STRATEGIC AND FACILITIES MASTER PLAN

University Libraries
University of Washington
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I. STRATEGIC PLAN

A. Executive Summary

Strategic planning became a formal process for the University Libraries in 1991, with the involvement of all levels of staff as well as users of the Libraries in that Plan. The second major Strategic Plan was written in 1995, with an update in 1996, and we are now working through the goals set in this Plan. In 1998 we will undertake another update of the Plan.

The Vision Statement below sets the framework for the University Libraries' strategic planning process:

- We envision a user-centered library in which quality services and user satisfaction are goals recognized and shared by all staff.

- We are committed to relevant and individualized service; enhancing lifelong learning, stimulating critical thinking, and promoting innovative research and teaching.

- We envision the University Libraries to be a leader in information management and in the creative use of new technologies.

- The University Libraries will remain an open and inviting place, recognized for providing and protecting an intellectually rich environment.

The purpose of the Strategic Plan is to affirm the vision and mission of the University Libraries and to identify the strategic direction and critical areas needing attention. The goals and objectives in the Plan have evolved from and are interwoven with the regular tasks which are required to fulfill the Libraries' mission.

The University Libraries' five strategic goals are:

1. Enhance and strengthen services based on user needs.

2. Expand and enhance access to and retrieval and delivery of information resources based on user needs.

3. Strengthen human resources.

4. Provide effective and flexible organizational infrastructure.

5. Improve facilities for users, staff, and collections to support Libraries goals and objectives.

Two initiatives were articulated in the 1996 update of our Plan:

1. Develop and enhance collaborative efforts with individuals and groups to achieve strategic goals.

2. Develop a Libraries approach for the University Initiatives Fund.

B. Academic Mission

The mission of the University Libraries is to improve the educational, research, and service programs of the University through the dissemination of knowledge. The Libraries acquires, manages, and promotes the creation and use of knowledge in an atmosphere where information and ideas are readily accessible and freely exchanged.

1. Role of the University Libraries within the University.

The University Libraries provides support for the research, instructional, and service activities of all faculty, students, and staff of the University of Washington. It works with each academic program to acquire, catalog, and preserve collections in all physical formats (print, microform, multimedia, and electronic) and to provide access to information resources which may be located at places throughout the world. The Libraries provides reference assistance and, increasingly instruction for users in techniques for accessing and evaluating information resources. The Libraries recruits and develops a highly skilled staff who participate in a variety of ways in the intellectual life of the University, and who play an active role in University affairs.

The Libraries fulfills its mission by providing a broad array of traditional library services, including reference service, user instruction, circulation and reserves. At the same time, it is making the transition to the electronic environment. With special funding from the University and essential support from Computing & Communications, the Libraries has implemented new systems and provides public terminals, online information resources, and a gateway to the world-wide network via the World Wide Web, UWIN and WILLOW. UWIN and WILLOW were developed in the first half of the decade and have been extremely successful in linking both onsite and remote users with online information resources available through the University Libraries. Within the next year, the Libraries will begin utilizing the World Wide Web as its primary information gateway.

During the 1990's, the University Libraries has become an information and services-centered library, while at the same time maintaining the importance of its traditional collections. This dual effort is having a profound impact on the services the Libraries can offer and which are demanded by our users. Librarians now offer knowledge management instruction to students and faculty and are much more engaged in offering advice on search strategies and management of personal information resources. Traditional reference desk activities and staffing patterns are changing as well. Because of complex information resources, the Libraries must provide more documentation and written instruction, and help screens for users. The Libraries now offers training in methods to evaluate Web resources. In addition, the Libraries is more often interacting with patrons electronically and has begun to establish a full range of online services, including reference, circulation notices, and placement of holds.

