Internet costs for public libraries came from the Commission's review of the findings reported in *Public Libraries and the Internet*. While this study found 20.9% of U.S. public libraries were involved with the Internet, respondents reported difficulty in identifying and describing specific Internet costs. Public librarians highlighted the critical need for reliable cost information to assist in planning Internet connectivity and in developing networked library services for the public.

*Internet Costs and Cost Models for Public Libraries* is not intended as a "how-to" manual for connecting public libraries to the Internet. The cost elements, categories, models, and worksheets serve as useful guides for communities and public libraries planning Internet connections and services. The study provides guidance for initial Internet planning and for the identification and evaluation of issues related to public library/Internet planning. By identifying five representative connectivity models and seven broad cost categories, the report offers examples for use by public libraries

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<sup>3</sup> U.S. National Commission on Libraries and Information Science. *Internet Costs and Cost Models for Public Libraries*. Washington, D.C., June 1995. [A copy of this publication is included as an appendix to these comments.]

planning Internet connectivity and services. Cost elements relating to communication hardware and fees are included in the models developed for this study.

The value of the Commission's study of public library costs related to Internet rests more with the development and establishment of generic public library cost models and cost categories than with the applicability of representative costs to individual circumstances. However, the representative costs included in the models developed for the report illustrate the wide variations that are encountered in planning the networking permutations and configurations available to the public library community. These variations have important policy implications for the development of mechanisms to assure service availability on a universal basis. The costs for connecting a public library to the Internet vary with the type and level of connectivity, the services the library will support, the users of the services, and the specific local and state provisions for providing connectivity for libraries.

No one typical or generic cost model emerged for public library connection to the Internet from the Commission's study. Rather, great variances were found between different libraries located in different geographic regions and locations around the Nation. These variances between connectivity and telecommunication costs for public libraries connecting to the Internet and planning to offer patron access to advanced information services based on digital network technologies, present distinct problems in achievement of a "level playing field". Libraries in rural or remote areas serving widely scattered and diversified populations are paying much higher costs for dial-up connection to the Internet than other libraries in more suburban or urban areas. Thus, the Commission's cost study identifies model access for a single library using a single workstation for text-based access to the Internet. This configuration requires that the library pay an annual cost of \$12,635. 95% of this recurring cost is related to telephone lines, line charges, and Internet service provider fees. Typically, other model configurations for public libraries accessing the Internet using multimedia workstations from multiple service points involved between 6% and 17% of annual recurring costs going for telecommunications charges.

The Commission's public library Internet cost study shows that for an initial one-time cost of \$1,475 and a recurring annual cost of \$12,635, a public library can establish a minimal level of single-workstation, text-based Internet connectivity. At a more complex level, the report describes a representative multi-media Internet public library connectivity model involving multiple-workstations at multiple library locations for a one-time cost of \$266,375 and a

recurring annual cost of \$154,220. The wide variation in total initial and recurring representative costs associated with public library Internet connectivity indicate the difficulties involved with stipulating a few standard and generic cost models for deployment of advanced communications infrastructure capability in libraries.

The Commission's examination of Internet costs for public libraries is based on the belief that these community information centers will comprise an essential component of the NII in the future. The findings of the studies are intended to provide a basis for extending the benefits of advanced information services to the Nation through 8,929 U.S. public library administrative entities. The Commission is committed to providing assistance in realizing the vision of universal service that will allow all Americans to take advantage of our rich resources in libraries, information, communication, and computing technologies. Libraries have an essential role in achieving the vision of equal and equivalent access to advanced networking information services for all.

### III. NCLIS Comments on Specific Provisions Included in FCC 96-93 Notice of Proposed Rulemaking

#### A. Introduction (p. 3)<sup>4</sup>

With the extremely rapid pace of development and change characteristic of advanced telecommunication and information technologies, it is important that the FCC and the Federal-State Joint Board regularly and routinely review current state-of-the-art capabilities in relation to universal support mechanisms involving libraries at periodic intervals. This review is needed in order to assure that the provisions affecting access to the latest advanced services at discounted prices enable libraries to provide access to the widest array of information services and resources permitted by the capabilities of current technology.

