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## ABSTRACT

A strong library and information network is important to Wisconsin because of the uneven geographic distribution of its population, the dispersion of its university resource centers and heavy concentration of book and other information resources in major cities. This report explores the potential for furthering interlibrary cooperation in Wisconsin by investigating various ways of linking the state's library systems with other information centers into a network. The plan has four main objectives: (1) promote increased sharing of resources by libraries, (2) use modern technology in an appropriate and economical manner to facilitate the distribution of information, (3) equalize the availability of library materials, and (4) create a comprehensive base of library and information materials with a minimum of duplication and processing. The network proposed is constructed of groups of libraries and information centers operating as a consortium without limitation on the nature of their local jurisdictions. The report is divided into three main sections: (1) network philosophy and concept, (2) the library environment in Wisconsin, and (3) development and program plan for a Wisconsin Library and Information Network. (NH)

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A PLAN FOR A WISCONSIN LIBRARY AND INFORMATION NETWORK:  
KNOWLEDGE NETWORK OF WISCONSIN

Division for Library Services  
Wisconsin Dept. of Public Instruction  
Madison, Wisconsin  
1970

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## TABLE OF CONTENTS

Preface	ii-v
I. Network Philosophy and Concept	1-9
II. The Library Environment in Wisconsin	10-29
Recommendations from Previous Studies	
Existing Cooperative Efforts Among Wisconsin Libraries	
Wisconsin Plans for Library Networks	
Other Factors Affecting Network Planning	
III. Development and Program Plan for a Wisconsin Library and Information Network	30-70
Introduction	
Program Plan	
Funding for Central Services	
Projected Benefits	
Appendices	71-102
A. Demographic Characteristics Affecting Network Planning	
B. Holdings of Wisconsin Libraries	
C. Wisconsin Library Laws	
D. Summary Listing of Machine-Readable Data Bases	
E. Bibliography	

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4

## LIST OF FIGURES AND TABLES

- Figure 1 Components in Wisconsin's Knowledge Network  
2 Recommended State Districts to serve as Geographic Area Groups  
3 Organizational Schematic for a Statewide Library Network in Wisconsin  
3a Summary Functional Description of Information Network Office  
4 Summary of Network Plan  
5 Proposed Schedule for System Development and Implementation  
6 Sources of Income for Funding a Statewide Library Network

- Table 1 Estimated Costs for Services during Year 1  
2 Estimated Costs for Services during Year 2  
3 Estimated Costs for Services during Year 3  
4 Estimated Costs for Services during Year 4  
5 Estimated Costs for Services during Year 5  
6 Summary of Estimated Costs for Catalog Production Services  
7 Summary of Estimated Costs for Central Technical Processing Services  
8 Summary of Estimated Costs for Mechanized Information Services  
9 Summary of Estimated Costs for On-line Bibliographic Services

P R E F A C E

This report was commissioned by the Division for Library Services, Department of Public Instruction, State of Wisconsin. Its purpose is to explore the potential for furthering interlibrary cooperation in the State of Wisconsin by investigating various ways of linking the library systems in the State with other information centers into a network.

The intent of a statewide library network plan for Wisconsin is to achieve four main objectives:

1. To promote increased sharing of resources by libraries, particularly libraries of different kinds and with different area jurisdictions.
2. To use modern technology in an appropriate, economic manner and, by doing so, to facilitate the distribution of all forms of information to those persons motivated to seek it.
3. To equalize the availability of library materials, information, and other knowledge resources to each resident of the State regardless of his geographic location.
4. To create a comprehensive base of library materials and information in the State with a minimum of duplication and processing.

Briefly, the Wisconsin Library and Information Network proposed by Becker and Hayes is constructed of groups of libraries and information centers operating as a consortium, without limitation on the nature of their local jurisdictions. The State is divided into geographic areas which constitute the first level of organization. Within each area, a dominant library is identified to be a group center. Through a State-operated Technical Processing and Catalog Production Center, directories of holdings are prepared for network members within each area. The aim here is to facilitate the sharing of resources where it is possible to do so without going outside the group. Directories of holdings of other areas makes it possible for any area to identify information resources in the State which are not available locally.

The Catalog Production Center may also perform other technical processing activities as required. And, a Central Switching Center provides referral services for requests that can only be satisfied by tapping major State or national resources. Telecommunications equipment is used at each network level commensurate with local information needs and dictated by the communication traffic requirements of that level.

Overall authority and direction for the network rests with a newly proposed Information Network Office in the Division for Library Services, Department of Public Instruction. This Office assigns responsibilities to each network member

and generates the necessary network protocols that are required.

Wisconsin has had a long and enviable history of interlibrary cooperation. Networks, by their very nature, however, require a more formal organization and the consummation of commitments which go far beyond the informal arrangements practiced in the past. A future, successful network in Wisconsin depends on the ability of the Division for Library Services to make evident the benefits of resource sharing to all prospective participants and users, and to provide professional leadership to make the Network Program a vital part of State and local Government.

In addition, the Director of the proposed Wisconsin Library and Information Network will need to apply the basic principles of "social engineering" tactfully and wisely. A network is built initially on the motivation of people to want to make it work. Also, sufficient funds must be available for the Network's continuing support in order to spur its development, plan its implementation, and facilitate its continuing operation. Commitments of people and adequate financing are thus crucial to network success. Other ingredients to success include a workable organizational structure, sound leadership, a willingness on the part of participants to accept certain common standards and practices, and the accessibility of communication facilities that will provide the essential information transfer between and among network users and operators.

Based on our work in Wisconsin, we are convinced that the spirit among professionals in favor of network development is high and that the desire to make the network concept a reality is genuine.

Wherever we went in the State, we were greeted with great cordiality and cooperation. For this we are most grateful and wish to thank the many professional librarians, administrators, information scientists, and others who took time from their busy schedules to help inform and guide us.

Special thanks to Lyle Eberhart, Director of the Division for Library Services, to Richard Lederer, Mr. Eberhart's able administrative assistant, and to Jean Legg who served as project advisor for a ten month period. Dr. Louis Kaplan, Director of Libraries, University of Wisconsin, served as a reliable sounding board for our ideas and we wish to express our gratitude to him also.

During the course of the study, several special reports were prepared for the Division in response to specific requests for information. The essence of these reports, which dealt mainly with the requirements of a centralized processing service for Wisconsin, have been incorporated into this final report.

Joseph Becker

Robert M. Hayes



## I. NETWORK PHILOSOPHY AND CONCEPT

Wisconsin is vitally concerned with the need to optimize the availability of its library and information resources for the personal benefit of the residents of the State and its own growth and prosperity. It also recognizes that this goal can only be achieved through the establishment of an effective program of information transfer within the State. This Report sets forth an implementation plan for strengthening the information communication process in Wisconsin by creating a permanent organization to encourage the development of interinstitutional communication among all types of libraries and information centers. The plan implies establishment of a Wisconsin Library and Information Network and outlines the steps for its systematic growth.

Interinstitutional communication refers to the exchange of information and ideas among information units in Wisconsin as they serve their varied functional roles. Although the means and practices of information communication have undergone change in the past few centuries, the full and open communication of information to the public and private sectors remains the keystone of modern community progress.

A strong library and information network is important to Wisconsin because of the uneven geographic distribution of its population, the dispersion of its university resource centers, and the heavy concentration of book and other information resources in major cities.

The concept of a Wisconsin Library and Information Network involves the co-joining of general and specialized information resource centers throughout the State with the system of public, academic, and school libraries. This co-joining first takes the form of a formal organization in which these institutions agree to certain common programs; later, the introduction of a telecommunications system facilitates the communication of information and materials among them. The purpose of the Network is to permit any Wisconsin researcher, scholar, resident or businessman in government, industry, or the private sector access to the total information resources of the State from his own physical location. A collateral purpose is to evolve cooperative programs among information and library activities in the State which are both homogeneous and non-duplicative.

A Wisconsin Library and Information Network has several related objectives:

- a) To systematically develop specialized information services as part of a planned program of network development,
- b) To establish common practices, standards, and cooperative bibliographic tools, among the major State resources and the secondary information units in the State,
- c) To interconnect the principal information activities in the State through a common telecommunications

system in order to facilitate the rapid exchange of graphic, printed, and other data,

- d) To expand Network membership by permitting new activities to join the Network as they demonstrate the strength of their own resources, and their ability to contribute to the total good,
- e) To provide open access to the Network by individuals anywhere in the State for personal, educational, or business reasons,
- f) To communicate, externally, with similar networks in other states and with national information resources,
- g) To make optimum use of advanced technology for information transfer purposes.

By developing a statewide network, the State of Wisconsin will accrue certain definite advantages:

- a) It will achieve a greater sharing of information resources among people and organizations in the State.
- b) It will reduce duplication of information services and information collections.
- c) It will generate increased interdependence among libraries and information activities and organizations within the State.
- d) It will permit information exchange to occur through telecommunications and thereby reduce personal travel.

- e) It will equalize the level of information available to any one area or any person in the State.
- f) Through systematic access to world-wide and national information sources, it will reduce the amount of duplicative research, thereby facilitating the application of Wisconsin resources to unsolved Wisconsin problems.

The proposed network, described in detail in the sections that follow, is composed of a variety of components including:

1. Wisconsin universities, State libraries and public libraries with strong resources and staffs - the major State resources.
2. Wisconsin specialized information centers with exceptional information resources in one or another subject field e.g. medicine, law, etc.
3. A central network administrative office to direct and manage all planning operations.
4. A telecommunications component to provide for the exchange of data between and among all network members.
5. A group of common service centers to provide centralized technical processing, book catalog production, mechanized information services, and on-line bibliographic access.

The individual libraries of the State serve as the primary building blocks in the system. (Figure 1.) From them, a number of cooperative groups can be formed. The most evident kinds of groups are those in geographical areas. These may be, in actuality, the eight state districts proposed in the report, A Wisconsin System of Uniform State Districts\* as shown in Figure 2. Equally important are specialty groups such as those formed by medical, law, industrial, and educational media libraries. These groups may be formed as a result of requirements for service to specialized constituencies or for performing special services. Centralized operations would draw upon major State and national resources in order to serve individual libraries as well as geographical area centers and specialty groups within the State.

The network is actually constructed by creating a formal organization - The Wisconsin Library and Information Network-to establish contractual agreements among the nodes of the network to share their resources, develop common bibliographic tools, and make arrangements for the provision of certain mutually desirable information and processing services. Such agreements may call for the following commitments on the part of each member:

- A commitment to make its collection and services available to the constituencies served by other network members on the same basis of service that it provides to its own constituency.

\*A Wisconsin System of Uniform State Districts, Final Report of the Operating Cabinet Working Committee on Uniform Districting, July, 1969.

Major National Resources

Federal Libraries

Professional Societies

Indexing Services

Commercial Services

Major State Resources

University of Wisconsin

Wisconsin Reference and Loan Library (Madison)

Legislative Reference Bureau (Madison)

State Historical Society (Madison)

State Law Library (Madison)

Milwaukee Public Library

Centralized Services

Technical Processing Center

Bibliographic and Switching Center

Geographical Area Group and Specialty Group Centers

Northwest District

West Central District

West District

Northeast District

Central District

East Central District

South District

Southeast District

Specialty Groups

Individual Libraries



Reader Service Points

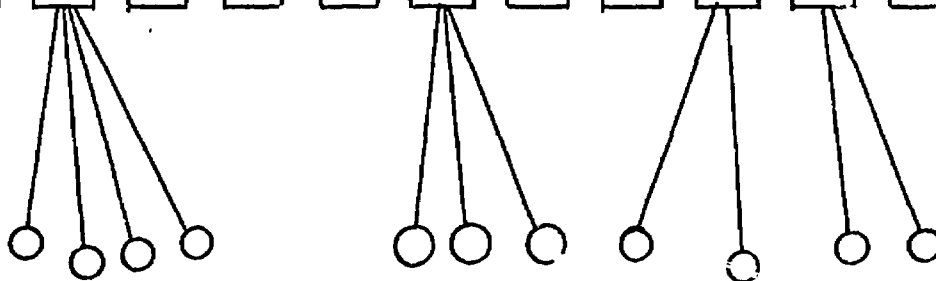
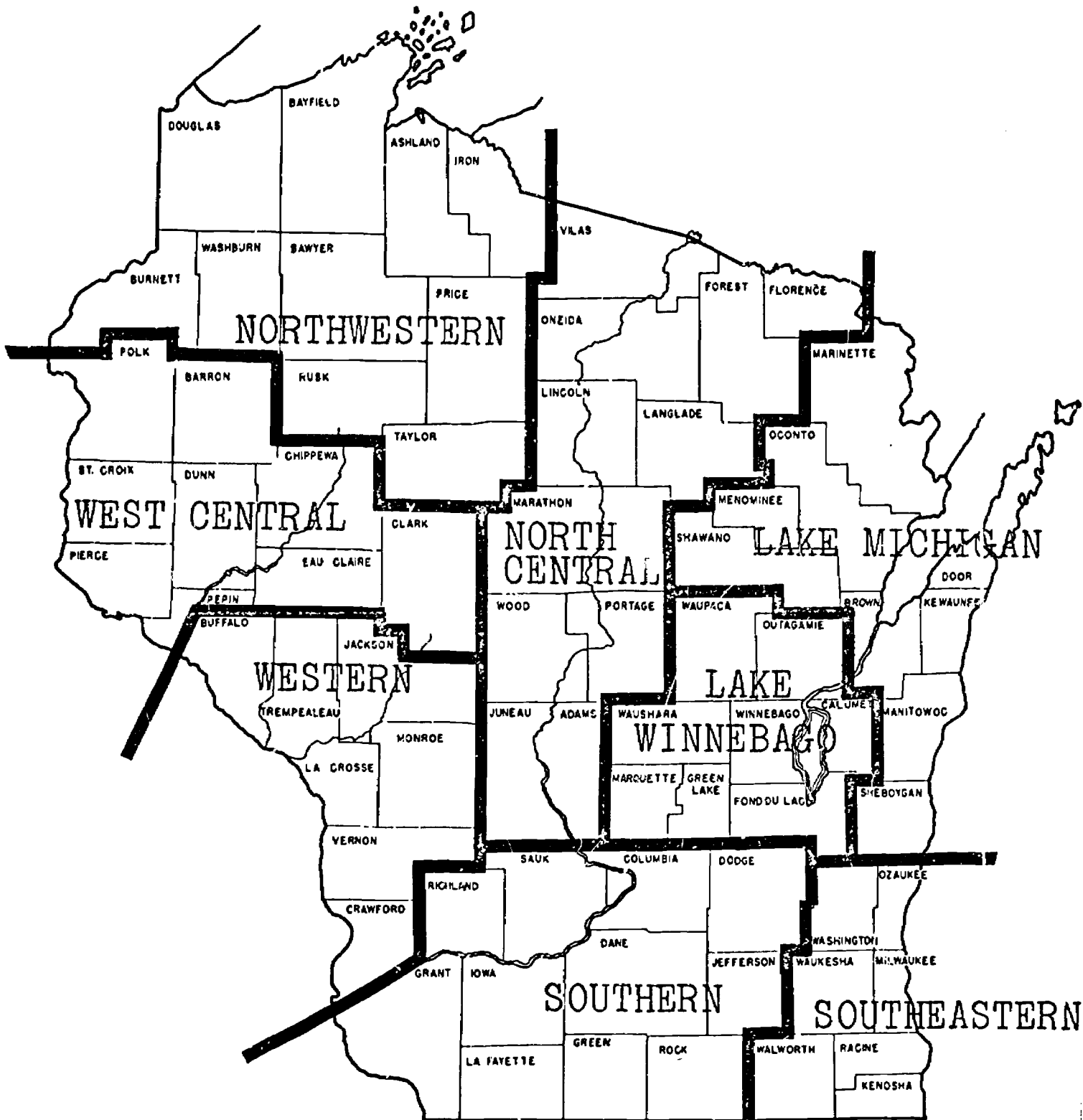


Figure 1: Components in Wisconsin's Knowledge Network

WISCONSIN ADMINISTRATIVE DISTRICTS  
 (established by Governor's Executive Order August 31, 1970)



STATE DISTRICT BOUNDARIES

Figure 2: Recommended state districts to serve as Geographic Area Groups

- A commitment to maintain an agreed-upon level of service (such as the level of the book budget for new acquisitions, the size of the reference staff, the willingness to participate in a union catalog for the network, etc.)
- A commitment to pay its proportionate share for the preparation of union catalogs, maintenance of telecommunications equipment, etc.
- A commitment to augment its collection so that it will support that part of network for which it is assigned primary responsibility.