The University Libraries participated in the creation of the1994 pilot project which soon became known as the UWired Program. A cooperative venture by Undergraduate Education, Computing & Communications, Educational Outreach, and the University Libraries, the initial focus of UWired was on integrating information literacy and information technology into the course curriculum for entering freshmen. By the end of the 1995-96 academic year, the Odegaard Undergraduate Library had provided the location for three UWired Collaboratories (electronic classrooms designed for collaboration) for students, and the Center for Teaching, Learning, and Technology for faculty, TA's and librarians. The UWired Program has expanded throughout the

University curriculum, and librarians are active partners in building information literacy components into key courses in all departments. UWired expands and changes each year to encompass more of the educational and outreach aims of the University, and the Libraries continues to be involved in the planning and implementation of each facet of the Program.

A series of statistics demonstrates the work the Libraries performs in pursuit of its goals. On a daily basis approximately:

> 25,000 people enter the Libraries' facilities
> 4,120 books and journals are checked out
> 6,000 books and journals are used in the Libraries
> 7,440 electronic searches are done on Libraries databases
> 3,890 hits are recorded on the Libraries home page on the Web
> 29,000 paper photocopies are made
> 850 photocopies are made from microfilm
> 2,300 reference questions are answered in person, over the phone, or by e-mail
> 5 instruction sessions are provided
> 240 books are loaned to other libraries
> 200 volumes are acquired
> 300 titles are cataloged
> 620 new serial issues are checked in
> 110 items are sent to the bindery
> 615 bibliographic records are added to the database

In addition, the approximately 30 group study rooms which are located in 5 libraries are always in demand whenever these libraries are open. Over 450 public terminals throughout the University Libraries are constantly in use during open hours. Units such as the Microforms-Newspapers Collection consistently have 20 to 40 library users using their unique materials from the moment they open until closing time.

2. Role of the University Libraries in the region.

Beyond its commitment to the primary users of the University Libraries (the students, faculty, and staff of the University of Washington), the Libraries makes an important contribution to the citizens of the region. As the largest research library in the Pacific Northwest, the University Libraries shares its collections and the expertise of the librarians on its staff. Anyone may come to the Libraries and make use of the extensive collections onsite. A survey taken in 1996 revealed that more than 10,000 visits per week to the University Libraries were from those not affiliated with the University of Washington. Through the Libraries Resources Sharing Service, anyone in the State and beyond can request that their own library borrow books and journal articles from the University Libraries collections.

The University Libraries is a major contributor to the Council of Presidents Cooperative Library Project for the State of Washington's four-year academic institutions. Through its partnership in UWired, the University Libraries participates with the UW in the K-20 Project for Washington State. Other projects include digitizing unique resources in the University Libraries collections to share beyond the University, working collaboratively with other libraries in the State and region to license shared databases, and a joint proposal with the Museum of History and Industry and the Eastern Washington Historical Society for a Library of Congress/Ameritech grant.

3. Changes in information technology mean changes in library use.

The use of the Libraries' physical facilities is changing. Increasingly there is a demand for space where groups of students can work on team projects. The new Foster Business Library's group study rooms have been solidly booked from opening day, and the other libraries which have group study rooms report constant use as well. Another trend in the use of space is the need for public computers with access to the Web/Internet near to the service desks so that librarians can assist users in accessing and evaluating the material they find. Print collections and online resources are now used together in a wide variety of combinations, and proximity of librarians and service desks to both types of access tools is the key to providing the user with the best research experience.

The maintenance of the Libraries' book and journal collections and a place to have access to them is still a priority for faculty and graduate and undergraduate students. A survey of UW faculty and students completed in 1995 revealed that 70% of faculty use the Libraries at least weekly. Of these faculty, 60% were remote users and 40% physically visited the Libraries. 60% of students reported weekly in-person visits to the Libraries. While faculty, graduate students, and undergraduates all reported that they use the Libraries as a place to do research, the undergraduates in particular use the Libraries as a place to do their studying and classwork preparation. When asked what categories of library materials would be most useful to them during the next two years, print journals and print books were listed as crucial by faculty and graduate students in all academic areas.

