Maximizing Access, Minimizing Cost
A First Step Toward the Information Access Future

Prepared by:

Shirley K. Baker
Dean of University Libraries
Washington University in St. Louis
baker@wulibs.wustl.edu

and

Mary E. Jackson
Access and Delivery Services Consultant
mary@arl.org

for the

ARL Committee on Access to Information Resources

November 1992
(Revised December 1994)

Copyright 1993 - Shirley K. Baker and Mary E. Jackson

TABLE OF CONTENTS

INTRODUCTION
DEFINITIONS
ASSUMPTIONS
THE CURRENT INTERLIBRARY LOAN ENVIRONMENT
CRITIQUE OF CURRENT INTERLIBRARY LOAN PROCESSES
THE IDEAL SYSTEM
AN IDEAL FINANCIAL TRACKING SYSTEM

AN IDEAL LOCAL INTERLIBRARY LOAN MANAGEMENT SYSTEM

ACTIONS NECESSARY TO MOVE TOWARD THE IDEAL

WHY ARL SHOULD SUPPORT A RESOURCE SHARING PROGRAM

CHARACTERISTICS OF AN ARL MEMBERSHIP-BASED RESOURCE SHARING PROGRAM

---

**Introduction**

"To make access to research resources more efficient and effective" is the second of the Association of Research Libraries' seven strategic program objectives. Attainment of this objective "will help make existing systems and those systems that will be developed more efficient and cost effective." ARL's Committee on Access to Information Resources is charged with carrying out this objective.

The Access Committee in 1991 prepared and discussed with the ARL membership a white paper, The Evolution of Electronic Resource Sharing. From that ensuing discussion, the Committee identified three priority activities, one of which is:

Reconceptualize interlibrary loan and document delivery, employing technology to make it less labor-intensive and identifying cost models for alternative configurations and delivery mechanisms.

The ARL Committee on Access to Information Resources is addressing a range of issues, looking at resource sharing as part of the broader issue of scholarly communication, considering new technologies for production and distribution. The authors of this paper are pursuing a single slice of the larger issues being addressed by the Committee. We argue that, within the Committee's broad and far-reaching discussions, there needs to be an immediate, focussed look at current resource sharing via interlibrary loan, to allow the system to survive until the future arrives. We hope that this paper, by highlighting weaknesses and suggesting improvements in the current system, will stimulate discussion by ARL members that will effect changes in the mindsets of practitioners and administrators and lead to improvements in the current ILL structure and the establishment of an ARL membership-based resource sharing program.

We observe that the demand from our library patrons for quality resource sharing is clearly evident and real. We recognize that significant improvements have been made to the traditional interlibrary loan system in the past decade. The introduction of electronic messaging systems such as OCLC, RLIN, WLN, and Docline; the installation and increasing use of fax machines for the delivery of copies of journal articles; and the decreases in overall turnaround time enjoyed by many ILL departments are coupled with the dedication of interlibrary loan staff to meet the increasing demands for their services.

However, in spite of these improvements, the current system has a number of serious weaknesses. We must take responsibility for short-range improvements as well as longer-range, visionary solutions. We must find ways to reflect the effects of positive resource sharing programs in the ratings of the quality of libraries. We must, as librarians, take a leadership role in making resource sharing work for the success of our enterprise within our universities. By focussing the attention of ARL on the future of library access and delivery services, centered on interlibrary loan, and making them central rather than marginal services, we can do that effectively.

**Definitions**
The term "interlibrary loan" no longer reflects the activities being performed. "Interlibrary" does not always apply: "library to library" interactions exist alongside interactions with a variety of non-library suppliers of information and materials. "Loan" is an inaccurate term for the supply of photocopies and for document delivery services, where copies are sent out without expectation of return. Thus, the services offered by "interlibrary loan" departments need to be renamed. However, in our discussions, we have not found the perfect name. Thus, in this paper, we use "interlibrary loan" in a generic sense, knowing that "interlibrary loan" departments provide traditional loans of materials and act as document delivery facilitators. The following definitions reflect the use in this paper of related terms.

**DOCUMENT DELIVERY SERVICE**
The provision of documents, published or unpublished, in hard copy or microform, at an established cost upon request, not including the on-campus delivery of documents to patrons' offices.