The membership principles that govern the implementation of the network include:

- The network will have three types of members: 1) major State resource centers with a recognized critical mass of information, competence, and materials; 2) specialized information centers with in-depth resources in certain fields; and 3) the sets of public, school, special, and academic libraries in Wisconsin.
- The network will admit new members if their added resources complement the system and make it more complete.
- The network will have at least one dominant node in each of the principal areas of the State in order to provide access points for users located in that area.



- Any network member in each of the areas will use the State telecommunications system or dial-up commercial services to tap the resources of any other member regardless of its location in Wisconsin.
- Membership affiliation in the network will be by contract in which each member agrees to give and receive services according to an established method of payment and reimbursement.
- A field representative will be named at each node of the network to serve as a local liaison person.
- Network members will send their field representatives to semi-annual advisory group meetings to discuss aspects of network operations and future plans.
- The network will accommodate information regardless of form or type.
- The network will serve any resident of the State who is motivated to use it.

The two main sections which follow this introduction are designed to (1) provide historical perspective on past Wisconsin programs of interlibrary cooperation and (2) set forth an implementation and program plan for the development of the Wisconsin Library and Information Network (Knowledge Network).

## II. THE LIBRARY ENVIRONMENT IN WISCONSIN

### RECOMMENDATIONS FROM PREVIOUS WISCONSIN STUDIES

The present plan for a Wisconsin Library and Information Network, though more broadly conceived and more ambitious in scope than previous studies, should be seen as the culmination of the efforts by Wisconsin's librarians, trustees, boards of directors and interested citizens to develop a Statewide library system that widens and quickens access to the information resources of the State. In re-examining the results of the major studies that have been authorized and carried out during the past 10 years, increasing support for centralized system development and resource sharing can be seen.

#### Early Studies - The Free Library Commission Reports

Two important public library studies were sponsored by the Free Library Commission in the early 1960's. Facing the 60's appeared in 1961 after a Statewide investigation of public library service that was conducted by the University of Wisconsin's Bureau of Government. The report included recommendations for increased emphasis on the educational role of libraries, increased library cooperation at State and local levels, creation of regional service centers and strengthened reference and loan units within the Free Library Commission.

In 1962, the joint effort of more than 100 librarians and board members in the State resulted in the publication of

A Design for Library Development in Wisconsin: Standards for Measuring Progress. It was this publication that first recommended dividing the State into seven major areas, each headed by one large central library.

#### The Middle 60's

The first library network study for Wisconsin was prepared by Guy Garrison in 1964. Entitled, A Statewide Reference Network for Wisconsin Libraries, the study focused on reference work in public libraries. The two-level network proposed was to consist of 7 regions, each having a central reference library. At one level, member libraries in each region would be connected to their central library by toll-free telephone lines. At the second level, all the central libraries would be connected to a State Reference Library by several media-telephone, teletype, etc. Garrison wanted the required boundaries and the communications links to remain flexible so that the system could be expanded to include centralized book processing.

As part of his study, Garrison prepared a checklist of basic reference books and compared it against the holdings of selected public and academic libraries in Wisconsin. He found that the libraries selected were deficient in reference and bibliographic tools and that enhancement of the collections, especially in libraries selected to be central reference points, would be necessary. The location of major research libraries

was thought to be limited to the Madison-Milwaukee area until the reference collections at other library locations could be appropriately reinforced. Finally, Garrison suggested that the State's informal arrangements with university libraries for interlibrary loan and reference services should be standardized and on a contract basis.

A general plan for library development was proposed by the Wisconsin Department of Resource Development and the Wisconsin Library Commission in the 1965 report, Public Library Facilities. The report surveyed existing public library facilities in the State and prepared the plan specifically to serve as a first step - a point of departure from which more concrete plans could be developed.

In the plan, 9 regions would comprise the State network. Each was to be headed by a large central library to be designated an "area resource center." Small and medium-sized libraries located throughout a region would be connected to the area resource center by a network of open-line telephones. The resource centers would be interconnected by teletype, telephone and mail service. In this way, all library materials would be made available to the entire State population through interlibrary loan and reference services. This plan departed from others in that it did not propose a central switching agency for the State; each area resource center would direct its communications outside the region in the way it felt to be most efficient by referring to a State union catalog.

In order to elevate the existing facilities to the quality requirements of the proposed regional network, the report showed that capital expenditures of over \$30,000,000 would be required to meet the 1980 needs for floor space alone, while operating expenditures would nearly double (to over \$14,000,000 per year) to correct deficiencies in bookstock, personnel and services. The increased expenditures would be absorbed through a combination of increased State and local taxes. Local taxes would go to support the local-regional system, and State tax monies would go to larger undertakings, (such as a Statewide teletype network) and to ensure that minimum library service would be available to all. The report indicated that Federal LSCA monies would be only a token source with respect to the total need.

#### Recent Studies

In 1968, the Wisconsin Library Association issued its report, Public Library System Development for Wisconsin: An Action Program. In the report the public library system was defined as "---the basic unit of public organization within which community libraries and a headquarters library function as effective arms." The headquarters library was seen to be the location of a comprehensive collection of books, reference books and other library materials.

Two other topics covered in the WLA report were professional services and library networks. The gaps in professional service were said to be caused by the scarcity of

specialized staff. In-service education and training were recommended to upgrade the qualifications of professional librarians.

In the long discussion of library networks, a State-wide network was seen as mandated by statute to bring about "---increased opportunities for reading, study, and free inquiry" for all citizens of the State. The report suggested that public libraries develop a Statewide communication system in order to most efficiently organize the State's library resources toward these goals. Continued and increased local, State, and Federal support would then be necessary to make the recommended broad base of materials and services available to every citizen of the State.

The report went on to specify the structure, operating method and reporting system of the State library structure. Some other parameters were also suggested: A library system must serve at least 100,000 people. A public library system may organize a federated or centralized system. Each public library system should have a governing body appointed by the local County Board (s) of Supervisors. An annual report should be submitted to the Division for Library Services by each public library system of the State.

A 1969 study by Charles Bunge (Library Cooperation for the Madison Area) was concerned with the need for cooperative programs - including resources, services and policies. Public, college, and school libraries in the Madison area were

selected to participate in a questionnaire/survey. The interviews were conducted on a sample of each library's patronage. The various needs and opinions were compiled in order to describe aggregate user search strategy and to estimate unmet information needs. Interviews with library administrators were used to measure and compile the need for specific cooperative efforts.

Bunge strongly recommended that an exchange of bibliographic information be initiated among the area libraries. A union list of periodicals was suggested as a possible first effort. The establishment of a clearinghouse to collect information on the services and content of the numerous information sources (libraries, non-libraries, and even individuals) in the Madison area was also recommended. The proposed clearinghouse was also seen as a switching center for the area network.

A cooperative periodicals center was proposed to house the less frequently used and more specialized titles so that individual libraries could devote more of their periodicals budget to heavily used titles.

The purpose of a 1969 study by James Krikelas (Centralized Technical Processing for Public Libraries in Wisconsin) was to determine the feasibility of establishing one or more centralized technical processing centers for the State's public libraries.

The results of a questionnaire sent to more than 300 public libraries in the State showed that the majority of librarians surveyed supported the idea of centralized processing. There was some doubt, however, as to the economic and administrative feasibility of such a venture.

When Krikelas examined the economics of technical processing he found evidence that the physical preparation of books might be more economical if done locally. Cost data for centralized cataloging were inconclusive but, again, local handling was indicated.

The survey seemed to indicate a high probability that a centralized processing center would not have enough volume to be economical. The author concluded that, although the results seemed totally negative, the State Division for Library Services should experiment with production and dissemination of printed catalog cards specifically for public libraries. Kirkelas also took a dim view of book processing by commercial firms because he believed that they are not as interested in adhering to requests of specific libraries as a non-profit agency run under the State's administration would be. Kirkelas urged the Division to perform experiments with the MARC tapes of the Library of Congress to determine their applicability to public library use.

#### Summary

Previous studies of library service in Wisconsin made



recommendations in one or more of three major areas:

Network Recommendations

Communications

Regional Organization

Organizational Recommendations

Contracts and Fees

Sources of Funding

Estimates of Expenditures

Service Recommendations

Reference Services

Centralized Processing Services

In addition, some miscellaneous recommendations were concerned with the educational role of libraries and the need for in-service training and professional development for librarians.

Although these studies were primarily concerned with public library services, they all reflect a basic understanding of the complexities of interinstitutional cooperation at many levels. The need for detailed and sophisticated planning as a prerequisite for a Statewide Library and Information Network is clearly recognized.

EXISTING COOPERATIVE EFFORTS AMONG WISCONSIN LIBRARIES

From among the many existing cooperative efforts in

Wisconsin, several important examples have been selected for brief discussion. The existing projects are basically of three types:

- . Interlibrary loan (including photo-duplication requests) and reference/referral
- . Centralized technical processing
- . Education and training

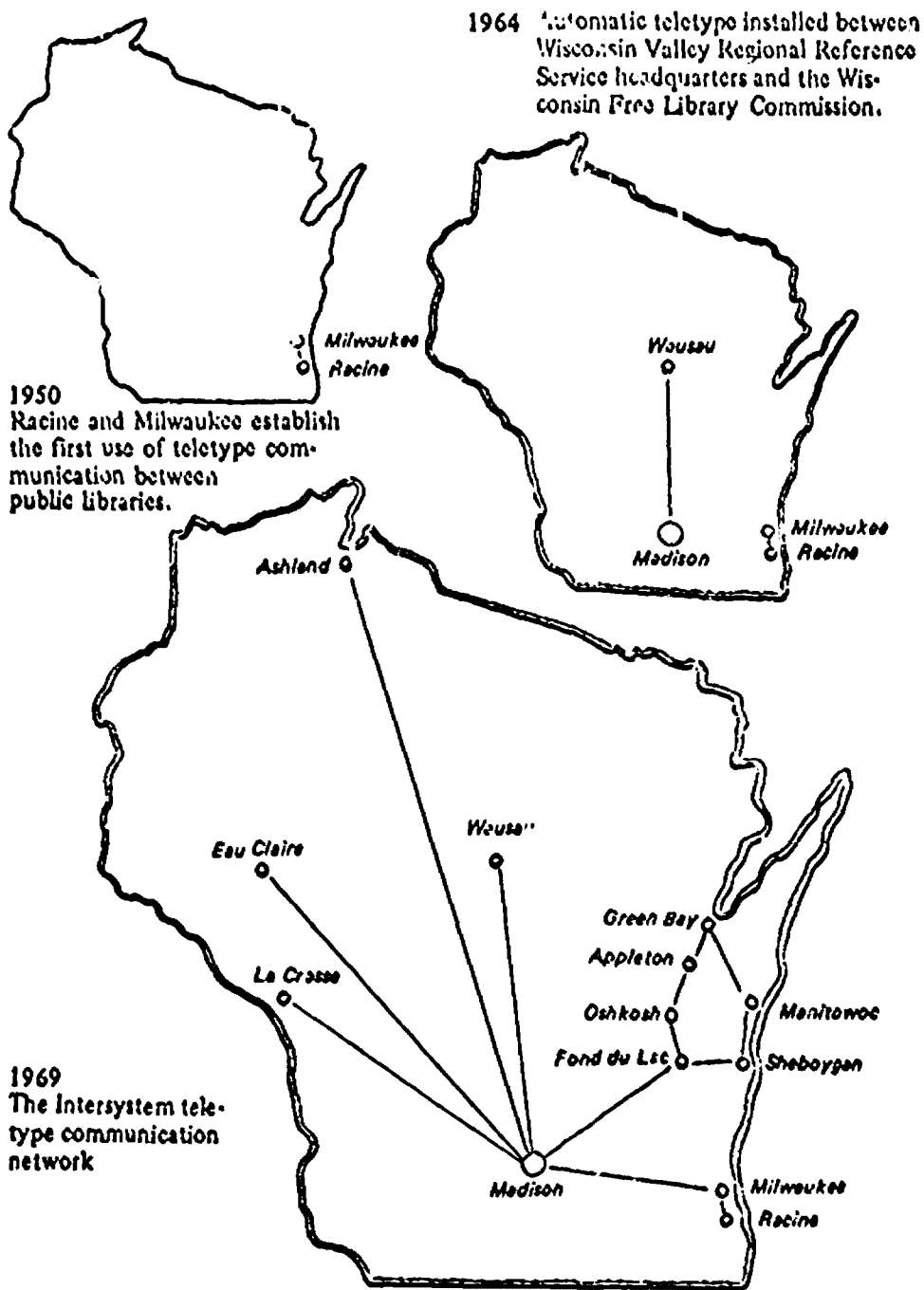
#### Interlibrary Loan and Reference/Referral

The earliest example of library cooperation in Wisconsin is the Reference and Loan Library (RLL) located in Madison. The RLL is a statewide loan service that originally (under the name Traveling Libraries) was designed to provide small collections on a rotating basis to unserved areas. Now that there are permanent libraries serving most of the rural areas, the rotating collection service has ceased. Instead, the RLL responds to mail requests for books, periodicals, pamphlets, Federal and State documents, and phonograph records. Formerly serving primarily small public libraries and individuals, its heaviest users now are public library systems and state government agencies. The RLL also provides a photoduplication service for periodicals.