In the same survey, nearly all faculty and most graduate and undergraduate students reported that they have access to a computer that is connected to the campus computer network. Respondents said that they wanted the Libraries to provide training in the use of electronic tools such as the World Wide Web and specific databases. They also said that the preferred method of communication about library services and programs was through e-mail. Electronic reserves and the delivery of full-text to the computer workstation were also listed as highly desirable.

Independent of this survey, the Libraries is receiving an increasing number of requests from faculty for assistance in building their own databases, and librarians are working with several faculty members now on such projects.

The University Libraries envisions a Digital Library in the not-too-distant future, building on its success in using technology and expanding electronic resources. A Digital Library will make available full-text, numeric, and image data over the campus and worldwide Internet. The following scenario illustrates what the Digital Library will enable faculty and students to do:

> *. . . A UW environmental studies project is aimed at discovering the links between environmental exposures to disease and low income and minority communities. From her apartment in Tacoma, a medical geography student connects via her laptop to the UW Digital Library World Wide Web interface and searches several databases simultaneously with a natural language query. The results of the search include references which are linked to full-text articles, pictures and graphs that can be printed instantly. She then opens up a Geographic Information System (GIS) program, takes the data listing disease incidents in the State, and maps minority and low income distribution in the Tacoma area. She then builds a class presentation using information from the journal articles, images from the*

Internet, and her disease distribution map. She e-mails her instructor and her classmates, located in every county in Washington; through her Web address, her presentation is available to them immediately through the high-speed Internet II connection. Other class participants emulate this exercise to cover the entire state . . .

As part of the Digital Library, the University Libraries will structure custom tools and outreach training to foster student, faculty, staff, and community self-sufficiency so that our users can effectively locate, access, evaluate, and assimilate information, regardless of its location, from across the disciplines. Significant benefits accrue to the users of the Digital Library, including improved productivity for faculty, students, staff, and lifelong learners. Electronic delivery of information results in critical time savings for the UW community and will make possible access to resources for geographically or time-dispersed programs.

> 4. Changes in the University environment.

Changes made by the UW to increase access or respond to other educational needs of the citizens of the State of Washington will affect the University Libraries. Enrollment increases mean that the Libraries must provide more books, journals and other information resources, more user seating, more library instruction sessions, and more staff hours to handle the increased demand at the service desks and through electronic communication. An expanded Summer Quarter will impact the Libraries in all areas, including hours of opening, library instruction, reference and research services, course reserves, circulation services, equipment and facilities replacement, and operational costs. As the UW responds to the growing demand for access and asynchronous, distance learning, the University Libraries must be able to provide the content – the course material and primary sources – necessary to bridge the gap in time and space for those students via the Digital Library. New programs and new areas of faculty research all need library collections, library staff, and library facilities support. It is also quite likely that some of the present and future University Initiatives Fund proposals will have an impact on the University Libraries collections, staff, and facilities.

Constrained budgets for the University have continued to be a defining factor in the environment in which the University Libraries must operate. The Libraries seeks to use its existing resources and funding creatively so that the users are always well served. However, it is inevitable that the combination of cost increases and budget cuts will have an effect on the size and quality of the collections and on the ability of the staff to provide service. Without support for enrollment increases or the expanded Summer Quarter or new academic programs as they occur, the Libraries must either cannibalize its existing budget or must decline to support the new programs.

C. Major Strategic Goals

The University Libraries current and planned programs all relate to these themes: 1) Quality of information resources, whether they are in traditional or innovative sources; 2) Utilization of technology to insure accessibility to the maximum number of resources, whether they are here at the University or elsewhere; 3) Provision of facilities which protect and make accessible the Libraries' collections and which invite research and collaboration by creating properly equipped and well-lit spaces for individuals and groups; 4) Support, training, and recruitment of a highly skilled staff to ensure the delivery of information to library users. The Libraries strategic goals and initiatives emanate from these themes.