**DOCUMENT SUPPLIER**
A person or organization which provides copies of articles, books, or other information, whether free, at cost, or for profit.

**INTERLIBRARY LOAN (ILL)**
A transaction in which, upon request, one library lends an item from its collections, or furnishes a copy of the item, to another library not under the same administration or on the same campus.

**RESOURCE SHARING**
Activities engaged in by libraries for the purpose of improving access to and delivery of the holdings of other libraries or information providers. Resource sharing may be established by informal or formal agreements or by contract and may operate locally, regionally, nationally, or internationally.

**Assumptions**

Interlibrary borrowing - access to materials outside the collections of the library - is, like reference and circulation, one of the basic services libraries provide for their patrons. Access to and delivery of information outside the local collections are even more important now, because libraries are becoming less and less self-sufficient. Purchasing power is shrinking, the volume of publication is exploding, while faculty and student need for access to the broadest range of information increases. Even the largest libraries are no longer able to provide, on-site, everything their users need. Therefore, the volume in interlibrary borrowing and lending can be expected to continue to rise, and services must be revamped or designed to deal with the rising needs for access to information outside the local library.

Resource sharing is increasingly important for ARL libraries individually and as a group. Between 1981 and 1992 lending by ARL libraries has grown 52% and borrowing has grown 108%. Although local and regional reciprocal agreements continue to be important, borrowing and lending among ARL libraries mirrors the explosion in interlibrary loan activity nationwide.

Since 1981, while ARL libraries' materials budgets increased 244%, collections grew by only 12%. The average cost of a book has risen 49%, the cost of a journal 105%. Since 1971, the average cost of borrowing an item has risen from $7.61 to $19, the cost of lending from $5.82 to $11.

Historically, interlibrary lending and borrowing have been considered an obligation among libraries, a sort of pact to fill the reasonable requests of others in exchange for having one's own requests filled by other libraries. Increasingly, interlibrary loan is seen less as a nicety and more as an essential service libraries provide for their users, with a concomitant obligation to lend for the users of other libraries. Without willing and able lenders, borrowing cannot happen, at least in the present and the near future. Many libraries accept their roles as lenders with reluctance and must be assured that their portion of the lending load is equitable or reimbursed.
As the online catalogs of libraries of all sizes become accessible through national networks, the lending burden will continue to shift. Experience with the OCLC interlibrary loan system has shown that the effect of the union catalog and loan systems has been to increase the volume of lending by smaller libraries, which are often able to respond to requests more quickly than can large, complex research libraries.

As libraries are less able to support all the needs of their local users, cooperative collection development becomes imperative. However, cooperative collection development initiatives cannot be successful without effective interlibrary loan. Pressures upon the current interlibrary loan infrastructure are such that the infrastructure is in danger of, or has already begun fracturing. Without significant changes in the current system, cooperative collection development initiatives cannot succeed in their intentions.

Our current system has achieved notable and even heroic successes. One interlibrary loan unit produces - in twenty minutes - the article needed by a professor for his next class. One library regains the confidence of its scientists by demonstrating the library can, using document delivery services, deliver articles from journals not in the collection, within days and often within hours. An interlibrary loan unit bends policy and lends an archival copy of a dissertation for use in a plagiarism case. And, all of our interlibrary loan units, in the last decade, have been successful in integrating technology into their operations and absorbing enormous increases in workload without comparable increases in staff.

Nonetheless, the current system cannot continue to absorb infinite demand and, increasingly, cannot meet our needs. Many patrons, dissatisfied with the limitations of our interlibrary loan services, avoid using them if possible. Access to information from outside the libraries is not assured. The timeliness of service is not adequate for most scientists and many other scholars. The unpredictability of timeliness is a problem for all our interlibrary loan users. Costs charged by other libraries are often passed on to users. Charges seem arbitrary; a patron may pay $7.50 for a one-page article obtained from one library and $1.00 for a twenty-page article obtained from another. Many of us have heard from users annoyed at having to pay for access to materials they need while the shelves appear to be full of materials they don't need, but for which the libraries have paid.

It is our opinion that the current system is reaching the breaking point and needs reexamination and redesign. It is also our opinion that an updated system could carry more traffic with existing staffing. It can do this with a rethinking of local processes, substitution of user-initiated activity for same current staff- and paper-intensive functions, integration of alternative suppliers into the interlibrary loan stream, and innovative uses of technology. The effectiveness of resource sharing will be a critical success factor for libraries in the coming decade. It is our opinion that many interlibrary loan units and individual libraries lack the resources to make the changes necessary for that success. Success can only be achieved by libraries acting in concert, in a national effort.