Although RLL has an extensive collection of its own current but specialized documents, it attempts to fill requests for material it does not have by searching the collections of the University of Wisconsin Libraries at Madison or by forwarding the request to the Milwaukee Public Library. Nearly

30% of the requests come through the State teletype networks to RLL. Recent 1969 summary statistics indicate that 53,289 service requests were received, and 43,255 items circulated. The sequence by which the requests are eventually routed to RLL is as follows: a library, upon receiving a reference or loan request that it cannot fill, refers the request, usually by a standard form, to the area library. The area library tries to fill the request, but, if it cannot, the request is referred to the next higher library, and so on until it reaches the RLL by teletype.

The use of teletypewriters in the public libraries of Wisconsin began in 1950 with the Racine Public Library--Milwaukee Public Library link. Now, there are about 13 libraries connected by teletypewriter networks. One network of private lines, called TWP, connects six public libraries of the Fox River Valley area to the Reference and Loan Library (RLL) in Madison. The other network, called TWX, connects the remaining libraries with RLL. The TWX network is maintained by the Bell System and has the advantage of being a part of a nationwide system. The map on page 20 diagrams the growth of the teletype network in Wisconsin public libraries. Today, this system is called the Intersystem Teletype Network and is administered by the Division for Library Services in Madison. This network is used for interlibrary loan, photoduplication and reference requests.



1964 Automatic teletype installed between Wisconsin Valley Regional Reference Service headquarters and the Wisconsin Free Library Commission.

1950 Racine and Milwaukee establish the first use of teletype communication between public libraries.

1969 The Inter-system teletype communication network

### TELETYPE COMMUNICATION IN WISCONSIN PUBLIC LIBRARIES

From Wisconsin Library Bulletin March-April 1969

Garrison, in his 1964 report, A Statewide Reference Network for Wisconsin Libraries noted that there was an existing regional interlibrary loan and reference referral service in the Wausau area. The Wausau Public Library, with a bookstock of 80,000 volumes, was already acting informally as a regional library when the 11-county project was funded through LSA monies in 1961. Community libraries, after exhausting their resources, contacted the Wausau Library by phone or mail. If the Wausau Library could not reply with sufficient information from the resources at its disposal, a mail request was sent to the (then) Free Library Commission in Madison. By 1964, a union list of serials of all member libraries was established, some libraries were assigned subject areas of specialization, a teletype link to Madison was installed, and there were beginnings of a centralized book processing center at the Wausau Library. In 1964, the Regional Reference System--Wausau Area was still a demonstration project with no expectation of continued funding, but in 1968, as the Wisconsin Valley Library Reference Service, the project was firmly established with budgeting support from ten counties. Now similar systems have sprung up in other areas of the State, the teletype network has been established, and continued operation is more assured.

#### Centralized Processing and Cataloging

In 1959, a demonstration processing center funded by LSA was established at the Fennimore Public Library serving the southwestern portion of the State. This center, now known as the Public Library Service Center of Southwest Wisconsin, currently

provides an entire range of services to area libraries, although technical processing is still one of the major services offered.

More recently, the La Crosse Area Library Development project was established. This project, originally funded under LSA, administers Federal funds used to purchase adult non-fiction titles. The center orders all books purchased with Federal funds; it receives, processes, and ships them to the individual area libraries.

A new Federally-funded demonstration project at the Eau Claire Public Library serves six Wisconsin counties through its centralized book ordering and interlibrary lending services.

#### Education and Training

The Southwest Wisconsin Public Library Service, the Eau Claire Area Library System Demonstration Project, and the La Crosse Area Library Development project offer programs of in-service training for the staffs of their member libraries.

#### WISCONSIN PLANS FOR LIBRARY NETWORKS

Stimulated by obvious need and by the availability of Federal monies (LSA and LSCA funds), library development plans have been evolving in Wisconsin since the appearance of the Wisconsin State Plan of 1957 and the report, Facing the 60's. Most of the work has been concerned with library "quality" assessments in the face of the necessity of maintaining a service to inform the public. Public, school, and academic libraries were surveyed throughout the State to measure and evaluate the

quality and size of existing collections, the qualifications of library personnel, the served and unserved user populations, and the construction needs for existing and planned libraries. "Library development", as it has been defined in the various State plans, has included proposed library networks in a variety of configurations: centralized administrations, federations of libraries, library cooperation, library processing centralization, etc. Some plans are now in effect (such as the present teletype networks), other plans have not been implemented, and still others have been discarded.

A description of the organizations presently developing library system plans for Wisconsin follows.

#### Advisory Committee on Libraries

The Advisory Committee on Libraries was established in late 1967 when the staff of the Coordinating Committee for Higher Education (CCHE) realized the high priority attached to the efficient utilization of State library resources in higher education and library education. Two subcommittees were formed: the Subcommittee on the State of Technology and the Subcommittee on Library Resources. The Technology Subcommittee investigated and reported on various centralized efforts proposed and existing throughout the United States. The Library Resources Subcommittee reviewed the State's academic library resources. The Advisory Committee report to CCHE in September 1969 was documented as Libraries and Library Education at Wisconsin's Public Universities.

This report was the culmination of the work of both Subcommittees and the Committee as a whole, through twelve meetings from November 1967 to June 1969.

The report recommended that the "public universities should plan on full participation in a State information network," that the interlibrary loan system should be modernized, and that a "cost-benefit analysis should be made of the feasibility of a central purchasing and processing center for Wisconsin's academic libraries." Other recommendations dealt with minimum holdings and proposed standards, development priorities, and the establishment of associate degree programs. In 1970, with this Committee in a dormant state, a Council of Wisconsin Libraries has been established, with representation from the public academic systems, private academic institutions and the Division for Library Services.

#### Division for Library Services

The Division for Library Services (DLS) of the State Department of Public Instruction has, as mandated under Wisconsin statute, developed a State plan for public library networks, known as the Knowledge Network of Wisconsin (KNOW). DLS has been permanently attached to Department of Public Instruction since 1965. An Advisory Council on Library Development (now called the Council on Library Development) was established to advise the Governor and the State Superintendent of Public Instruction. Its primary functions are (1) to develop policies and activities of the State's library development program and, (2) to find the ways and means to coordinate, on a Statewide level, public library and school



library services. In accordance with Council recommendations, a Governor's Conference on Libraries was held April 1969. The Advisory Council also recommended that the Division for Library Services coordinate a program for legislative action. This coordinated effort for State library law revision and funding support is continuing. A final Council recommendation proposed expanded library services to State government agencies.

#### Wisconsin Library Association

The third State organization, the Wisconsin Library Association is, as mentioned previously, coordinating its efforts with the Division for Library Services to effect a legislative action program. Their recent publication, Public Library System Development for Wisconsin: An Action Program, outlines the elements of library networks, documents the need, gives a proposed structure for the library system and suggests a method of rendering financial support.

In summary, the Wisconsin plans for library networks in the past decade center around the following topics:

- 1) teletype networks for interlibrary loan, photo-duplication and reference service.
- 2) centralized book ordering, processing, preparation, and shipping.
- 3) union catalogs for books and periodicals.
- 4) cooperative book processing among public, academic, and school libraries.

- 5) cooperative reference and loan services with academic, school, public, and special libraries.
- 6) establishment of county-wide governing boards and a system of financial support.
- 7) Increased information services to State government agencies.

#### OTHER FACTORS AFFECTING NETWORK PLANNING

The following brief discussion is presented as an aid to understanding the framework within which decisions relating to or resulting from network development take place. Specifics, such as statistics, are presented in Appendices A-C.

##### Demographic Characteristics

Because the development of any state library network involves planning for the location and apportionment of library resources, it is essential to consider such characteristics as population density, the number of college - educated adults, the numbers of persons in professional and technical occupations, etc. Figures showing these characteristics on a county-by-county basis appeared in Garrison's 1964 study of reference services and are reproduced as Appendix A.

Other statistics of interest to network planners are found among the enrollment figures of educational institutions. Garrison noted that high school students (about 358,000 in 1967)

are probably the largest group of users of public library reference service, while college and university students are more likely to have reference needs that can not be satisfied by local public libraries. According to CCHE, the projected 1977 enrollment for the University of Wisconsin and the Wisconsin State University systems is 179,000 students. An additional number of students are enrolled in vocational-technical programs and at private colleges and universities in the State. The resulting burden on existing local libraries will be relieved when access to State and National resources is provided.

#### Holdings and Facilities

Once individual libraries agree to cooperate, as in a library and information network, it might be assumed that each library has resources of sufficient quality or quantity to contribute to the network as well as to derive benefits from the network. Another argument says that, because a network gives each library access to every other participating library, there is no need to spend money to strengthen weak individual collections. The network plan described in Part III of this report solves the problem by giving libraries a chance to plan ahead. That is, although support for individual libraries will continue, all libraries will be aware of the eventual service objectives of the network and of the time-frame for network implementation. Similarly, a collection-building philosophy may be discussed at the network level, but individual libraries will

have the opportunity to spend their own funds and to plan their own collection growth, possibly changing emphasis gradually as network development proceeds. Consideration must be given as to whether existing collections should be deepened or broadened in scope or both. Pertinent statistics reflecting the holdings of Wisconsin libraries are given in Appendix B.

Planning a library network focuses critical attention on facilities and equipment as well as on the collections. Again, decisions on network design and philosophy should precede any determination at the local level as to whether existing facilities are suitable for expansion and rearrangement. The location and design of new facilities then follows according to the population to be served and the nature of the services to be provided.

It is clear that DLS and CCHE are striving for library excellence. Interinstitutional cooperation can facilitate achievement of this goal.

#### Library Legislation

In planning the Wisconsin Library and Information Network, it will be essential to review pertinent State and Federal legislation. At the State level, existing laws may: prevent individual libraries from entering into certain types of contracts, regulate fees for services (to residents of the State, to other libraries), limit the ways in which libraries can obtain funds, or specify conditions under which communications links can be established. Continuing close liaison

between network planners and the State legislature will ensure that necessary modifications to existing laws will be made and that any new library legislation recommended by the network will be given prompt and careful consideration. Those portions of the Wisconsin State code of interest to network planners are given in Appendix C.

Network planners must also be aware of any existing or proposed Federal laws that may affect network members individually or collectively. Of particular importance are changes in reporting requirements, in procedures for requesting and allocating Federal funds and in the kind of projects for which (in a given year) special, additional funds may be available (Right to Read, etc.)

Maintaining a continuing awareness of Federal legislation affecting libraries and networks can indeed be a challenge. Currently, the Copyright Revision Bill and amendments to the Library Services and Construction Act are pending. In addition, reorganization within the U.S. Office of Education and, on July 20, the President's signature on S. 1519 creating a National Commission on Libraries and Information Sciences are major events whose effect on library and network development is as yet unclear. These developments bear watching - copies of appropriate legislation, hearings and press releases should be obtained whenever possible; the offices of Wisconsin's U.S. Senators and Representatives are good points of contact and continuing liaison.

III. DEVELOPMENT AND PROGRAM PLAN FOR A WISCONSIN  
LIBRARY AND INFORMATION NETWORK

INTRODUCTION

Wisconsin, like many other states, is committed to developing a statewide library network that involves compacts among libraries for sharing of resources, union catalog production, centralized technical services, and mechanized information services. Within this framework, there are already a number of activities underway within the State, including the library systems at Milwaukee Public, University of Wisconsin, and Madison. The purpose of this section of the report is to recommend a technical and organizational plan for developing and implementing a statewide computer-based system to serve library needs.

Levels of Service

In order to realize the goals for a statewide network, it is recommended that Wisconsin consider developing four levels of service:

1. Catalog Production Services--The basic purpose of this facility is to provide centralized union catalog production services. Functions to be performed include the following:
  - : establish a standardized format for catalog data consistent with that used in the MARC tapes from the Library of Congress

- act as a central receiving point for catalog data from national and local library sources
  - convert catalog data into a standardized format
  - produce book catalogs of various types for central, regional, and local needs
  - produce union serial lists
2. Central Technical Processing Services--Individual libraries can contract with this facility for such services as central ordering, cataloging, card production, and book preparation.
3. Mechanized Information Services--This facility provides the capacity to acquire, catalog, and provide information services from magnetic tape data bases of all kinds--reference, numerical, and text--such as those listed in Appendix D. The following are examples of specific services that might be provided:
- Information retrieval based upon straight-forward coordination of index data
  - Textual analysis and language data processing
  - Question-answering processing
  - Statistical analysis of data bases
  - Preparation of lists including bibliographies, permuted indexes, subject authorities, citation indexes, and thesauri

4. On-line Bibliographic Services--The purpose of this service is to maintain bibliographic data on disk files and to provide on-line access to these files for libraries throughout the State. Libraries will be able to both query and add information to the data files.