The five goals and two initiatives in the current plan are listed below.

Strategic Goals

1. Enhance and strengthen services based on user needs.
Libraries staff will provide essential, appropriate services directly to the primary users, the faculty, students, and staff of the University, and will expand and improve those services which enable the user to be more self-suffiecient. Objectives to achieve this goal include ongoing user needs assessments, implementing an integrated public service program, coordinating system-wide user education programs, developing and implementing electronic enhancements of user services, assessing current library services and future needs for distance education students and faculty, and assessing the impact of enrollment increases on library services and collections.

2. Expand and enhance access to and retrieval and delivery of information resources based on user needs.
The Libraries' mission to acquire, manage, and promote the creation and use of knowledge is a mandate to be as inclusive as possible, within available fiscal capability, in selecting information resources based on the needs of users. All relevant information in whatever format or medium is subject to inclusion among the resources available to University Libraries users.

3. Strengthen human resources.
The critical element for excellence in the University Libraries is a well-trained, highly motivated staff with diverse backgrounds, experience, skills and education. To attract and retain staff of the highest caliber, every effort will be made to increase staff compensation and to support training for new technologies and overall development of staff.

4. Provide effective and flexible organizational infrastructure.
The Libraries, if it is to remain vital and able to respond rapidly to the changing technological, fiscal and academic environment, must be flexible, capable of change and have sufficient funding resources. The Libraries will make specific changes and decisions to streamline structure, to distribute authority and responsibility, and to seek external funding sources.

5. Improve facilities for users, staff, and collections to support Libraries goals and objectives.
The Libraries as a physical entity is an important presence for research and collaboration in the academic life of the University. Through rearrangement and improvement of existing facilities and creation of new facilities, the Libraries will provide appropriate and inviting research and learning locations.

Strategic Initiatives

I. Develop and enhance collaborative efforts with individuals and groups to achieve strategic goals.
Collaboration in learning, teaching, and research is essential to the academic endeavor. The Libraries will make concerted efforts to build new partnerships on and off campus with the goal of enhancing service, resource availability, research, and learning opportunities for its primary clientele.

II. Develop a Libraries approach for the University Initiatives Fund.
The Libraries will develop UIF funding proposals for important programmatic initiatives, new or existing, that will result in a significant enhancement to the quality of the University.

Partnerships with other campus units will be sought, including involvement in non-Libraries proposals which impact services and information resources that the Libraries must provide.

D. Peer Institution Comparisons

The table below provides data and rankings on five quantitative elements that are important in measuring the relative size of university libraries. Data are shown for the libraries of the 24 peer institutions identified by the Higher Education Coordinating Board.

The University of Washington Libraries rankings range from 2 - 6, depending on the category. In addition to being consistently strong in these general areas, the Libraries includes nationally ranked collections in fisheries, forestry, and East Asian, Scandinavian, Slavic, and South Asian studies. Also, the Pacific Northwest Collection is unique in its comprehensiveness. The University Libraries is the 15th largest among members of the Association of Research Libraries.

Peer Institution Table

II. FACILITY MASTER PLAN UPDATE: 1999-2001 Capital Budget Request

A. Executive Summary

This Plan presents a vision of a library system which occupies fewer, more consolidated locations, and includes as a cornerstone, electronic distribution of many services to the researcher's desktop in the faculty office, the residence hall, and the home. We foresee that the electronic library will continue to be an addition to the print-based library, rather than a replacement for it. Moreover, the transition to the electronic environment will proceed at different paces in different disciplines. These variations must be reflected in all of the Libraries' strategic planning, and they are an important characteristic of the capital projects proposed in this document.

In the ten-year time frame of the original University Libraries Master Plan, dated 1994, and in this update, there will be a continuing need for the library as place, that is, for the library as an integrative location, a commons, which all members of the University community recognize as a central and defining part of University life. The Libraries will continue to house significant and growing collections on campus and off-site, to provide learning and research space for faculty and students, and to provide centralized access to terminals and networked information resources.