ARL libraries form a significant and influential portion of the national library base. They are dependent upon each other for resource sharing. As stated above, we fill many of our borrowing needs from the collections of other ARL libraries. Some proposals for how ARL libraries might act in concert to improve and increase resource sharing capacity are included in this paper.

The Current Interlibrary Loan Environment

The interlibrary loan process has seen many improvements over the past decade. The introduction of electronic messaging systems (OCLC, RLIN, WLN) and increased use of fax and new electronic imaging systems for journal article delivery have streamlined parts of the process. However, the volume of activity has increased dramatically, negating some of the positive effects of these improvements.

The existing process is described briefly. While this can only be an overview, it serves as a benchmark against which the current system can be critiqued as well as a baseline to measure an improved, ideal interlibrary loan system.
The interlibrary loan process consists of these functions:

- document identification
- lender choice
- request submission
- request management
- document retrieval
- document transfer.

Document identification begins with the patron finding a citation to an item. Citations can now be found in the patron's reading, in print reference tools, in CD-ROM databases, and in journal indexes mounted on local catalogs or searched remotely. Once it is determined that the item is not available in the local collection, the interlibrary loan department verifies the correctness of the bibliographic citation by searching OCLC, RLIN, WLN, and other electronic and print tools. For many ARL libraries 80-95% of document requests can be verified and locations identified by searching one of the bibliographic utility databases.

Request submission often occurs at the same time the citation is verified. The creation of an interlibrary loan request from the bibliographic record is easy when searching the bibliographic utilities with interlibrary loan messaging systems. The management of the in-process request is also facilitated by use of messaging systems. Choice of lender is determined by interlibrary loan staff based on availability of holdings information, local and national consortial arrangements, other libraries' charging or coupon policies, knowledge about speed of other libraries' responses, and desire to spread requests around among possible lenders. This is a process which becomes more complex daily.

Managing the process - invoice creation, overdues, mailing addresses, statistics - has also been aided by the development of commercial software packages such as SAVEIT or Brigham Young University's "Patron Request System". However, the usefulness of these software packages is limited by the lack of support of multiple electronic messaging systems and single activity focus (either lending or borrowing). Creating invoices and paying invoices from other libraries is often a time-consuming part of the interlibrary loan process. It is not unusual for an individual library to pay thousands of individual invoices in a year, some for as little as a dollar and most averaging $8-12 per invoice. Some libraries have automated parts of this process, protecting their university accounting systems from so many small invoices; others simply pass them through the university system.

Document retrieval for lenders remains problematic. Lending libraries must search local online and card catalogs for ownership and holdings. Physical retrieval of material is complicated for those libraries with multiple departmental libraries and/or storage facilities with less than adequate intracampus delivery systems.

Document transfer has been improved for copies of journal articles. While first class mail is still used for delivery of the majority of journal article requests, faxing articles has become quite common. Many libraries, however, use fax only for rush requests. New electronic document transmission systems using the Internet offer significant improvements to journal article delivery. For the delivery of books and other returnable materials, some organizations and states have developed physical delivery systems or contract with UPS or similar carriers. The majority of returnable materials are, however, sent via fourth class (library) rate, which can be slow and quite unpredictable.

There are several new options being used to meet the information needs of our patrons. Commercial and fee-based document suppliers are being used by many traditional interlibrary loan departments in lieu of sending requests to other ILL departments. Use of these two options is often motivated by a desire to guarantee timely delivery. Also, some libraries are installing full-text databases on local catalogs or making available electronically-published journals. While these two options are generally not considered interlibrary loan in the traditional sense, they offer immediacy for our patrons. Use of these options has the potential of minimizing increases in traditional interlibrary loan.
Critique of Current Interlibrary Loan Processes

Incomplete holdings information in the national databases hinders identification of preferred potential lenders. Lack of volume-specific holdings for serials, few online records for older materials, untimely uploading of local cataloging, and catalog maintenance only done locally are things which slow down the interlibrary loan process. Technical and budgetary needs often set priorities not supportive of resource sharing needs.