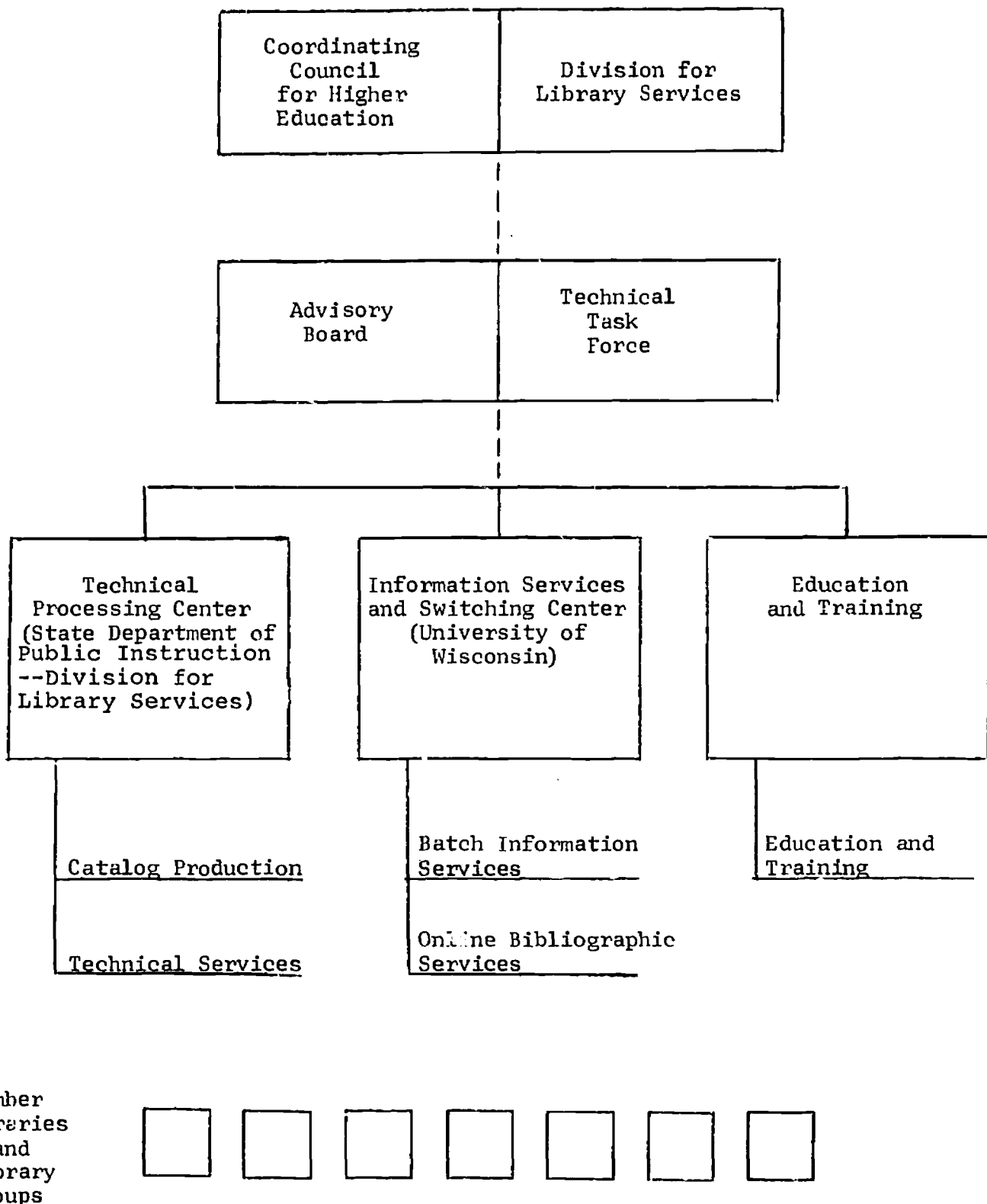
In addition, an educational and training program should be established for the purpose of educating librarians and informing patrons about the operation of the system, available services, and procedures for using them.

#### Administrative Organization

Figure 3 shows an organizational schematic and indicates the groups who might be responsible for developing these services in the statewide library system. It is recommended that the Coordinating Council for Higher Education (CCHE) and the Division for Library Services of the State Department of Public Instruction jointly serve as administrative focal points of the system. Their primary functions would be to receive money from the State and Federal governments for the development, implementation, and operation of the system. An Advisory Board and a Technical Task Force would serve as coordinating and policy advising bodies. Specifically, the responsibility of the Advisory Board, composed of librarians representing various types of libraries and library groups, is to guide CCHE and DLS on what should be done within the State network. The State's Council on Library



Figure 3: Organizational Schematic for a Statewide Library Network in Wisconsin



Development might serve as the initial organization for this group. The Technical Task Force, made up of members from the systems analysis staffs of libraries and library groups, has three general tasks. First, it is responsible for establishing the specifications of the system and assuring that the network is developed to meet the needs of the library community as determined by CCHE, DLS, and the Advisory Board. Second, it should make sure that plans take advantage of current and near-future state-of-the-art developments in computer technology. And, third, it should plan to assure compatibility of data that is used by different central services. An additional function for all three policy groups will be to help arrange for contractors to carry out the technical work needed to develop, implement, and maintain various parts of the system.

The Division for Library Services in the State Department of Public Instruction should be responsible for development and operation of the Catalog Production Services and the Technical Processing Services. The University of Wisconsin should be responsible for development and operation of mechanized information services and the Switching Center and on-line bibliographical center for the network.

The Coordinating Council for Higher Education should make an early effort to contract for the development of Education and Training as a "continuing education" function. Groups with experience in providing such a program should work in cooperation with the University of Wisconsin Library School and University Extension.

## Implementing an Administrative Organization

Formation of any network, or cooperative, is generally a slow and deliberate process. Most organizational units are accustomed to operating autonomously and when they join cooperatives, some adjustment is invariably required. Psychological and sociological factors aside, the Wisconsin Library and Information Network can best be started by establishing an Information Network Office in the State Division for Library Services.

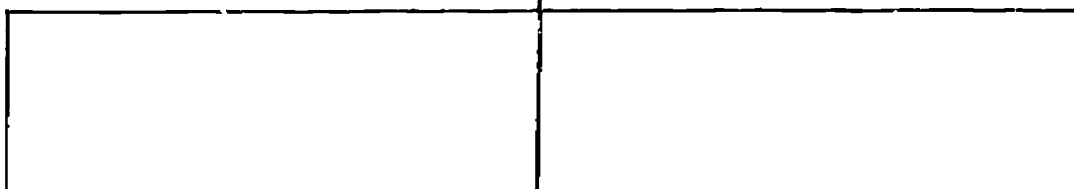
Figure 3A is a summary functional description of the Information Network Office. It is presented as a guideline to highlight Network Office objectives and explain the nature of its work. Detailed functional descriptions follow.

**DIVISION  
FOR  
LIBRARY SERVICES**

**INFORMATION NETWORK OFFICE**

Overall responsibility for network development plus the following functional objectives:

- Develop information exchange relationship
- Support network members financially
- Set up telecommunications link
- Implement cooperative programs
- Provide education and training for network personnel
- Establish levels of resources and services
- Define responsibilities and functions
- Develop communications links for access to resources in other states



**COORDINATION SECTION**

Multi-level coordination and liaison required to promote network development, monitor its use and improve its performance. Interfaces with:

- All types of libraries
- State data processing facilities
- State communications office
- National library/information projects

**TECHNICAL SECTION**

Responsible for development implementation and management of a Technical Processing and Catalog Production Services. Also has responsibilities in the following areas:

- System development
- Developing common practices
- Production

**MANAGEMENT SECTION**

Implements network policies, negotiates Member contracts, selects equipment and sets standards for technical interfacing, establishes costs for services and plans budgets. Also has the following responsibilities:

- Focal point for education and training
- Serves as public information office
- Develops long range plans for staff, space and budget needs

FIGURE 3A SUMMARY CHART -- FUNCTIONAL DESCRIPTION OF INFORMATION NETWORK OFFICE

INFORMATION  
NETWORK  
OFFICE

In addition to his overall responsibility for the successful development of the network, the Director's office also has the following functional objectives:

- (1) To develop binding, working-level information exchange relationships among all members of the network.
- (2) To support network members financially in order to help them achieve strong collections and resources.
- (3) To introduce telecommunications connections among members appropriate to their need for such services.
- (4) To implement cooperative programs among members in order to facilitate interlibrary communication and information exchange.
- (5) To accelerate the education and training of network personnel.
- (6) To establish reasonable levels for resources, services, and collections at each echelon of the network.
- (7) To define responsibilities, functions, and obligations for each echelon of the network.
- (8) To evolve methods for drawing actively on the information resources of other states through telecommunications.

COORDINATION  
SECTION

This Section is responsible for the multi-level coordination and liaison required to promote network development, monitor its use, and improve its performance. In addition, it has the following functional objectives:

A. With All Types of Libraries

- (1) to keep the notion of a network alive and growing
- (2) to encourage the enthusiasts and convert the recalcitrants
- (3) to furnish information and advice
- (4) to create an atmosphere of Statewide cooperation and understanding.
- (5) to select areas for pilot work
- (6) to develop mutually agreeable work schedules for transition from old work routines to new
- (7) to trouble-shoot as required

B. With State Data Processing Facilities

- (1) to enlist the support of available State and other EDP resources and facilities
- (2) to continually input information network computer requirements into State electronic data processing plans
- (3) to secure priorities and computer time for the Catalog Production Service, and the Central Technical Processing Service

C. With State Communications Office

- (1) to continually input information network telecommunications requirements into the State Communications Plan
- (2) to arrange installation of DAIN communications for library and information network use

COORDINATION  
SECTION  
(cont.)

- (3) to remain knowledgeable about communications developments within the State and throughout the country
- (4) to investigate the need to attach a communications specialist to the Information Network Office

D. With National Efforts

- (1) to remain abreast of developments relating to MARC-II, the National Serials Data Program at the Library of Congress, the creation of a data processing standard for the recording of audio-visual bibliographic data, etc.
- (2) to develop an interest among Wisconsin special libraries and major state resources to purchase, experiment with, and offer services utilizing mechanized information services.

TECHNICAL  
SECTION

This Section is responsible for the development, implementation and management of a Technical Processing and Catalog Production Service in behalf of the Network. In addition, it has the following functional objectives:

A. System Development

- (1) to analyze and develop effective methods for utilizing available computer resources in support of network catalog production and technical processing
- (2) to maintain technical liaison with those persons inside and outside the State who are involved in related library automation and communications work
- (3) to supervise in-house programming and outside technical contractual support
- (4) to obtain agreement on the content of the detailed implementation plan for the network technical processing and catalog production service.

B. Encourage Common Practices

- (1) to develop ground rules for the cataloging record and associated book catalogs
- (2) to seek agreement on form of entry and adoption of LC rules
- (3) to provide senior cataloging advice and guidance on changeover
- (4) to obtain area agreement on use of network implementation plan - through field meetings and letter of intent
- (5) to specify form of entry and layout for area catalogs; to recommend specifications for local catalogs

C. Production

- (1) to develop a plan within each area for scheduling work leading to active relationships with the Technical Processing Center and production of respective book catalogs
- (2) to utilize MARC-II tapes for production



This Section is responsible for the administrative direction of the network. It implements network policies, negotiates member contracts, provides financial support, approves new members, selects equipment and sets standards for technical interfacing, establishes cost schedules for services, plans budgets coordinates with the State's telecommunications office, contracts for computer services, develops audiovisual educational materials for the network, and publishes a network newsletter. In addition it has the following functional objectives:

- (1) To develop content for a standard contractual agreement between the Information Network Office and members of the network for the full range of services to be offered to participants
- (2) To generate a chart of accounts for keeping track of network expenditures and related activities in order to provide a basis for financial support for services and for estimating budgets realistically
- (3) To perform long range budget planning; and, to develop a method for predicting and explaining savings or new services achieved by the network
- (4) To solicit counsel on alternative legal procedures for initiating various modules of the network program
- (5) To serve as focal point within the Division for the provision of education and training programs explaining network plans and library automation in general

MANAGEMENT  
SECTION  
(cont.)

- (6) To develop a training schedule consistent with the developing program of the network
- (7) To recommend to the Division appropriate press releases and other programs designed to inform the media and the public with respect to network development
- (8) To produce audiovisual and printed materials for purposes of information dissemination
- (9) To plan for expansions of staff and space according to scheduled growth
- (10) To procure equipment, contractual services, consulting, etc.

Selection of a Director for the Information Network Office will require finding someone who is a specialist in information science, who understands libraries, and who is technically equipped to direct programs which, in time, will certainly involve the use of computers, telecommunications equipment, and other elements of network technology. The person selected therefore, should be relatively young and capable of meeting and dealing effectively with library and technical personnel.

Creation of a Network in Wisconsin will be an evolutionary task. A Network cannot be developed overnight; it is a slow and gradual process requiring considerable management tact and careful planning. Yet, it must be started with a workable, here and now module that will provide a real service, which people can understand and want. Thus, the creation of a strong Network Office from the very beginning is essential. If the Network concept does take hold in Wisconsin there should be an operating Network Office on hand to further its development and accelerate its growth.

#### Summary of Network Development Plan

Figure 4 presents a summary of major tasks to be accomplished (after the Network Office is established) in developing a statewide library network, assuming that Wisconsin begins work on the system in 1971. These tasks fall into three general categories:

1. Those involved in establishing the organization of the major components in the network (tasks 1 through 6);
2. Those in which procedures are developed for interacting among the components in the network (tasks 7 through 10);
3. Those which provide for the development, implementation, and operation of central services (tasks 11 through 19).

#### PROGRAM PLAN

The remainder of this report discusses the tasks, costs, and schedule necessary to develop the four central services--book catalog production, central technical processing, mechanized information services, and on-line bibliographic services. There are six phases in the development and implementation of each of these services which lead to their becoming operational sub-systems within the Knowledge Network for Wisconsin. First, there is a management stage during which the capabilities are developed for administering each service on a long range basis. Second, the feasibility of each service and the preliminary specifications of each major operation must be established. Third, a training, education, and public relations program must be created for informing both librarians and library patrons about each service. Fourth, a development and implementation phase will create the operational capabilities for each service. Fifth,

Figure 4: Summary of Network Plan  
1971-1975

Event	Task Description	Starting Date	Operational Date
1	Establish processing center, with emphasis on Book Catalog Production Services	1971	1972
2	Establish information service and switching center	1971	1974
3	Establish geographic area cooperative groups encompassing all libraries in each area	1971	1972
4	Establish area reference centers in the dominant library of each area	1971	1972
5	Establish cooperative groups for special libraries	1971	1972
6	Establish a primary reference center for each specialty group	1971	1972
7	Collect area catalogs at the Switching Center to aid directory services	1972	1973
8	Collect specialty catalogs at the switching center to aid directory services	1972	1973
9	Use statewide telephone system for inter-library communication	1972	1973
10	Produce regional catalogs for the holdings of each geographical area (non-specialty libraries)	1972	1973

Event	Task Description	Starting Date	Operational Date
11	Establish Automated Switching Center at the University of Wisconsin, including TWX, facsimile transmission, and digital computer communication	1973	1975
12	Acquire nationally produced machine-readable catalog data (MARC, MEDLARS, ERIC) for the catalog production and technical processing center	1971	1973
13	Acquire machine-readable data bases for the information services center	1972	1974
14	Provide technical processing services to individual libraries and library groups throughout the State	1971	1974
15	Provide retrieval services to users based on information in the machine-readable data bases	1971	1974
16	Collect serials collection information from individual libraries	1972	1973
17	Produce union or regional list of serials	1973	1974
18	Provide on-line computer services to clerical processing in group centers	1973	1975
19	Provide on-line computer retrieval services to users of specialty centers	1973	1975

during the operational stage, actual services are offered. Finally, sixth, the maintenance phase provides for continued improvement of the operational system. Each of these phases can be separately budgeted in terms of time and money, but each is a necessary step toward realizing the operational system.