The University Libraries presently includes 19 locations on the Seattle campus and one each at the Bothell and Tacoma campuses. The Kane Hall Auxiliary Stacks is also on the Seattle campus. Additional units are located at the Harborview Hospital, and at the Friday Harbor Laboratory as well as an off-site collection shelving facility in Seattle near N.E. 105th and Aurora. Libraries facilities planning is driven by currently inadequate space for some library units, the changing nature of scholarship and the increased emphasis on interdisciplinary work, the enrollment increases, the requirements of new technologies, planning for the move of the life and natural sciences departments to the southwest campus, and the requirements of the Americans with Disabilities Act. This Plan proposes a series of capital projects designed to address these issues and to position the Libraries to continue to offer excellent support to the academic and research programs of the University in the 21st century. An additional benefit of this plan to the University is that two of the projects release space in campus buildings for other uses.

Central to the Libraries Facilities Master Plan is the availability, just confirmed, of a collection shelving facility at Sand Point. The Sand Point facility will allow the Libraries to maintain quick and convenient access to essential but less-used research materials that no longer fit into the branch libraries and the Suzzallo and Allen Libraries. In addition, it will now be possible for crowded library units to increase user research and consultation space. Phase one of the Sand Point facility renovation includes a service point on the 1st floor. From this service point, Libraries staff will retrieve materials from the collections housed on the 3rd floor. The planned service point includes a reading room for faculty and students who wish to come directly to Sand Point, but it also will be equipped with a fax machine, a scanner, a computer workstation, and other electronic means for Libraries staff to transfer information directly to the user. Responsive

and quick document delivery from Sand Point to the Seattle campus Libraries is an essential part of the planned service for this facility.

The Sand Point facility and the Kane Hall Auxiliary Stacks area both figure into the plans for providing surge space for collections and staff during the Suzzallo Renovation Project (first on the list below of needed Libraries capital projects). The Kane Hall Auxiliary Stacks area, currently used by the Libraries as a collection shelving facility, is full to capacity. We plan to remove collections currently shelved in Kane to Sand Point (with the exception of some East Asia material shelved in Kane). During Suzzallo Renovation, collections and staff-processing operations currently housed in the Suzzallo Sub-basement will be relocated temporarily to Kane.

In the long term, relocating material currently in Kane Hall to the Sand Point facility also provides an opportunity to alleviate extreme crowding of the collections in the East Asia Library (EAL). We propose expanding the area available to the East Asia collection within Kane, utilizing the compact shelving that already exists, to a total of 8,144 square feet. In addition, Room 10 in OUGL, already occupied by the Libraries for surge space in preparation for the Suzzallo Renovation, would be turned over to the East Asia Library after Suzzallo Renovation, to be used as an office for staff and for reading space for users of the EAL collection housed in Kane. Minor capital project money will be requested to install partitions in order to secure this part of Kane for the EAL collection.

The proposed capital projects are:

1. Completion of Phase One of the Suzzallo Renovation Project which is now ready for the construction phase. Phase One is primarily an infrastructure project to address seismic, HVAC, fire alarm and fire safety, emergency egress, disabled access and electrical and communications issues. The project also provides the opportunity to make some changes in the facility to enhance the Libraries' service program and to provide additional and improved user space. The Suzzallo Project involves the renovation of approximately 325,000 GSF/200,666 ASF. Deferral has serious implications for life/safety of individuals who work and study in the Suzzallo building and for continued high maintenance costs for the University.

2. Construction of a Fine Arts Library (approximately 33,300 ASF) for a state-of-the-art multi-media, collection, study, instruction, and research facility to combine the existing (and very crowded) Art (4,884 ASF) and Drama (2,432 ASF) Libraries, and the Music Library and Music Listening Center (4,938 ASF). Deferral means that these crowded branch libraries will be less and less able to serve their constituencies.