Charging or paying for loans or photocopies involves multiple invoices, different payment requirements (coupons, money up-front, quarterly billing, billing with material, surprise billing) and result in a multiplicity of reciprocal agreements to avoid such invoices.

Staffing levels have increased much more slowly than interlibrary loan traffic. Interlibrary loan staffing rose less than 15% during the past five years, while traffic rose 45% or more. The median ARL library dedicates 2-3% of its staff to interlibrary loan.

The system is clogged with badly-prepared or improperly-handled requests, which reduce resource sharing timeliness. This is primarily the result of lack of detailed, standardized, easily-available training for interlibrary loan staff in libraries of all sizes. Few libraries have the critical mass of staff to build an on-going, self-maintaining body of expertise, as is done in reference, circulation, or cataloging. The pace of change makes knowledge obsolete quickly, and the sheer volume of work discourages systematic training.

Interlibrary loan procedures and systems appear to be designed to support resource sharing, but, in fact, policies and practices may limit cooperation.

Multiple interlibrary loan messaging systems exist, without interfaces among them.

The system is library-to-library. The ultimate goals include end-user-to- supplier and library-to-most-cost-effective-supplier.

Current systems, primarily because of a lack of data on cost-effectiveness, rely heavily on other libraries as suppliers rather than on the most cost-effective supplier.

Current systems provide minimal support for optimal lender selection - considering speed, special arrangements, delivery options, load levelling - and therefore require high levels of staff to make the selection.

Current systems only partially support good internal management of interlibrary loan, especially when a units uses (as is common) a multiplicity of interlibrary loan systems. Current systems do not provide useful statistics gathering and analysis, accumulation of collection development data, elimination of paper files.

The unreliability of current delivery systems - which range from 4th class mail to transmission over the Internet - coupled with the absence of effective delivery options, result in an inability to predict turn-around time accurately.

Lack of uniform access to and use of the technologies of messaging systems, fax, electronic document transmission systems, and interlibrary loan management software, encourages libraries to choose lenders according to matching technology rather than other, perhaps more pertinent, criteria.

The Ideal System

The "ideal" is a system which furthers patron self-sufficiency by supporting patron-initiated document
requests, with the products (books, articles, videos...) going quickly, directly, and reliably to the patron. Requests are routed to the most cost effective alternative, whether it is a library, a document supplier such as CARL or UMI, or another as-yet-unknown and perhaps electronic source. Cost effective alternatives are assured by a competitive environment.

Fees for a university's community would be absorbed by the "library" or its replacement and be part of the university's information budget, which includes provision for purchasing traditional materials, licensing data and electronic publications, and borrowing or purchasing information for patrons. Non-profit net "lenders" could be compensated in some way by net "borrowers."

In the ideal system, resource sharing is a central rather than a marginal service. Patrons are encouraged to use resource sharing services, through placement and advertisement of the services and through guaranteed timely filling of their needs. Resource sharing staff are more productive because significant parts of the resource sharing efforts are taken on by patrons and by library-designed technological links and filters. Local online catalogs will, if a patron searches for an item lacking locally, provide the option of a search of other sources of supply (national bibliographic utilities or commercial suppliers), with the forwarding of a request to obtain the item either to the library's resource sharing staff or directly to the supplier, with billing and management information captured for local system handling.

Resource sharing is a cost to the library rather than the patron and equal to reference, acquisitions, cataloging - services historically provided at no cost to the patron. No library feels exploited by others. Ranking of ARL libraries reflects the effects of resource sharing on service to local patrons and on support of scholarship world-wide. Authors and publishers are fairly paid for their works.

Financial tracking and local request management in the ideal system are described in the following sections of this paper.