#### Management Phase

This stage establishes the basic management and administrative capability to provide long-range, continuing direction for the network, as well as its development. The tasks of the management staff include the following:

1. Recruit staff for each of the phases.
2. Establish procedures for cost accounting and cost/benefit analysis.
3. Ensure adequate funding for each stage in the development of central services.
4. Establish an activity plan including the work breakdown structure, identification of responsible personnel, and detailed time-phasing of each activity.
5. Establish the proper communication channels for interaction among the central services personnel, advisory groups, and librarians.
6. Make sure that there is adequate documentation from each phase.

7. Develop both long and short range goals so that the initial system can evolve through various operational stages toward the implementation of the final system.

#### Feasibility and Specification Phase

The following checklist can be used for establishing preliminary system specifications for each service.

1. Objectives--what the service is supposed to do.
2. Operations--how does the service facility accomplish its objectives.
3. Capacities--constraints, volume of activity, alternative modes of operation, flexibility of the facility to grow and change.
4. Input/Output Requirements--what information flows in and out of the system, how it moves from one central service to another, and what are the requirements for this flow.
5. Interface Requirements--how this service interacts with the rest of the system components.
6. Implementation Plans--the schedule, and associated costs for the implementing of plans for this service.

#### Training, Education, and Public Relations Phase

The purpose of this stage is to acquaint the staff in those libraries which are participating (or potentially partici-



pating) in one or more aspects of the system, with the nature of the service, the requirements for participating, the advantages and potential difficulties, etc. Specific tasks to be accomplished are listed below:

1. Identify the groups who will need training and what the scope of instruction will be for each group.
2. Identify the library groups who will need to be informed about the central services and the network.
3. Develop personnel training programs.
4. Prepare training manuals.
5. Conduct training sessions and education workshops.
6. Establish procedures for libraries and library users to voice reactions (recommendations, commendations, and criticisms) to the services.

#### Development and Implementation Phase

During this stage, the operational capabilities of the service are created. Various tasks to be performed are listed below.

1. Design and produce computer programs.
2. Finalize the design of all forms to be used.
3. Finalize file structures and record formats.

4. Write detailed operating instructions and procedures.
5. Convert files to machine-readable form.
6. Confirm equipment interfaces.
7. Procure equipment.
8. Establish interfaces between groups within each service center and among the services in the network.
9. Install communications links.
10. Test all phases of the system
11. Establish procedures for error reporting.
12. Correct errors in system design and computer programs.
13. Prepare all documentation including system description, procedure manuals, and program descriptions.
14. Establish procedures for phasing into the operational phase.

#### Operational Phase

The facility is operating and providing services to libraries and their users during this phase. Procedures for collecting statistics used in preparing management reports will be implemented during this phase.

#### Maintenance Phase

This phase provides for the continuing review, correction, and improvement of the on-going operational service including the

modification of hardware, software, and procedures.

Figure 5 presents a schedule that can be used in estimating the amount of time required for completing each phase of each service during a 5-year period.

#### FUNDING FOR CENTRAL SERVICES

The funding for various phases of each service can come from local, State, and national sources as outlined in Figure 6. The Division for Library Services should be specifically funded for the management and administration of the Technical Processing and Catalog Production Services as part of its own budget. Since the Department of Public Instruction has the authority to allocate funds under the Library Services and Construction Act (LSCA), it represents an appropriate agency to provide funding of the development and implementation phase for the Technical Processing Center. State and Federal funds should be budgeted for the major commitment of development, training, and implementation costs for the Information Processing and Switching Center. A scale of fees should be established so that the costs of operation and maintenance would be covered by charges to the participating libraries for services provided to them.

Central Service	Year 1	Year 2	Year 3	Year 4	Year 5
Catalog Production Services	← (4) → ↓ ↓	↓	(1) ↓ ↓	(5) ↓ ↓ (3)	(6) ↓ ↓
Central Technical Processing Services	↓ ↓ ↓	(4) ↓ ↓	(1) → ↓	(5) ↓ ↓ (3)	(6) ↓ ↓
Mechanized Information Services	← (2) → ↓ ↓	(4) ↓ ↓	(1) ↓ ↓	(5) ↓ ↓ (3)	(6) ↓ ↓
Online Bibliographic Services		← (2) → ↓	(1) ↓ ↓	(4) ↓ ↓ (3)	(5) ↓ ↓

Figure 5: Proposed Schedule for System Development and Implementation

1 Management      4 Development and Implementation  
 2 Feasibility & Specifications      5 Operational  
 3 Training & Education      6 Maintenance

Phase	Technical Processing Center (Division for Library Services)	Information Processing Center (University of Wisconsin)
Management and Administration	DLS	University of Wisconsin
Specification, Training, Implementation, and Development	LSCA and/or State funds	Federal and/or State funds
Operation & Maintenance	Fees	Fees

Figure 6: Sources of Income for Funding a Statewide Library Network

The following tables provide estimates of the budgets necessary to accomplish the goals of each phase in the four services. Tables 1 through 5 project total costs by year for the four services. Tables 6 through 9 show the costs by service for a five year period. Overhead, is calculated at 57%, including 45% for basic overhead and 12% for benefits.

Phase	Catalog Production	Central Processing	Mechanized Information Services	On-line Services	TOTAL
Mgt.	47,000 (1)	(1)	47,000 (1)		94,000
Feas. & Spec.	(2)	(2)	20,000 (3)		40,000
Educ. & Train.	40,000 (4)	(4)	8,000 (5)		48,000
Dev. & Impl.	10,000 (6)	60,000 (7)	35,000 (8)		105,000
Subtotal	97,000	60,000	110,000		287,000
Overhead	55,300	34,200	62,700		163,600
Subtotal	152,300	94,200	172,700		450,600
Operat.	250,000 (9)				250,000
Maint.					
TOTAL	402,300	94,200	172,700		700,000

Table 1: Estimated Costs for Services during Year 1

Notes:

(1) Management costs are shared for catalog production and central technical processing. The \$47,000 estimate is based on the experience of the Institute of Library Research at UCLA in which the yearly budget roughly divides into the following expenses:

Policy Direction (20% of 25,000)	5,000
Project Management	16,000
Support Staff	10,000
Clerical Staff	6,000
Supplies and Expenses	10,000
Total	\$47,000

- (2) Under the assumption that the results of the present Becker and Hayes study are accepted, the feasibility study and preliminary specifications for the catalog production and technical processing services will have been done. On the other hand, if a re-evaluation is called for or if the Project Management staff wants to establish more detailed specifications, a budget of approximately \$20,000 should be added for year 1.
- (3) Under the assumption that the work done by the Institute of Library Research in their study of the feasibility of "Mechanized Information Services in the University Library" established the general feasibility, all that is needed is a six-month effort (estimated at \$20,000) to establish the specific boundary conditions at the University of Wisconsin.
- (4) This estimate is based on the cost of conducting a program of regional 1-2 day meetings, held at various places throughout the State, at which librarians, library boards and the general public can be made aware of the implications of catalog production and central technical processing services. Each meeting should have a budget of roughly \$2000 as outlined below, and therefore 20 of them would cost \$40,000.

Speakers' fees or honoraria	\$ 600
Travel for staff and speakers	600
Facilities	100
Material for Distribution	300
Publicity	100
Miscellaneous expenses	300
Total	<u>\$2000</u>

- (5) This estimate is based on the experience of the Institute of Library Research in the series of seminars held with library staff and potential users. Each seminar involved a 12-week set of lectures, demonstrations, and work-shops during which the participants learned how the service would affect them. The budget, shown below, covers one such seminar, under the assumption it is held during the second six-months of the year (after the completion of the feasibility study).

Speakers' fees and honoraria	\$1000
Participants' released time (25 participants @ 20% of their time for 12 weeks)	6000
Expenses (computer time, supplies)	1000
Total	<u>\$8000</u>

- (6) Under the assumption that a commercial organization can contract for the operational service of catalog production, the only costs are those for developing an RFP, soliciting bids, and evaluating the proposals.



- (7) Based on the experience at the Institute of Library Research, at ANYLTS, at NELINET, etc., these are the first year costs in the development of the central technical processing services which include the following types of personnel and supply costs:

Systems Analysts (2 @ 12,000)	\$24,000
Programmer	10,000
Librarian	10,000
Clerical Staff (2 @ 6000)	12,000
Supplies	4,000
Total	<u>\$60,000</u>

- (8) Based on the experience at the Institute of Library Research, these are the first six-months' costs for development. Roughly, they divide half and half between computer programming development costs (i.e. producing detailed specifications) and data base experimentation costs:

Programming Staff (3 for 6 months)	\$12,000
Experimentation Staff (3 for 6 months)	12,000
Clerical Staff	2,000
Supplies, expenses, etc. (including computer charges and data base acquisition costs)	8,000
Total	<u>\$35,000</u>

- (9) Assumes the production of 200 copies of one union catalog covering 100,000 titles. The unit cost of \$2.50 per title (as outlined below) includes personnel salaries, direct and indirect supplies, benefits, and overhead. Tasks included in the

production of the union catalog are the tagging, keying, editing, and correction of the catalog entries plus the computer processing, photocomposition, printing, binding, and distribution of the catalogs.



Phase	Catalog Production	Central Processing	Mechanized Information Services	On-line Services	TOTAL
Mgt.	47,000 (1)	(1)	47,000 (1)	47,000 (1)	141,000
Feas. & Spec.				100,000 (2)	100,000
Educ. & Train.	10,000 (3)		16,000 (4)		26,000
Dev. & Impl.		200,000 (5)	170,000 (6)		370,000
Subtotal	57,000	200,000	233,000	147,000	637,000
Overhead	32,500	114,000	132,800	83,000	362,300
Subtotal	89,500	314,000	365,800	230,800	999,300
Operat.	500,000 (7)				500,000
Maint.	30,000 (8)				30,000
TOTAL	619,500	314,000	365,800	230,800	1,529,300

Table 2: Estimated Costs for Services  
during Year 2

Notes:

- (1) See Note 1 in Table 1.
- (2) This estimate is based on the plans at the Institute of Library Research and on the experiences of projects such as those at Colorado and Ohio.
- (3) This cost assumes the continuation of 5 seminars per year each at \$2,000.
- (4) This estimate is based on holding 2 seminars each at \$8,000. (See Note 5 in Table 1).
- (5) This cost, based on the experience at the Institute of Library Research, includes the conversion of some files to machine-readable form.

Systems Analysts (3 @ 12,000)	\$ 36,000
Programmers (3 @ 10,000)	30,000
Clerical Support (2 @ 6,000 4 @ 5,000)	32,000
Supplies and equipment	<u>102,000</u>
Total	\$200,000

- (6) These cost estimates detailed below are based on the experience at the Institute of Library Research for development of mechanized information services.

Project Director	\$ 18,000
Systems Analysts (2 @ 12,000)	24,000
Programmers (6 @ 10,000)	60,000
Librarians (2 @ 10,000)	20,000
Clerical Support (2 @ 6,000)	12,000
Supplies and equipment	25,000
Acquisition of tapes	<u>12,000</u>
Total	\$170,000

- (7) This costs estimate assumes the production of 200 copies of two new union catalogs, each containing about 100,000 titles. Again, the unit cost of \$2.50 per title covers salaries, supplies, and overhead.
- (8) This estimate, which includes overhead, is based on the cost of one technical staff member plus the computer processing time necessary to maintain programs.

Phase	Catalog Production	Central Processing	Mechanized Information Services	On-line Services	TOTAL
Mgt.	47,000 (1)	(1)	47,000 (1)	47,000 (1)	141,000
Feas. & Spec.					
Educ. & Train.	10,000 (2)		8,000 (3)	40,000 (4)	58,000
Dev. & Impl.		200,000 (5)	284,000 (6)	480,000 (7)	1,040,000
Subtotal	57,000	200,000	339,000	567,000	1,109,000
Overhead	32,000	114,000	193,000	323,200	706,200
Subtotal	89,500	314,000	532,000	890,200	1,815,200
Operat.	500,000 (8)	250,000 (9)			750,000
Maint.	30,000 (10)				30,000
TOTAL	619,500	564,000	532,000	890,200	2,595,200

Table 3: Estimated Costs for Services during Year 3

Notes:

- (1) See Note 1 in Table 1.
- (2) This cost assumes a continuation of holding 5 seminars, each costing \$2,000.
- (3) Assumes one seminar in mechanized information services. (See Note 8 in Table 1)
- (4) This estimate is based on the assumption that 20 seminars would be held throughout the year, each at a cost of \$2,000. (See Note 4 for Table 1)
- (5) See Note 5 in Table 2.

- (6) The costs detailed below are based on ILR experience in establishing a Center for Information Services.

Project Director	\$ 18,000
Systems Analysts (4 @ 12,000)	48,000
Programmers (6 @ 10,000)	60,000
Librarians (6 @ 10,000)	60,000
Clerical Support (4 @ 6,000)	24,000
Supplies and equipment	50,000
Acquisition (magnetic tapes)	24,000
Total	<u>\$284,000</u>

- (7) These cost estimates are based on the budget plan from Ohio.
- (8) This cost estimate assumes the production of 200 copies of two new union catalogs, each containing about 100,000 titles. Again, as explained in Note 9 for Table 1, the unit cost of \$2.50 per title covers personnel, supplies, and overhead.
- (9) This estimate is based on processing 150,000 volumes at a unit cost of \$1.67 per volume. This is the average unit cost advertised by ANYLTS for this volume level.
- (10) This estimate, which includes overhead, is based on the cost of one technical staff member plus the computer processing time necessary to maintain programs.

Phase	Catalog Production	Central Processing	Mechanized Information Services	On-line Services	TOTAL
Mgt.	47,000 (1)		47,000 (1)	47,000 (1)	141,000
Feas. & Spec.					
Educ. & Train.	10,000 (2)		8,000 (3)	10,000 (2)	28,000
Dev. & Impl.				480,000 (4)	480,000
Subtotal	57,000		55,000	537,000	649,000
Overhead	32,500		31,400	306,000	369,900
Subtotal	89,500		86,400	843,000	1,018,900
Operat.	500,000 (5)	1,000,000 (6)	606,000 (7)		2,106,000
Maintenance	30,000	100,000	70,000		200,000
TOTAL	619,500	1,100,000	762,400	843,000	2,306,000

Table 4: Estimated Costs for Services during Year 4

Notes:

- (1) See Note 1 for Table 1.
- (2) Based on holding 5 seminars during the year, each at a cost of \$2,000 as outlined in Note 4 for Table 1.
- (3) Based on holding 1 seminar. (See Note 5 in Table 2)
- (4) Based on the experience at ILR and the plans for Ohio.
- (5) Assumes the production of 200 copies of two new union catalogs each containing about 100,000 titles. See Note 9 in Table 1 for a detailed explanation of \$2.50 per title unit cost.
- (6) Assumes the processing of 600,000 volumes at a unit cost of \$1.67 per volume as advertised by ANYLTS.