3. Construction of a new Natural Sciences/Natural Resources Library (approximately 47,000 ASF) to combine the current Natural Sciences, Fisheries-Oceanography, and Forest Resources Libraries, and components of the Maps and Cartographic Information Service. This proposal is driven in part by the planning for the Life Sciences buildings on the southwest campus. If deferred, the academic departments will be located a great distance from essential library materials and services. Electronic access will not be a complete substitute for in-person services, workstations, or collection access.

Parallel to the capital projects proposed above will be a series of minor capital project requests and programmatic changes to retrofit other Libraries' locations.

Major capital projects in future requests will include the Architecture and Urban Planning Library, the Chemistry Library, the Mathematics Research Library, the Health Sciences Libraries and Information Center, and renovation of the existing Natural Sciences Library space in the Allen Library when NSL moves to the Life Sciences building in the southwest campus.

B. Facility Deficiencies and Impact on Programs

The components of the academic research library which support the university's teaching and research are:

- A sizable and carefully selected collection of information resources in a wide variety of formats, including print, electronic, and other non-print formats. Access to numerous networks, databases, and other electronic resources.

- A highly skilled staff, providing a range of information, research, and educational services and programs.

- Safe, well-lit, environmentally sound, comfortable facilities, conducive to individual and collaborative learning and research.

The research library's facilities should encourage and ease access to all types of information resources held in the collections; should accommodate new technologies; should provide protection from extremes of temperature, humidity, and light; should accommodate appropriately sized and equipped staff work spaces; and should permit librarians and staff to interact productively with users in a number of different settings, including individual consultations, seminar formats, auditorium settings, or in computer laboratories. Learning and research space for faculty and students should range from rooms for collaborative groups using Internet and Web resources to tables and other open seating with networked access, to individual carrels for quiet research and consultation of library resources. The spaces provided should reflect the changing pedagogical methods for both undergraduate and graduate education.

Facilities must be well-organized with the proper adjacencies of functions to guide the user through the library and to promote efficient library operations. Furthermore, library facilities must be located on campus to provide convenient access by the maximum number of primary users. As will be discussed a number of times in this document, primary users of any one library unit now frequently come from many different departments.

The University of Washington has made major improvements in its libraries in recent years. The Allen Library, the Physics-Astronomy Library, the new Foster Business Library, and renovations in the Engineering Library and Odegaard Undergraduate Library are examples. There are, however, numerous instances in which library facilities are hampering teaching and research. In the following four sections we will describe the broad categories of facilities needed to support the Libraries' present and future programs. The remaining sections will provide specific descriptions of the Libraries' Facilities Master Plan proposals.

Instruction and Training

The instruction facilities required by today's library staff and users are no less various than those required by faculty members for appropriate interaction with their students. Yet in most of the University's libraries, those facilities are lacking. Technology and curriculum shifts have driven significant changes in libraries and information. As teaching and learning increasingly rely on

global networks for the creation, storage, dissemination, and use of knowledge, a new information literacy has emerged. Students of all levels and disciplines need the skills necessary to navigate in this increasingly intense and complex technological environment in o order to become life-long learners. We are experiencing significant changes in university pedagogy – from passive and lecture-centered methods to active, experiential, and problem-centered learning. In order to be successful, and more importantly, excel, in their studies and work beyond the university, students must develop sophisticated information literacy and problem-solving skills, which are increasingly predicated on critical use of knowledge resources and technology.

Librarians in partnership with faculty are incorporating information literacy and knowledge management into both the undergraduate and graduate curriculum. Librarians serve as guest instructors in regularly scheduled classes, design customized educational programs for specific groups, and team-teach courses.