The mechanisms developed to assess the quality of service provision as well as the extent of success in achieving universal service and access to advanced information services through libraries must involve measurement capabilities that respond to the rapid pace of technological change in the field. Establishment of performance standards needs to take into consideration the widely varying community characteristics that exist from library to library, and for different types of libraries. In addition, the measurement and assessment mechanisms should allow for different levels of advanced service offerings

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<sup>4</sup> Page references in parenthesis for these headings refer to FCC Notice of Proposed Rulemaking FCC 96-93, 8 March 1996.

available through libraries. The rapid development of technology for communication networks requires that libraries be provided with a range of discounted rates for services that address the quickly evolving and changing array of different technical information systems architecture in libraries. Flexibility is required to accommodate the complex arrangements and alternatives needed to provide library patrons access to networked information system resources.

Libraries' use of advanced telecommunication services for connection to Internet services for both library staff and public access is increasing at an extremely rapid rate. So, too, libraries are rapidly changing the nature of connection and access to networked systems and services. They are increasingly providing multimedia-graphical patron access services that require more advanced telecommunication links and services. Thus, the Commission's 1994 national sample survey of U.S. public libraries showed a connectivity rate of 20.9%. Preliminary indications from the NCLIS 1996 national sample survey are that the public library connectivity rate has increased to between 40% and 50%. Further, in response to a question about library plans to connect to the Internet in the next 12 months, for those public libraries that reported that they were not currently connected to the Internet in early 1996:

17.5 % indicated plans for staff access to Internet  
45.2% indicated plans for staff and patron access to Internet  
37.3% indicated no plans for access to Internet

With between 40% and 50% of U.S. public libraries connected to the Internet in 1996 and 62.7% of those not connected planning for Internet access in 1996-1997, preliminary results indicate that it is quite possible that between 75% and 80% of U.S. public libraries will have some form of Internet connectivity by late 1997. This represents an extremely rapid increase in public library Internet connectivity since the Commission's first survey in 1994. The rate of Internet connectivity of public libraries between 1994 and 1996 is greater than the rate of Internet access reported for U.S. public schools<sup>5</sup> which increased from 35% in 1995 to 50% in 1996 according to a study by the National Center for Education Statistics. In addition, as with those public libraries not currently connected to the Internet (62.7%), a significant number of schools (74%) indicated plans to obtain Internet access in the future.

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<sup>5</sup> National Center for Education Statistics. E.D. Tabs. Advanced Telecommunications in U.S. Public Elementary and Secondary Schools, 1995. Washington, D.C., February 1996.

Not only is the percentage of public libraries connected to the Internet increasing, the type and level of public library connectivity to the Internet are expected to change rapidly as well in the near future. These changes will require that libraries have access to more sophisticated telecommunications capability. The Commission's 1994 survey revealed that the most common type of public library Internet connection is VT-100 terminal access at 47.1% of library connections, followed by e-mail gateway (13.9%), and dial-up Serial Line Internet Protocol (SLIPP)/Point-to-Point Protocol (PPP) connection at 11.8%.

In general, findings from the 1994 survey indicated that larger libraries have Internet connections that support a fuller range of access to Internet services through the use of direct connect and SLIP/PPP connections. Smaller libraries employ modems for dial up connections to the Internet. With the rapid proliferation of graphical interfaces and World Wide Web capabilities, it is anticipated that the NCLIS 1996 public library Internet survey will show a significant change in type of connectivity to more advanced capability.

Along with these changes in type of connection, public libraries increasingly require higher speed and higher capacity telecommunication capability to support both library staff networking functions as well as increases in public access connectivity to advanced networked information services. Thus, it is critical that library discount rates address the increasing sophistication of networked information services in libraries that require advanced telecommunication support and linkages. In 1994, 87.3% of public libraries reported that they did not provide public access Internet terminals for patrons. It is expected that the 1996 survey results will show a significant increase in public libraries offering patron access to the Internet.

The Commission's 1994 public library/Internet survey responses show that costs for connection to the Internet are a major factor in determining library connectivity. Costs were identified as the most important factor for public libraries serving populations of under 10,000. Costs were not as important a factor in determining connectivity for libraries serving more urban populations. Responses to the NCLIS 1994 survey also revealed regional variances in connectivity: public libraries in the Mid-west and the West rated connectivity costs to be the most important factor affecting Internet involvement. Rural libraries also indicated that Internet connection costs were very important, while urban libraries were less concerned about the costs of connection.