**An Ideal Financial Tracking System**

Interlibrary loan practitioners cite billing and payment as an area ripe for improvement and one which has possibilities for savings in staff time. As more libraries charge for supplying photocopies and filling loan requests, the number of billing and payment methods multiplies. The variety of billing methods (invoice sent with material, invoice sent separately, monthly or less-frequent invoices, "surprise" invoices) is surpassed only by the number of payment methods accepted (lending library coupon, any library's coupon, any consortial coupon, cash, personal checks, institutional checks, postage stamps, prepaid request forms, deposit accounts). The ideal financial system, to meet the varied needs of libraries, must provide for flexibility in setting fees and collecting payments while eliminating transaction-based invoicing. An ideal system would have the following components:

- Is part of all the utilities' (OCLC, RLIN, and WLN's) electronic interlibrary loan systems.
- Counts transactions the same way on all utilities, with data being supplied by each utility to a central source (ARL, or to one of the utilities) for annual calculations.
- Allows a library to set its own charges for supplying loans and copies, including a choice of no charges.
- If charges are set, encourages flat-rate charging for both loans and photocopies, based on average cost data from periodic costs studies.
- Accommodates local, regional, or consortial no-charge agreements. Such traffic would be exempt from any net lender-net borrower calculations.
- Reports activity by month, quarter, and year-to-date. Permits interlibrary loan managers to view
balances on a library-to-library basis.

- Tallies annual net lenders and net borrowers on a library-to-library basis. Supports a "good will" threshold that recognizes the importance of sharing materials among ARL-member libraries.

- Issues minimum number of invoices (one statement/invoice per trading partner, with money paid by net borrower directly to net lender, or, better still, one invoice to each net borrower and one payment to each net lender).

**An Ideal Local Interlibrary Loan Management System**

Local management of interlibrary loan depends upon a combination of paper-based systems, one or more of the bibliographic utilities' interlibrary loan systems, and often purchased software packages for tracking some functions. It is common for a request to move from print to online to print to online several times before fulfillment. A comprehensive local interlibrary loan management system would allow for the electronic management of all requests, from initiation to final counting. Functions that an ideal local management system should include are:

- From a patron's unsuccessful search of the local online catalog, provides electronic prompting for a search of library-determined bibliographic utilities and document suppliers.

- Connects to the bibliographic utility or document supplier for the search and captures the critical information, either for direct submission of the request (with verification of the patron's status from the local system, lender choice made according to the library's predetermined criteria, and billing and statistical information recorded appropriately) or for review by local resource sharing staff before submission.

- Uses patron data already captured in the library's patron files.

- Captures in the local patron record the information on items borrowed which need to be returned and provides overdue notice and fine functions by the local circulation system, according to policies determined for resource sharing.

- Provides the option of communicating with patrons and other libraries electronically or via print.

- Provides the opportunity to enter requests into the system which do not originate from an electronic source and to handle and track those requests.

**Actions Necessary to Move Toward the Ideal**

I. Rethink the components and organization of the service which provides access to and delivery of information from outside the local library.

   A. Collect the additional data needed to support cost-effective decisions on alternatives.

      1. Enhance the ARL/RLG cost study to compare the cost of borrowing or lending a book and the cost of obtaining or supplying a photocopy.
         
         Time: Immediately, one week duration
         
         Effort: Low
         
         Cost: Low
         
         Who: Individual investigator
2. Investigate the cost of getting articles from commercial document suppliers compared to getting articles from other libraries through interlibrary loan.
   Time: Immediately, one week duration
   Effort: Low
   Cost: Low
   Who: Individual investigator

3. Study alternatives to current delivery and transmission systems and recommend optimal configuration, factoring cost, speed, and reliability.
   Time: Immediately, ? duration
   Effort: Moderate
   Cost: Low
   Who: Individual investigator

B. Bring together a small group of practitioners, administrators, and facilitators, with the goals of 1) creating an evaluation tool for deconstructing interlibrary loan and reassembling a Document Delivery/Interlibrary Loan department to facilitate handling increased volume at lower cost with improved patron satisfaction and, 2) devising dissemination and implementation strategies for the evaluation tool.
   Time: 1993
   Effort: Moderate
   Cost: Moderate
   Who: ?

C. Develop a model training program (following the ALA/RASD ILL Committee's guidelines) which could be used in ARL libraries and which ARL libraries could promote to their non-ARL lending partners.
   Time: 1993
   Effort: Moderate
   Cost: Low
   Who: ?

D. Expand the discussion of copyright, linking with other library and information groups addressing the issue and with the publishing community, to include a rethinking of copyright as it applies to interlibrary copy transactions, especially of journal articles generated and stored electronically.
   Time: 1993
   Effort: Moderate
   Cost: Low
   Who: ?