(7) Based on the experience at ILR, the estimated costs are as follows:

Project Director	\$ 18,000
Systems Analyst	12,000
Programmer	10,000
Computer Operators (2 @ 7,000)	14,000
Librarians (6 @ 10,000)	60,000
Clerical Staff (3 @ 6,000)	18,000
Supplies and equipment (computer)	153,000
Acquisition (200 magnetic tapes @ \$500/tape)	100,000
	<u>385,000</u>
Overhead	221,000
Total	<u>\$606,000</u>

Phase	Catalog Production	Central Processing	Mechanized Information Services	On-line Services	TOTAL
Mgt.	47,000		47,000	47,000	141,000
Feas. & Spec.					
Educ. & Train.	10,000		8,000	10,000	28,000
Dev. & Impl.					
Subtotal	57,000		55,000	57,000	169,000
Overhead	32,500		31,400	32,500	96,400
Subtotal	89,500		86,400	89,500	265,400
Operation	500,000	1,000,000	606,000	800,000	2,906,000
Maintenance	30,000	100,000	70,000		200,000
TOTAL	619,500	1,100,000	762,400	889,500	3,371,400

Table 5: Estimated Costs for Services during Year 5

Note: Costs during Year 5 are the same as those for Year 4 with the exception of development and implementation costs for On-line Bibliographic services which occur only during Year 4.

Phase	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Mgt.*	47,000	47,000	47,000	47,000	47,000	235,000
Feas. & Spec.						
Educ. & Train.	40,000	10,000	10,000	10,000	10,000	80,000
Dev. & Impl.	10,000					10,000
Subtotal	97,000	57,000	57,000	57,000	57,000	325,000
Overhead	55,300	32,500	32,500	32,500	32,500	185,300
Subtotal	152,300	89,500	89,500	89,500	89,500	510,300
Operat.**	250,000	500,000	500,000	500,000	500,000	2,250,000
Maint.		30,000	30,000	30,000	30,000	120,000
TOTAL	402,300	619,500	619,500	619,500	619,500	2,880,300

Table 6: Summary of Estimated Costs  
for Catalog Production Services

Phase	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Mgt.*						
Feas. & Spec.						
Educ. & Train.						
Dev. & Impl.	60,000	200,000	200,000			460,000
Subtotal	60,000	200,000	200,000			460,000
Overhead	34,200	114,000	114,000			262,200
Subtotal	94,200	314,000	314,000			722,200
Operat.**			250,000	1,000,000	1,000,000	2,250,000
Maint.				100,000	100,000	200,000
TOTAL	94,200	314,000	564,000	1,100,000	1,100,000	3,172,200

Table 7: Summary of Estimated Costs for Central  
Technical Processing Services

- \* The management and administrative costs are shared for catalog production and technical processing services.
- \*\* Assumes the production of one union catalog during the first year and two union catalogs during each of the following years.
- \*\*\* Based on processing 150,000 volumes during year 3 and 600,000 volumes during years 4 and 5.

Phase	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Mgt.	47,000	47,000	47,000	47,000	47,000	235,000
Feas. & Spec.	20,000					20,000
Educ. & Train.	8,000	16,000	8,000	8,000	3,000	48,000
Dev. & Impl.	35,000	170,000	284,000			489,000
Subtotal	110,000	233,000	339,000	55,000	55,000	792,000
Overhead	62,700	132,800	193,000	31,400	31,400	451,300
Subtotal	172,700	365,800	532,000	86,400	86,400	1,243,300
Operation				606,000	606,000	1,212,000
Maint.				70,000	70,000	140,000
TOTAL	172,700	365,800	532,000	762,400	762,400	2,595,300

Table 8: Summary of Estimated Costs for Mechanized Information Services

Phase	Year 1	Year 2	Year 3	Year 4	Year 5	TOTAL
Mgt.		47,000	47,000	47,000	47,000	188,000
Feas. & Spec.		100,000				100,000
Educ. & Train.			40,000	10,000	10,000	60,000
Dev. & Impl.			480,000	480,000		960,000
Subtotal		147,000	567,000	537,000	57,000	1,308,000
Overhead		83,800	323,200	306,000	32,500	745,500
Subtotal		230,800	890,200	843,000	89,500	2,053,500
Operat.					800,000	800,000
Maint.						
TOTAL		230,800	890,200	843,000	889,500	2,853,500

Table 9: Summary of Estimated Costs for On-line Bibliographic Services

## PROJECTED BENEFITS

It is unlikely that the cost of developing the entire system can be justified on the basis of direct cost savings. Therefore, a careful analysis must be made of benefits. These include the sharing of resources, the access to larger sources of information, better handling of requests, reduction in duplicate work, and more rapid access to materials. Therefore, at an early point during the development of the system, a full cost/benefit study should be contracted for in order to evaluate the benefits from the services offered, their unit costs, and their future costs.

The following paragraphs enumerate some of the particular benefits that should be gained through implementation of central services in the Knowledge Network. One of the most important benefits to users will be the availability of reference tools such as union and regional book catalogs and union serial lists. In addition, the mechanized information center will offer patrons access to new kinds of information and to various methods of processing data that have previously been unavailable. The on-line bibliographic center will allow users to obtain virtually instant access to the bibliographic resources of the state for research purposes and for decision making.

Benefits to the librarians will include reduced clerical work, quicker processing time, wider access to resources, and a variety of new working tools. Implementing library automation usually increases the amount of clerical work that can be accomplished efficiently and tends to shift the responsibility

of professional librarians away from performance of or supervision of these tasks and toward increased specialization and user contact. The net result is a more appropriate use of existing skills and an environment that is attractive to new library staff.

One of the most important benefits to everyone in the system is the opportunity afforded by computer technology in eventually reducing unit costs for record keeping. By storing information in machine-readable form, it can be used for any number of applications and will not require the retyping or manual reorganization that is currently necessary. Important to management is the benefit that machine-readable data can be automatically processed to provide statistical reports needed for better and more efficient library organization and operation in the future.

Particular benefits for each central service are listed below:

1. Technical Processing Services

- immediate answers to staff and patrons regarding the status of ordered materials (received, awaiting labeling, awaiting cataloging, being cataloged, being bound, etc.)
- development, acceptance, and use of state-wide record formats permits new services such as the preparation of different kinds of accession lists for use by various types of libraries (public, university, specialty, etc.)

- standard accessions information to permit preparation and maintenance of a state-wide catalog of holdings
- better and more accurate accounting of book funds
- clerical work reduction
- provision of data that can be used for vendor performance analysis

2. Catalog Production Service

- more accurate and more current subject authority control files
- multiple listings providing parallel access by catalogers
- specialized listings by subject or type of media
- broader reference capabilities

3. Mechanized Information Services

- improved access to literature in science and technology
- access to socio-economic data for planning and economic projection
- full text for research at university level
- access to CAI materials for public school use

4. On-line Bibliographic Services

- better ordering with the knowledge of other people's ordering habits
- instant access to location of circulated books
- shared cataloging
- access to collection

APPENDIX A. Demographic Characteristics  
Affecting Network Planning

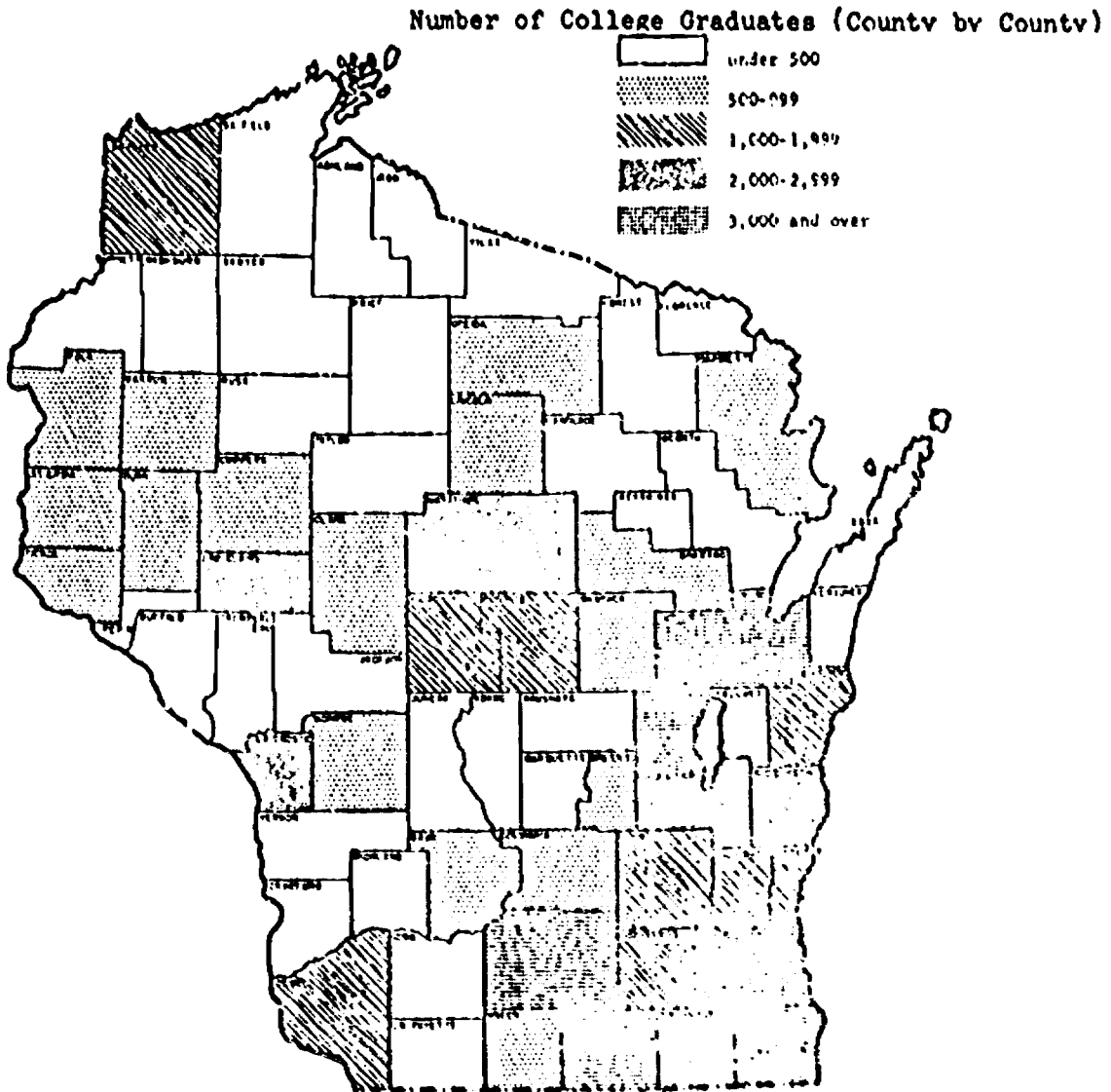


Figure 1--Number of College Graduates in Wisconsin Colleges  
According to U. S. Census for 1960. \*

- \* Figures in this appendix are reproduced from Garrison, Guy. A Statewide Reference Network for Wisconsin Libraries. Library Research Center, Library Research Center, Graduate School of Library Science, University of Illinois, 1964.

Persons in Professional and Technical Occupations (County by County)