As higher percentages of public libraries establish and expand Internet connections for staff and for patron access to networked information services, and as increasingly advanced and sophisticated Internet connections are required to support additional functions and to accommodate access to expanded services which involve interactive services and retrieval of graphics, audio, and full-motion video, tight library budgets face additional strain. This situation presents the danger that libraries may not have sufficient resources available to respond effectively to increased community demands for advanced network information services. This situation is especially true for those advanced telecommunication services that require higher speed levels of digital transmission for multiple simultaneous users.

If libraries are unable to allocate scarce resources to establish, maintain, and upgrade communication links to support electronic networking in the future, the situation would be equivalent to keeping a newly constructed public library branch closed to the public due to the lack of funds for staff and resources. Failure to implement provisions for discounts and support mechanisms that are necessary to allow libraries to keep pace with increasing community demands for public access to advanced communications and information services, at this state of network development in libraries, could impose significant barriers to the evolving roles of libraries in providing access to electronic materials from a wide range of collection resources. The situation is especially critical for those remote and rural community libraries which are required to pay higher telecommunication fees to support community access to network information services.

Libraries typically provide information services to users based on policies that structure the terms and conditions by which patrons can take advantage and use these standard services. In the case of those library services that are based on library use of advanced telecommunications and information services such as the Internet, libraries offering such services have developed policies that determine patron use, including responsible activities that reflect personal use not business applications. The use of advanced networked information services in libraries at present under clearly established patron policies is protection against individuals using these services in such a way as to take advantage of discounted service offerings on a pass-through basis, especially from remote off-site locations.

Public libraries offering public access to the Internet encounter significant technical and service demands in addition to telecommunication line charge costs required to offer network based services. In certain circumstances,

these additional demands on library budgets and on library staff for technical support, patron training, content development, program planning and management, software integration, and systems maintenance present challenges for library managers and administrators confronted with static budgets, increased costs, and declining purchasing power. The transition of libraries from providing services based primarily on printed textual collection resources to an environment offering a mixture of print and digital resources presents challenges and opportunities. Additional factors related to fluctuating and unpredictable telecommunications costs may present insurmountable difficulties and problems for library managers and may impose barriers to the ability of libraries to provide enhanced access to an increased volume of information to their communities.

#### B. Goals and Principles of Universal Service Support Mechanisms (p.4, p. 35)

In developing mechanisms based on the seven policies for the establishment, preservation, and advancement of universal service, the Joint Board and the FCC should clarify the sixth principle, concerning the provision for libraries to have access to advanced telecommunications services. The term "Libraries" needs to be more carefully defined. Clarification is needed that this principle applies to libraries in public and private (not-for-profit) elementary and secondary schools, as well as to academic libraries in colleges, universities, and research institutions, as well as federal, State, and local government libraries, law libraries, medical libraries, state library agencies, public libraries (including central libraries, branches, and other service outlets of public library systems), as well as those not-for profit cooperative systems and networks that provide a range of support services to libraries at the local, State, regional, and national levels. These various types of libraries, as well as libraries designated as official depositories for government documents and information as provided by the Superintendent of Documents at the Government Printing Office, are important links in providing access to information resources and services for educational purposes.

##### 1.) Schools, Libraries, and Health Care Providers:

##### a.) Goals and Principles (p. 35)

Public libraries provide an institutional presence in most American communities. With 15,904<sup>6</sup> public library branch service outlets providing

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<sup>6</sup> National Center for Education Statistics. E.D. Tabs. Public Libraries in the United States: 1993. Washington, D.C. September, 1995.

services to a service area population of 261,052,000, the Nation has a significant public institutional infrastructure with the potential to function as the basis for public access to digital information services and resources rapidly becoming available through advanced telecommunications and information service technologies. Public libraries have the potential for introducing these new service capabilities and technologies to those within their legal service communities who otherwise might not encounter the benefits of advanced information systems. Just as public libraries provided many young children and older citizens their first hands-on experience with personal computers used as online public access catalogs, so libraries are play an important role in introducing and training patrons in the use of networked information services.