II. Pursue with vendors the incorporation into existing interlibrary loan messaging systems the following capabilities:
   1. Automatic choice of lenders based on ownership, and volume of lending, with the goal of equitable distribution of lending (modified Docline model).
   2. Detailed tracking and regular reporting of lending and borrowing relationships to support decisions on lending partners and the replacement of transaction-based billing with periodic (annual?) billing by institutions which charge.
3. Collection and reporting of collection development information as desired by the ARL Research Resources Committee.
   Time: Soon, several months duration
   Effort: High
   Cost: Moderate
   Who: Vendors, utilities

III. Support the development of a comprehensive local interlibrary loan management system.
   Time: Immediately
   Effort: Moderate to high
   Cost: Moderate to high
   Who: Vendors, utilities, software developers, interlibrary loan practitioners

IV. Establish agreement on an ARL membership-based resource sharing program which includes performance measures, expedited delivery, and liberal interpretation of lending policies.
   Time: Immediately
   Effort: Low
   Cost: Low
   Who: ARL Access to Research Resources Committee

Why ARL Should Support a Resource Sharing Program

The growing commitment of ARL libraries' to access as well as ownership requires attention to resource sharing. The ARL statistics show that access is becoming a larger and larger part of our operations and is fast becoming an issue requiring the close attention of directors. As revision of cataloging code and the automation of the catalog were issues requiring the attention of ARL directors in the 1970's and '80's, so now resource sharing has become a key issue for ARL.

ARL libraries, because of their rich and unique collections, are important resource sharing partners for each other and for all libraries in North America. The more than half a billion titles held by ARL libraries are a rich resource. While ARL libraries have important local and regional consortial arrangements, they also depend upon each other as significant borrowing partners.

The current interlibrary lending program is strained to its limits at a time when financial resources are increasingly strained. The authors of this paper believe that, with an effectively managed resource sharing program, libraries, with minimal increases in resources, can do more to cope with the growing volume of borrowing and lending.

ARL libraries would benefit from the establishment of an interlibrary/document delivery system that expedites services among participating libraries, reimburses net lenders, defines performance measures for service delivery, and supports more cooperative collection development initiatives.

ARL libraries, acting together, have the influence to bring about positive changes in resource sharing in North America. They can influence the bibliographic utilities and library system vendors whose cooperation is necessary for change of local operating procedures. ARL has the wherewithal (OMS, committee structure, access to CLR) to analyze situations, make recommendations on improvements, and monitor implementation of new programs.

Characteristics of an ARL Membership-Based Resource Sharing Program
Note: The items below should be part of a flexible, cost-effective resource sharing program. This list, while not comprehensive, covers the key elements.

- Resource sharing activities in ARL libraries planned and executed in a coordinated, mutually supporting manner, with a clear definition of responsibilities of borrowers and lenders, and including both loan requests and photocopies.

- Load levelling, to protect the largest libraries, to share responsibility among libraries of all sizes, and to improve response time.

- An electronic tracking system and annual accounting to facilitate periodic rather than transaction-based billing for libraries that charge.

- Arrangements with non-library document suppliers negotiated as a group, with block prices for a guaranteed level of use.

- Realistic performance goals which may include turn-around time and perhaps fill rate for requests.

- Selection of potential lenders continuing to be based on locally-defined criteria.

- Delivery between ARL libraries by the fastest and most cost-effective system, with agreement on a minimal level of technology (perhaps fax) and including increased use of the Internet for transmission of articles.

- Lending policies interpreted liberally, since without the ability to lend and borrow broadly, the virtual library will be impossible.

- Local interlibrary loan structures which support these new efforts rather than past practice.

- Effective management data to monitor and improve the program.

- Continual testing, evaluation, and implementation of technologies which advance resource sharing.

- Based on the principles now being outlines in the revision of the National Interlibrary Loan Code.

### ARL COMMITTEE ON ACCESS TO INFORMATION RESOURCES

Nancy Eaton, Iowa State University, Chair  
Shirley K. Baker, Washington University  
Susan Brynteson, University of Delaware  
Paul Fasana, New York Public Library  
Malcolm Getz, Vanderbilt University  
William G. Potter, University of Georgia  
Martin Runkle, University of Chicago  
Marianne Scott, National Library of Canada  
Gloria Werner, University of California, Los Angeles  
Sarah Thomas, Library of Congress Liaison

ARL Staff Contact: [Jaia Barrett](mailto:Jaia.Barrett@arl.org)