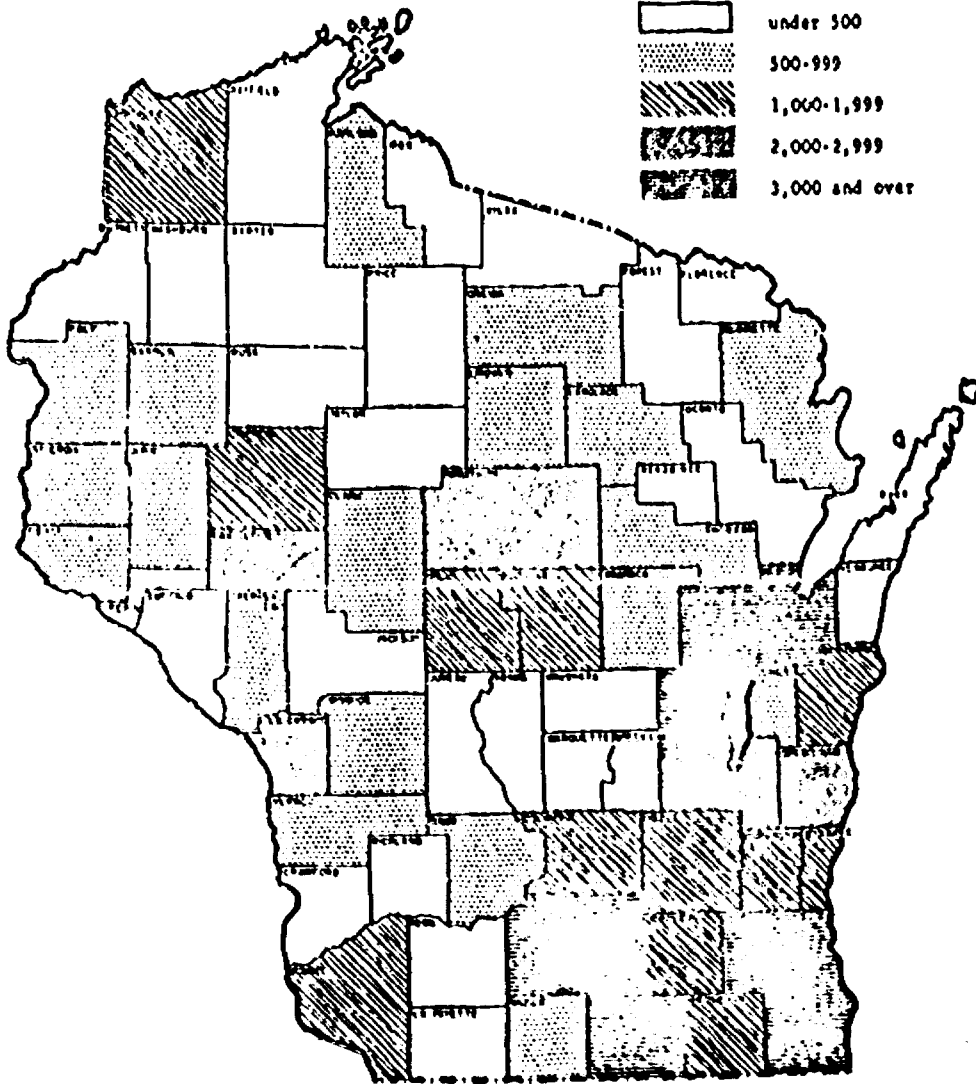
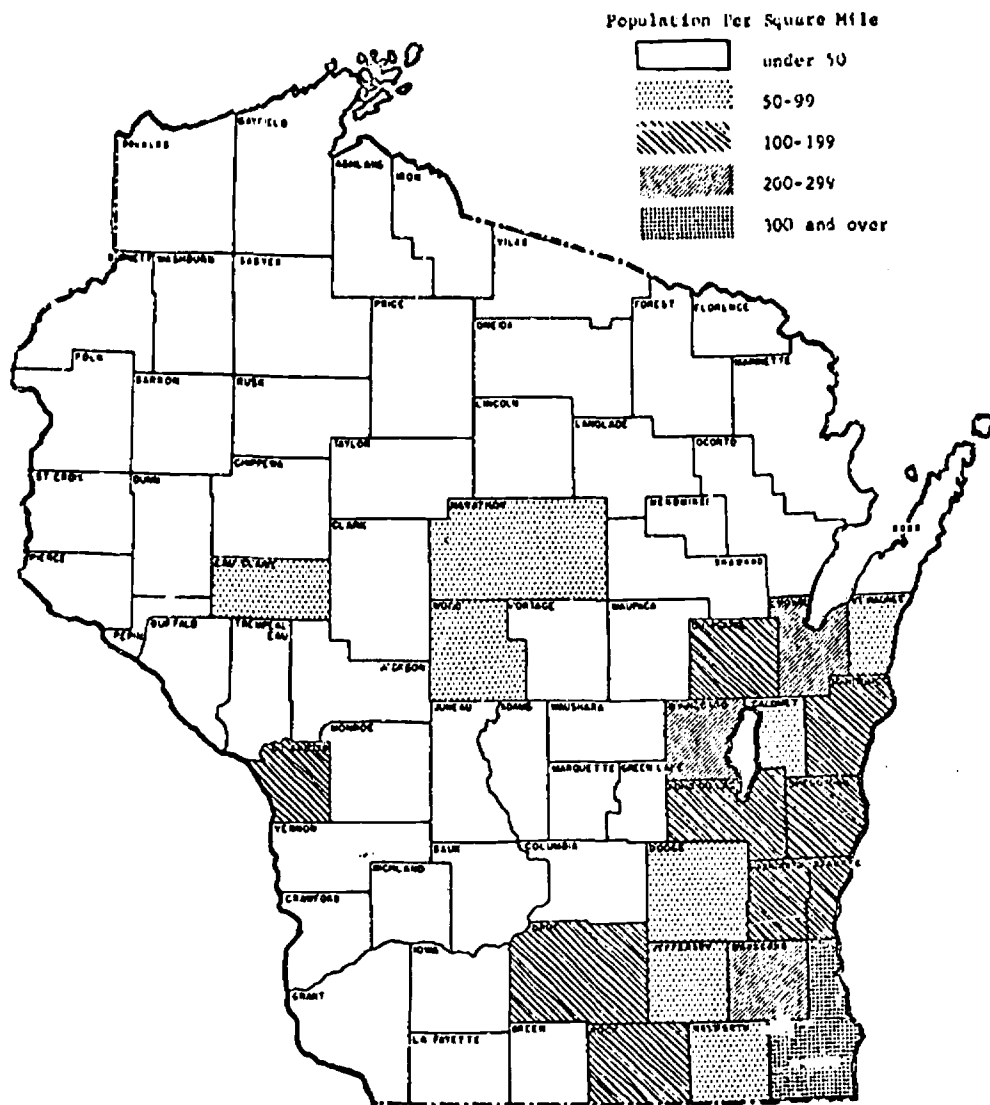


Figure 11--Number of Persons in Technical and Professional Occupations in Wisconsin Counties According to U. S. Census for 1960.





Population Density per Square Mile in Wisconsin Counties According to U. S. Census for 1960.

APPENDIX B

HOLDINGS OF WISCONSIN LIBRARIES

WISCONSIN PUBLIC LIBRARIES 1969  
A STATISTICAL SUMMARY

Population of Wisconsin (1960 census)	3,952,765
served by public libraries	3,669,740
served by library systems	2,752,805
served by non-system libraries	916,935
unserved by public libraries	283,025
 Total number of public libraries	 332
participating in locally financed systems	199
not participating in locally financed systems	133
 Number of bookmobiles operated in 1968	 22
Total volumes held by Wisconsin public libraries	8,784,984
Total public library book circulation	22,088,910
Number of professional (5th year degree) librarians employed	257

\*All public library statistics taken from 1969 edition, "Wisconsin Public Libraries Service Record."

SELECTED STATISTICS-PUBLIC LIBRARIES

COUNTY	POPULATION SERVED	OTHER LIBRARY MATERIALS					
		BOOKS TOTAL VOLUMES	PERIODICALS	SLIDES	MICRO- FILMS	AUDIO UNITS	FILMS
ADAMS	4,510	8,700	23	-	-	86	-
ASHLAND	17,375	104,837	210	823	1,196	1,194	40
BAFRON	34,270	72,047	165	-	-	434	-
BAYFIELD	11,910	18,070	37	-	-	175	-
BROWN	125,082	248,376	456	-	36	2,272	86
BUFFALO	4,262	16,047	50	-	-	-	-
BURNETT	9,214	2,347	1	-	-	-	-
CALUMET	22,268	34,601	126	-	-	162	-
CHIPPEWA	45,096	82,774	203	-	-	258	-
CLARK	31,527	63,668	116	10	-	243	-
COLUMBIA	24,047	88,505	366	-	-	1,007	-
CRAWFORD	16,351	22,743	68	-	-	153	-
DANE	222,095	463,826	1,679	3	1,690	12,802	105
DODGE	64,075	177,697	609	1,995	-	2,898	2
DOOR	20,685	71,745	96	1,480	-	691	57
DOUGLAS	45,008	107,694	273	-	1,216	809	15
DUNN	26,156	40,602	46	-	-	-	-



SELECTED STATISTICS-PUBLIC LIBRARIES

COUNTY	POPULATION SERVED	BOOKS					OTHER LIBRARY MATERIALS				
		TOTAL VOLUMES	PERIODICALS	SLIDES	MICRO-FILMS	AUDIO UNITS	FILMS				
EAU CLAIRE	42,743	111,054	306	190	996	1,817	4				
FOND DU LAC	45,482	168,585	425	97	199	2,003	2				
FOREST	7,542	33,378	156	-	-	-	-				
GRANT	44,419	104,870	276	-	-	108	-				
GREEN	14,241	53,576	195	-	-	100	-				
GREEN LAKE	15,418	51,077	97	36	-	100	-				
IOWA	19,631	29,459	85	-	-	350	-				
IRON	7,830	114,698	38	-	-	141	-				
JACKSON	15,151	19,008	39	-	-	212	-				
JEFFERSON	29,015	106,035	352	-	-	2,986	-				
JUNEAU	17,490	48,912	174	431	-	866	-				
KENOSHA	88,903	193,502	242	-	22	4,274	-				
KEWAUNEE	12,575	33,073	179	1,572	-	397	-				
LA CROSSE	72,465	168,556	355	2,620	49	5,655	202				
LAFAYETTE	18,142	45,343	124	-	-	473	-				
LANGLADE	19,916	46,369	79	-	-	-	-				
LINCOLN	22,338	73,329	164	146	-	783	1				

SELECTED STATISTICS-PUBLIC LIBRARIES

COUNTY	POPULATION SERVED	OTHER LIBRARY MATERIALS						
		BOOKS TOTAL VOLUMES	PERIODICALS	SLIDES	MICRO-FILMS	AUDIO UNITS	FILMS	
MANITOWOC	75,215	169,364	571	527	1,257	4,225	23	
MARATHON	88,764	227,059	735	5,599	45	3,607	925	
MARINETTE	34,660	114,093	240	1,110	-	101	-	
MARQUETTE	1,940	2,169	11	-	-	-	-	
MENOMINEE	2,606	6,169	39	-	-	-	-	
MILWAUKEE	1,036,041	2,470,267	1,189	100	781	6,424	286	
MONROE	31,241	45,223	149	-	-	125	-	
OCONTO	24,849	56,579	116	1,294	-	186	-	
ONEIDA	22,112	49,219	194	435	-	179	-	
OUTAGAMIE	68,632	194,736	553	456	97	1,496	5	
OZAUKEE	30,217	63,603	275	-	-	305	-	
PEPIN	7,332	16,235	58	-	-	-	-	
PIERCE	8,870	42,987	85	-	-	-	-	
POLK	7,650	34,903	368	-	-	571	-	
PORTAGE	36,964	57,009	249	40	-	853	-	
PRICE	4,443	38,066	117	-	-	325	-	
RACINE	147,952	273,416	660	19	21	6,150	513	

SELECTED STATISTICS-PUBLIC LIBRARIES

COUNTY	POPULATION SERVED	OTHER LIBRARY MATERIALS						
		BOOKS	PERIODICALS	SLIDES	MICRO-FILMS	AUDIO UNITS	FILMS	
		TOTAL VOLUMES						
RICHLAND	17,684	24,703	67	-	-	-	-	-
ROCK	113,913	181,812	458	-	5	4,808	70	-
RUSK	14,794	19,565	52	-	-	-	-	-
ST. CROIX	10,735	60,137	135	-	-	237	-	-
SAUK	37,167	102,597	434	55	-	600	-	-
SAWYER	9,475	13,169	32	-	-	140	-	-
SHAWANO	32,006	70,837	93	4,035	-	3,767	40	-
SHEBOYGAN	70,530	219,650	648	869	3,057	3,978	613	-
TAYLOR	17,843	26,020	64	-	-	134	-	-
TREMPERFAU	23,377	45,267	169	-	-	220	-	-
VERNON	25,663	66,367	125	-	-	50	-	-
VILAS	9,332	21,164	6	-	-	365	-	-
WALWORTH	52,368	126,865	574	-	156	1,321	6	-
WASHBURN	10,301	15,691	35	-	-	117	-	-
WASHINGTON	29,770	79,093	283	-	88	1,250	-	-
WAUKESHA	148,617	297,657	1,324	-	109	5,773	649	-
WAUPACA	18,805	70,751	252	-	-	796	-	-

SELECTED STATISTICS--PUBLIC LIBRARIES

COUNTY	POPULATION SERVED	OTHER LIBRARY MATERIALS						
		BOOKS TOTAL VOLUMES	PERIODICALS	SLIDES	MICRO- FILMS	AUDIO UNITS	FILMS	
WAUSHARA	13,497	25,956	53	-	-	60	-	
WINNEBAGO	107,928	317,078	935	-	65	3,654	92	
WOOD	59,105	112,428	391	239	138	1,854	20	



Library Growth 1968-1969  
Public, 4-year Institutions\*

<u>Campus</u>	<u>Holdings 1968</u>	<u>Holdings 1969</u>	<u>Net Gain</u>
Madison	2,012,329	2,159,947	147,618
Milwaukee	375,432	440,045	64,613
Green Bay	20,117	51,485	31,368
Parkside	40,500	60,772	20,272
Eau Claire	159,912	183,791	23,879
La Crosse	168,180	183,163	14,983
Oshkosh	224,200	250,566	26,356
Platteville	144,471	153,787	9,316
River Falls	129,463	155,556	26,093
Stevens Point	160,899	175,957	15,058
Stout	86,207	95,750	9,543
Superior	126,845	135,610	8,765
Whitewater	181,927	210,000	28,073

\* Academic library statistics from Wisconsin CCHE Working Paper #106, September 1969, and supplements

RECOMMENDED MINIMUM HOLDING GOALS-1980  
PUBLIC, 4-YEAR INSTITUTIONS

Madison	3,250,000
Milwaukee	1,250,000
Green Bay	300,000
Parkside	300,000
Eau Claire	550,000
La Crosse	325,000
Oshkosh	600,000
Platteville	250,000
River Falls	250,000
Stevens Point	350,000
Stout	250,000
Superior	300,000
Whitewater	450,000

PUBLIC UNIVERSITIES  
HOLDINGS 1967-68

	Total Volumes	Periodicals	Serials	Reference	Microfilm	A - V	Enrollment	Faculty	Student	Volumes Per Faculty
MSN	2,012,329	16,380	14,717	41,474	13,768	532	33,000	2,368	61/1	850/1
UWM	358,987	3,659	8,903	15,000	13,363	5,904	15,419	882	23/1	407/1
UWGB	20,117	780	20	2,000	4,000	0	--	--	--	--
UWP	40,500	50	50	300	4,000	0	--	--	--	--
EC	159,912	1,503	800	5,433	4,560	5,376	6,296	303	25/1	528/1
LC	168,180	2,007	NA	5,422	3,643	NA	5,111	311	33/1	541/1
O	224,200	1,613	474	21,735	2,136	8,449	9,444	625	24/1	359/1
P	144,471	1,286	953	10,501	7,355	2,413	4,609	285	31/1	507/1
RF	129,463	1,238	228	4,900	1,891	4,048	3,696	250	35/1	518/1
SP	160,899	1,488	650	8,814	3,838	2,057	5,907	396	27/1	406/1
St	86,207	1,037	385	5,582	1,481	NA	3,859	304	22/1	284/1
Su	126,845	971	1,784	4,000	1,068	1,653	3,028	204	42/1	622/1
W	181,927	1,484	644	6,618	3,321	3,989	8,581	583	21/1	312/1
	<u>3,814,037</u>									

Explanation of abbreviations of names:

- MSN - University of Wisconsin-Madison
- UWM - University of Wisconsin-Milwaukee
- UWGB - University of Wisconsin-Green Bay
- UWP - University of Wisconsin-Parkside
- EC - Wisconsin State University-EauClaire
- LC - Wisconsin State University-La Crosse
- O - Wisconsin State University-Oshkosh
- P - Wisconsin State University-Platteville
- RF - Wisconsin State University-River Falls
- SP - Wisconsin State University-Stevens Point
- St - Stout State University
- Su - Wisconsin State University-Superior
- W - Wisconsin State University-Whitewater