Unlike elementary and secondary schools, which focus primarily on providing enrolled students with access to advanced telecommunications services for educational and learning purposes, public libraries serve the lifelong learning, educational, and informational needs of the entire community, from children to senior citizens. Public libraries are centers for students of all ages, from pre-school to adult learners. They have functioned as the public's university. Public libraries are also central to the cooperative efforts within communities which link other types of libraries (university, college, school, governmental, and special) together to share systems, resources, and programs.

Libraries are using interactive two-way advanced communication capabilities to support patron access to a range of networked information services and resources. In addition to providing access to information through networked communication services, public libraries are linking with community networks ("Free Nets"), schools, universities, and other community-based organizations in their regions in partnerships which link various groups and interests together. Such sharing and cooperative activities involving library use of advanced telecommunication and information services extend the benefits of public library services to additional aspects of communities.

#### b. Library Services to Support (p. 38)

Support mechanisms to enable libraries to receive both core and advanced telecommunications services included among those eligible for universal service support must respond to the needs of libraries for both flexibility and consistency. This support is critical if libraries are to continue to build upon their initial involvement with electronic networking through connections to the Internet for both accessing digital information resources and

for developing information resources for use by others. Flexible support mechanisms are needed for libraries to move from providing limited network information services (text-based Internet services) to more extensive network services (graphical based WWW services) and to be able to take advantage of future applications requiring additional telecommunications bandwidth. Consistent support mechanism structures are needed to allow libraries to plan future service offerings and to budget for those costs associated with these more advanced services. These more advanced services and applications involve the creation of information resources and facilities by libraries, not just the provision of access to network content resources available from other providers.

Formulation of discount methodologies and support mechanisms to ensure that libraries have the opportunity to provide access to advanced telecommunications and information services are critical to the successful implementation of the universal service provisions of the law. Construction of these methodologies and mechanisms should minimize those administrative and operating expenses incurred while assuring uniform or standard practices that protect against inequalities from state to state, region to region, and for those libraries, schools, and other educational institutions that require interstate telecommunication support services.

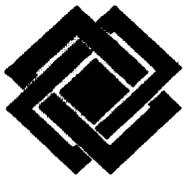
The technical architecture of library connections to advanced networks and information services is often quite complex. It is not uncommon for libraries to contract for network telecommunication services separate from Internet provider services, using discounted service offerings available through State library agencies, State public higher education systems, or other cooperative regional educational service authorities. Library costs for text-based Internet connectivity for single terminal access to information services can constitute over 90% of total annual recurring costs for Internet services. Effective use and integration of network access to electronic information services available through the Internet require that libraries have multiple terminals and communication lines available for those hours the public library is open for service. The discount formulae and support mechanisms need to address a wide array of technical architectures some provided through private carriers and others provided through state library networks, or other regional or local educational organization which is eligible for discounted rates.

In order to minimize the barriers to the provision of telecommunications services to schools and libraries, functions to be supported through universal service mechanisms must allow libraries to receive advanced services in the most dependable and straightforward fashion. Rather than pay full service rates with

subsequent rebate through a separately administered fund for universal service, it may be administratively more efficient to develop formulae for calculating discounts based on the population of the library's local service area and the level of per-capita support provided to the public library, or the total operating income of other types of libraries. Whatever mechanism or discount methodology is determined, it should provide for a flexible range of services, including the capacity and speed to handle multiple connections simultaneously. In addition, there should be built-in methods of constant and periodic review to assure that discount structures address the continual rapid pace of technological change.

In addition to offering these comments, the National Commission plans to provide the FCC with results from a national sample survey of libraries conducted in early 1996 to determine the current state of public library involvement with the Internet. Analysis of responses from this survey is expected to provide detailed statistics for consideration in establishing mechanisms for achieving the principles of universal service. The Commission plans to provide additional comments using the results of the 1996 survey study prior to the 3 May 1996 deadline. The additional comments are expected to address the following:

- The percentage of public libraries that connected to the Internet in 1996
- Comparison of the percentage of public libraries connected to the Internet 1994-1996
- Projection of the percentage of public libraries that are not now connected that are planning to connect to the Internet over the next 12 months
- The percentage of public libraries that are connected to the Internet that offer public access to network services
- The percentage of public libraries that are connected to the Internet that have text-based and graphical-based browsing capabilities



United States  
National Commission  
on Libraries  
and Information Science

# NCLIS NEWS RELEASE

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For immediate release  
31 October 1995

For more information contact  
Peter R. Young

## **NCLIS Announces Plans for 1996 National Survey of Public Libraries and the INTERNET**

Washington, D.C. - The U.S. National Commission on Libraries and Information Science (NCLIS) will survey U.S. public libraries' involvement with the Internet, the vast collection of global inter-connected computer networks. Findings will be matched with the results of NCLIS' 1994 survey to produce longitudinal comparisons. The 1996 study will also provide detailed information on public libraries' costs for Internet services.

The Commission's quick-response sample survey will be conducted in early January 1996. NCLIS will publish a project report in the early Spring. John Carlo Bertot, assistant professor at the Department of Information Studies, University of Maryland Baltimore County; Dr. Charles R. McClure, distinguished professor at the School of Information Studies at Syracuse University; and Dr. Douglas L. Zweizig, professor at the School of Library and Information Studies at the University of Wisconsin - Madison are investigators for NCLIS for the public libraries and the Internet project.

In 1994 NCLIS published *PUBLIC LIBRARIES AND THE INTERNET: STUDY RESULTS, POLICY ISSUES, AND RECOMMENDATIONS* and in 1995 *INTERNET COSTS AND COST MODELS FOR PUBLIC LIBRARIES*. The new study will chart 1994-1996 changes in the amount and type of connectivity public libraries offer in the emerging National Information Infrastructure (NII). These findings will provide essential information for libraries and policy officials about the costs, options and benefits of Internet connectivity.

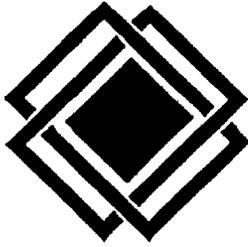
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The 1994 study showed that 20.9% of U.S. public libraries had some form of Internet connectivity and that 12.7% of connected-libraries offered public access to Internet services. The 1995 study employed five representative connectivity models and seven broad cost categories for use by public libraries planning Internet connectivity and services. This report identified initial Internet costs ranging from \$1,475 to \$310,285, with recurring annual costs from \$12,635 to \$258,210 depending on a library's Internet connectivity, unique situation, and available resources.

NCLIS' 1996 survey project will address the following issues and topics related to public libraries and the Internet:

- Longitudinal comparisons between 1994 and 1996 for:
  - public libraries connected to the Internet
  - public access to the Internet provided by public libraries
  - type of Internet connectivity available to public libraries
  - amount and type of Internet services provided by public libraries
  - uses public libraries make of Internet connectivity
- Costs for Internet services including:
  - cost categories and expenditures for Internet connectivity and services
  - costs related with the type of connectivity
  - degree of connectivity cooperation and coordination
- Policy issues related to public library Internet involvement
  - identification of the impact of federal support for public library Internet activities
  - identification of the state and local roles related to public libraries and the Internet
  - identification of the most important benefits resulting from Internet access

The U.S. National Commission on Libraries and Information Science is a permanent, independent agency of the Federal government charged with advising both Congress and the President on matters relating to national and international library and information services, policies, and plans. The Commission celebrates its 25<sup>th</sup> year of service in 1995/96.



United States  
National Commission  
on Libraries  
and Information Science

# NEWS RELEASE

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For immediate release  
21 June 1994

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## **NCLIS Issues Report on Public Libraries and the Internet**

Washington, D.C. -- *Public Libraries and the Internet: Study Results, Policy Issues, and Recommendations* has been issued by the U.S. National Commission on Libraries and Information Science (NCLIS). The report includes findings from a study of public library use of the Internet, the global interconnected network of computer networks.

In her letter transmitting this study to President Clinton, NCLIS Chairperson Jeanne H. Simon summarized some of the report's findings as follows:

- 20.9% of US public libraries are connected to the Internet
- Public library access to the Internet is not equitable
- Public libraries serving larger communities are more likely to have access to Internet than public libraries serving smaller communities
- There are regional variations in public library Internet connectivity
- Few public libraries offer direct public access to the Internet
- Public libraries are using Internet services to procure answers to reference inquiries, access federal information resources and perform interlibrary loan transactions
- There are wide variations in public library Internet costs: Libraries for smaller populations report annual costs of \$412. Libraries for larger populations report annual costs of \$14,697
- Federal assistance for connecting public libraries to the Internet is required.