VIA LIBRARY RESOURCES AND SUPPORT

	Dist. 4 Madison	Dist. 6 Kenosha	Dist. 7 Racine	Dist. 8 Waukesha	Dist. 10 Fond du Lac	Dist. 10 Beaver Dam	Dist. 11 Manito- woc	Dist. 11 Sheboy- gan	Dist. 12 Appleton	Dist. 12 Oshkosh
Volumes	12,941	5,328	3,007	3,032	5,800	250	1,889	1,569	1,300	2,129
Volumes Added	6,452	—	116	781	1,200	50	117	273	46	429
Volumes Withdrawn	174	—	—	—	100	20	6	8	—	46
<u>A-V Media</u>										
Tapes	38	15	—	—	—	6	35	45	115	—
Films	25	415	—	—	300	16	—	250	231	—
Slides	600	1,200	—	—	50	100	110	—	—	—
Transparencies	1,250	250	—	—	250	5	100	—	70	—
Video Tapes	No	61	—	—	—	—	—	—	—	—
Records	80	45	—	—	—	5	70	—	12	10
Microfilm	470	—	—	—	200	—	—	—	—	—
Serials/Periodicals		254	147	65	130	20	72	163	142	62
Newspapers		17	3	13	30	4	3	12	3	7
Pamphlets		600	1,000	88	500	40	222	200	300	500
<u>Staff</u>										
P.T. Cert. Lib. (Bach)	—	—	—	—	—	—	—	1	—	1
P.T. Cert. Lib. (5 Yr)	1	1	1	—	1	—	—	—	—	—
P.T. Cert. Lib.	1	1	—	1	—	—	1	—	1	—
Student Assist.	10	1	3	2	4	—	—	1	2	1
Library Clerk	3	2	1	—	—	1	—	1	—	—
Budget	25,000	Unknown	18,842	6,000	13,600	9,222	2,100	5,000	3,500	6,500
Books	702	7,390	5,000	6,000	3,000	2,500	1,300	4,000	—	5,000
Non-Books	302	2,000	600	—	9,600	2,500	200	1,000	900	2,500
Year Library Opened	1964	1965	1962	1963	1965	1967	1965	1966	1951	1966
<u>Facilities</u>										
Total Sq. Footage	2,570	6,000	2,739	1,630	2,444	240	840	816	936	1,091

VTA LIBRARY RESOURCES AND SUPPORT (Continued)

	<u>Dist. 13</u>	<u>Dist. 15</u>	<u>Beloit</u>	<u>Zen</u>	<u>Crosse</u>	<u>Milwaukee</u>	<u>Rice Lake</u>	<u>Stevens</u>	<u>Superior</u>	<u>West</u>
	<u>Green Bay</u>	<u>Hausau</u>		<u>Claire</u>	<u>La</u>		<u>Lake</u>	<u>Point</u>		<u>Allis</u>
Volumes Added	3,401	5,100	2,048	5,526	3,110	26,030	1,904	814	--	--
Volumes Withdrawn	733	1,295	469	601	1,110	3,360	448	53	--	--
Volumes Withdrawn	20	--	96	3	36	1,558	45	--	--	--
<u>A-V Media</u>										
Tapes	--	50	--	331	--	--	10	82	--	--
Films	--	5	--	12	--	--	6	8	--	--
Slides	--	200	--	1,155	--	--	50	50	--	--
Transparencies	--	500	--	450	--	--	200	130	--	--
Video Tapes	--	--	--	--	--	--	--	--	--	--
Records	--	40	--	311	--	84	15	70	--	15
Microfilm	--	--	--	--	--	66	--	--	--	--
Serials/Periodicals	125	232	15	266	125	366	77	24	103	--
Newspapers	5	10	4	10	12	5	5	2	23	--
Pamphlets	384	500	--	343	200	400	500	--	567	--
<u>Staff</u>										
F.T. Cert. Lib. (Bach)	1	--	--	1	1	--	--	--	1	--
F.T. Cert. Lib. (5 Yr)	--	1	--	--	--	4	--	--	--	--
F.T. Cert. Lib.	--	--	1	--	1	--	1	--	--	1
Student Assist.	--	7	--	8	2	2	7	--	2	--
Library Clerk	1	--	--	4	--	6	1	--	--	--
Budget	7,250	10,300	5,000	24,738	7,900	65,722	1,480	--	--	--
Books	350	8,000	1,850	22,992	6,000	25,000	1,000	--	3,000	3,100
Non-Books	1,700	2,000	250	1,746	1,200	--	325	--	--	500
Year Library Opened	1966	--	1927	1966	1966	1918	1965	--	1965	--
<u>Facilities</u>										
Total Sq. Footage	1,200	2,400	1,254	10,000	2,120	9,546	1,890	--	1,012	--

PRIVATE COLLEGES AND UNIVERSITIES  
HOLDINGS 1967-68

	Total Volumes	Periodicals	Serials	Reference	Microfilm	A - V Collection	Enrollment	Faculty	Volumes per Student	Volumes per Faculty
Marquette	435,005	6,028	3,055	21,250	11,485	NA	11,322	1,631	38/1	267/1
Alverno	71,580	760	100	3,500	186	NA	1,391	118	51/1	607/1
Beloit	210,000	650	NA	NA	NA	NA	1,563	NA	134/1	NA
Cardinal S.	40,605	415	530	2,348	69	1,346	444	55	91/1	638/1
Carroll	88,111	485	1,275	3,000	837	NA	1,092	88	81/1	1001/1
Dominican	34,400	409	58	2,687	306	883	638	58	54/1	593/1
Edgewood	40,420	384	485	2,873	172	NA	777	66	52/1	612/1
Holy Family	40,264	234	44	4,977	13	3,304	562	49	72/1	822/1
Maxian	37,879	325	375	1,965	411	2,814	716	48	53/1	789/1
Mount Mary	76,487	543	75	3,200	854	3,571	948	86	81/1	889/1
Mt. St. Paul	25,523	362	42	2,000	606	2,300	195	23	131/1	1110/1
Northland	40,918	437	NA	1,200	511	2,163	764	67	54/1	611/1
Ripon	84,104	471	50	3,500	1,095	NA	975	76	86/1	1107/1
St. Norbert	61,491	739	170	NA	8,674	NA	1,561	131	39/1	469/1

Note: Information for private schools includes only those that responded to the CCHE survey.

STATE LIBRARIES

The Service Record presents this picture of the Reference and Loan Library in 1969:

Books:

Total volumes - 115,747  
Titles added, 1969 - 6,442  
Volumes added, 1969 - 7,654  
Total circulation - 43,225

Other Library Materials:

Periodicals, titles currently received - 598  
Microfilms - 2,131  
Audio units - 3,548  
Films - The Division acts as administrator of the Wisconsin Library Film Circuit, a non-profit public library film cooperative of 1200 titles.

The Directory of Special Libraries and Information Centers  
is a convenient source of statistics on the holdings of the remain-  
ing major state supported libraries.

**Legislative Reference Bureau:**

Holdings - 150,000 volumes, including a great number  
of unbound volumes of clippings

Subscriptions - 200 journals

Special collections - Wisconsin session laws, statutes,  
legislative journals and Supreme  
Court reports since 1840; Blue  
Books since 1858; bound volumes  
of legislative bills since 1897;  
state documents

**State Historical Society:**

Holdings - 350,000 books and bound periodical volumes

- 35,000 volumes of newspapers

- 340,000 pamphlets

- 50,000 reels of microfilm

- 125,000 microcards

- 3,500,000 manuscripts

- 15,000 cu.ft. of Wisconsin State Archives

- 250,000 pictures

Subscriptions - 1000 journals

- 315 newspapers

Special collections - Early Northwest; labor history;  
agricultural history

**State Law Library:**

Holdings - 100,000 volumes



## SCHOOL LIBRARIES\*

	Senior High Schools	Junior High Schools	Elementary Schools
Total no. of Schools	430	183	1,944
No. schools with cen- tralized libraries	430	168	606
Total no. of students	248,817	108,900	532,719
No. of students with library services	248,817	105,580	262,441

Senior High Schools	12%
Junior High Schools	16%
Elementary Schools	20%

School libraries with collections meeting at least minimum state standards (in 1960)

\*School statistics from Robert Little's "Status of School Library Resources in Wisconsin" (1967).

## SPECIAL LIBRARIES\*

<u>Region</u>	<u>No. of Special Libraries</u>
Superior	0
Wausau	8
Eau Claire	1
La Crosse	3
Fox Valley	16
Madison	16
Southeast	<u>53</u>
TOTAL	97

## Distribution of special libraries by region

(Garrison notes that nearly all the special libraries have small collections, mostly less than 30,000 volumes)

\*From Garrison's "A Statewide Reference Network for Wisconsin Libraries" (1964)

APPENDIX C

WISCONSIN LIBRARY LAWS

That portion of the Wisconsin State Code of interest to a study of library system formation is Chapter 43, titled "Libraries, Museums, Civic and Community Centers, and Special Uses of Municipal Buildings." The sections of specific interest are the following.

43.09 Library developments; purpose.

"There shall be a program administered through the Department of Public Instruction . . . for the extension and improvement of library services throughout the State." Objectives: (1) organization, improvement and coordination of public and school library services on a state-wide basis; (2) encouragement of local governments and public library boards to cooperate with other local governments to provide more comprehensive library systems; and (3) encouragement of coordination of public and school library services with other library programs of educational agencies.

43.11 Advisory Council on Library Development

"For the purposes of co-ordinating library services and increasing public understanding of, and formulating plans extending library services."

**43.23 Library exchanges**

Exchanges and loans of (1) school books between libraries of different school districts, and (2) of books between free public libraries and school districts.

**43.30 Library extension and interchange**

Gives municipalities the right to make agreements concerning (1) the use of the library to non-residents of the municipality or exchange of books between municipalities; and (3) the levy of sums between municipalities to defray the expenses of (1) and (2).

**43.33 County system of libraries**

"The county board of any county having a population of 150,000 or more may ... establish and maintain a public library system for such county ..." and proportion money from participating municipalities.

In conjunction with the Wisconsin State Code, the State of Wisconsin 1969 Senate Bill 363 and the Senate Amendment to 1969 Senate Bill 363 must be considered, for these revise and recodify sections of the State code pertinent to public and school libraries.

There are three major new provisions in the 1969 Senate Bill 363. These allow:

- (1) County board supervisors to appoint a county planning committee on public library services

"to investigate the potential of a public library system for a county or multi-county library system and submit a plan for library development to the Division for Library Services."

- (2) The establishment of public library systems "to provide services to a single county or 2 or more contiguous counties." It provides for two types of systems; (a) federated system - "contemplates the participating libraries, villages, towns, cities or counties entering into written agreements for public and supporting services to be rendered by a designated headquarters library or other members of the system."
- (b) consolidated system - "public libraries or local or county governments of one or more counties form a single library governed by a library system board."
- (3) The initiation of a series of grants - in-aid "to promote the organization and raise the quality of State libraries."

The Senate Amendment to 1969 Senate Bill 363 primarily contains provisions for the vesting of powers with the boards of single county consolidated and federated public library systems and with multicounty public library systems. Briefly, single

county consolidated system boards will continue to function as county agencies, and both consolidated and federated boards will be bested with the powers given to library boards under Chapter 43 of the Wisconsin State Code.

Multicounty public library systems are to be considered "independent public bodies," with their boards having the power to control the investment, management, and expenditure of all system money and to control its own operation; to contract for purchase materials, sites, and services; and to appoint and assign duties to personnel.

Other revisions to Senate Bill 363 have been recommended by the Wisconsin Library Law Revision Committee of the Legislative Council.

## APPENDIX D

Summary Listing of Machine-Readable Data Bases

## Legend:

G = governmental  
 P = professional  
 C = commercial  
 U = educational

Source	Type of Source	Data Base Used for Publication Purposes	Data Base Used to Offer Information Services	Data Bases Distributed	Computer Programs Offered with the Data Base	Cost (F=free, C=charge)	Distribution (L=limited, U=unlimited, I=internal only)
Air Force Accounting (LITE)	G			x	x	C	U
American Chemical Society (J. of Chem. Doc.)	P	x				C	U
American Geological Institute	P	x		x		C	U
American Institute of Physics	P	x	x	x		C	U
American Petroleum Institute	P	x		x		C	U
American Society for Metals	P	x	x	x	x	C	L
Applied Mechanics Review	P	x					
AEC (Atomic Molecular Proc. Info. Center)	G		x			F	L
AEC (Nuclear Science Abstracts)	G	x	x	x			L
Biosciences Information Service	P	x				C	U
Bonneville Power Administration	G		x				
R. R. Bowker Co.	C	x		x		C	U
British National Bibliography	C-G			x		F	L
Bro Dart, Inc.	C	x				E	I
Bureau of Census	G			x		C	U
Chemical Abstracts Service	P	x		x	x	C	U
Clearinghouse for Federal, Scientific & Technical Information	G	x		x		C	U

Source	Type of Source	Data Base Used for Publication Purposes	Data Base Used to Offer Information Services	Data Bases Distributed	Computer Programs Offered with the Data Base	Cost (F=free, C=charge)	Distribution (L=limited, U=unlimited, I=intermediate)
Computer Software Management & Information Center (COSMIC)	U-G			(small) x	x	C	U
Educational Research Information Center (ERIC)	U-G	x	x	x		C	L
Electronics Properties Information Center (EPIC)	G		x	x	x	C	L
Engineering Index	P	x		x	x	C	U
Engineers Joint Council	P			x	x	C	U
Frost & Sullivan, Inc.	C			x	x	C	U
G. E. Flight Propulsion Division	C		x	x			I
Health Law Center	U			x			
Institute for Scientific Information	C	x		x	x	C	U
International Treaty Information System (University of Washington)	U	x	x				
Library of Congress--Project MARC	G			x	x	C	U
Library of Congress--Project RECON	G	x					
Library of Congress--Subject Headings	G	x		x		C	U
L A County Public Library	G	x		x		C	U
Medical Library Center of New York (union catalog of medical journals)	G	x		x	x	F	L



Source	Type of Source	Data Base Used for Publication Purposes	Data Base Used to Offer Information Services	Data Bases Distributed	Computer Programs Offered with the Data Base	Cost (F=free, C=charge)	Distribution (L=limited, U=unlimited, I=internal only)
National Aeronautics & Space Association (NASA)	G	x		x	x	F	L
National Bureau of Standards (Network of Data Centers)	G	x				F	L
National Library of Medicine MEDLARS	G	x		x		F	L
National Weather Records Center	G			x		C	U
New York Times	C	x					L
Office of Indian Lands Research	G			x			L
Ontario New University Library Project (ONULP)	U	x					
PANDEX	C	x		x	x	C	U
RAND Corporation--Linguistics Department	G-C	x		x		F	L
Science Information Exchange	G		x				
Share Research Corp.	C		x	x	x	C	U
Standard Statistics Corp., Inc. (Stock data)	C			x		C	U
Stanford University--Undergraduate Catalog	U	x		x		C	L
University Microfilms Library Services (DATRIX)	C	x	x			C	U
UCLA "POLCEN" (a Xerox service) Department of Political Science)	U			x			L
USC--McGraw Hill (NICEM)	U-C	x		x			I

## APPENDIX E

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