- more -

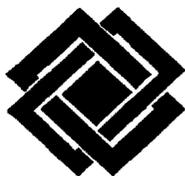
This report results from plans NCLIS announced in October 1993 to survey public library involvement with the Internet. Dr. Charles R. McClure, NCLIS Distinguished Researcher from June through December 1993 and professor at the School of Information Studies at Syracuse University, and Dr. Douglas L. Zweizig, professor at the School of Library and Information Studies at the University of Wisconsin-Madison, were the co-principal investigators for the project.

Dr. Zweizig administered a quick-response sample survey mailed to 1,495 public library directors in January 1994. Dr. McClure, along with John Carlo Bertot, Ph.D. student at Syracuse, and others, analyzed the survey results to identify potential federal policies regarding the public library role in developing a networked information infrastructure for the U.S.

NCLIS Chairperson Simon and professors McClure and Zweizig presented preliminary findings of the survey at the Public Library Association's National Conference, March 24, 1994, in Atlanta, Georgia. Mrs. Simon's transmittal letter to President Clinton notes that the report on public libraries and the Internet ". . . results from the Commission's mandate to study the means by which the informational needs of the Nation are satisfied." Adding that ". . . public libraries have a vital role in assuring that advanced information services are universally available to all segments of the population on an equitable basis," she cautions that the National Information Infrastructure's ". . . capability to extend and enhance information access is not yet widely available to the Nation's 9,050 public libraries."

The Government Printing Office will make copies of the NCLIS report available to the federal depository library system. Copies of the report are also available from the NCLIS office upon request. Copies are being sent to federal officials in the executive and legislative branches, heads of library and information associations, state library agencies, library media, and library school libraries.

The U.S. National Commission on Libraries and Information Science is a fifteen-member, permanent, independent agency of the federal government charged by Public Law 91-345 to advise the President and the Congress on national and international library and information policies and plans.



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## NCLIS Issues Report on Internet Costs and Cost Models for Public Libraries

Washington, D.C. – *Internet Costs and Cost Models for Public Libraries* has been issued by the U.S. National Commission on Libraries and Information Science (NCLIS). The study reports the findings from an analysis of public library costs involved in use of the Internet, the global interconnected network of computer networks.

The study was performed for NCLIS by Dr. Charles R. McClure, distinguished professor at the School of Information Studies, Syracuse University, along with John Carlo Bertot, assistant professor at the Department of Information Studies, University of Maryland Baltimore County and John C. Beachboard, a doctoral student and research associate at the School of Information Studies, Syracuse University.

This NCLIS study results from the Commission's review of the findings reported in *Public Libraries and the Internet: Study Results, Policy Issues, and Recommendations*, published by NCLIS in June, 1994 which found that 20.9% of U.S. public libraries were involved with the Internet. This survey showed the need for developing new instruments to help librarians and public officials to successfully navigate the challenges of a networked information environment.

*Internet Costs and Cost Models for Public Libraries* addresses the public library community's need for practical cost information related to Internet connectivity and services. It is intended to support planning, decision-making, and investments related to network services. The study describes cost elements, models, and offers worksheets intended to serve as useful guides for communities and public libraries planning Internet connections and services.

By identifying five representative connectivity models and seven broad cost categories, the report offers examples for use by public libraries planning Internet connectivity and services. It reflects the wide variation in costs and appropriate connectivity models for public libraries depending upon the library's unique situation and available resources. This report can assist public libraries to plan for the type of connectivity that best meets their community's Internet services needs.

The study shows that for an initial one-time cost of \$1,475 and a recurring annual cost of \$12,635, a public library can establish a minimal level of single-workstation, text-based Internet connectivity. At a more complex level, the report describes a representative multi-media Internet public library connectivity model involving multiple-workstations at multiple library locations for a one-time cost of \$266,375 and a recurring annual cost of \$154,220.

The Government Printing Office plans to make copies of the NCLIS report available to the federal depository system. Copies of the report are also available from the NCLIS office by request. The study will be accessible through the Internet at the following URL after 1 July 1995:

<http://dataserver.syr.edu/~macbeth/Project/Faculty/McClure.NCLIS.Report.html>

The U.S. National Commission on Libraries and Information Science is a fifteen-member, permanent, independent agency of the federal government charged by Public Law 91-345 to advise the President and the Congress on national and international library information policies and plans.

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