The Libraries has a comprehensive instruction and training program. In 1996-97, Seattle campus librarians taught 15,626 students in 1,031 classes. Many of these classes were taught in inappropriate settings, not conducive to learning. In Government Publications in the Suzzallo Library, where 741 students were taught in 28 classes in 1996-97, sessions took place primarily in the unit's open reference area where other users must study and consult materials. In the Music Library, where librarians taught 143 students in 24 classes, most sessions took place in one of the crowded study areas. These are not acceptable conditions for learning skills that are crucial for success within the university and in most other areas of endeavor outside the university.

The best problem-centered and resource-based teaching and learning takes place in the library where the full range of resources (print, electronic, multimedia, and archival) come together. Instruction in networked resources requires engaged and hands-on learning in suitably equipped and configured electronic classrooms. Increasingly, students and other users need to be instructed in spaces containing groups of networked workstations where students can practice strategies as the librarian demonstrates them. The Odegaard Undergraduate Library, with the newly upgraded UWired Collaboratories on the 1st floor, does provide this space for librarians in that facility. The Engineering Library now has a smaller such space for the use of its librarians, and the new Foster Business Library included an equipped instructional space.

The program for the Suzzallo Library Renovation (still our top priority in the list of Master Plan Proposals below) adds two electronic classrooms equipped with workstations and projection to support instruction in Suzzallo. The smaller of these rooms is located in the new Government Publications area and will make a tremendous difference in the quality and amount of instruction they are able to offer. The other room, arranged auditorium style, will be adjacent to the Reference and Research Services Division and will allow those librarians to offer instruction to classes numbering from 30 to 60 students.

Instruction in other libraries such as Drama, Art, Music, or Forest Resources now involves either reserving the computer laboratory of the school or college for user education, or trying to group the students in one of the crowded study areas in the library. Sharing laboratory space with the department can work if the laboratory is close enough to the library and if the use of the facility is not so heavy that it hampers access for library instruction. Space internal to the library is preferable so that library materials can be readily integrated into the instruction.

Reference and Research Service

The integration of technology and electronic information with traditional printed reference works has changed the space needs for reference and research services. A flexible service environment which provides spaces for a variety of reference interview and consultation functions is crucial for librarians and the faculty, students, and other users whom they serve. Such an environment includes a desk which facilitates the interaction between librarian and user, and open, flexible space for changing the arrangement of networked workstations to allow students and faculty to move easily among the varying types of information sources they need. Wherever there are opportunities for upgrading and renovating existing space, or constructing new space, the Libraries will substitute compact, easily moveable, and, preferably, modular service desks to increase adaptability to changing user needs.

Librarians must now respond increasingly to requests by users, especially by faculty, graduate students and other advanced researchers, to meet in scheduled consultations in which they plan a research strategy, work out the "program" for database and Web searches, and discuss accessing materials in numerous different formats and locations. These consultations must take place in quiet, private areas which have access to at least one networked workstation. Not enough librarians have access to properly equipped consultation spaces. This is especially a problem in the Libraries' central reference and research services division in the Suzzallo Library, and in the East Asia and Music Libraries. [NOTE: The Suzzallo Renovation plan includes individual offices for the reference librarians in the programmatic changes.] In the Health Sciences Library where librarians frequently consult with users regarding information management skills, the urgency of this need has prompted staff to convert group study space to staff space in which these consultations can take place.

Learning and Research Spaces

The library as a location with a collection of printed materials to be used onsite and a place to study is evolving into an interactive student learning center that is supported by a broad range of onsite resources and digital sources available through the World Wide Web and the Internet. To support this change, library space in the future must be flexible enough to accommodate informal study groups of varying sizes, wired for electronic access to resources by computers at virtually any location, and conducive to formal and informal instruction by library staff and faculty.

The user-centered library facility is one in which research spaces respond to the changing needs of students and faculty. Increasingly, the curriculum in many disciplines requires students to work collaboratively in groups or teams on their assignments. Yet group study rooms are available in only a few units: Odegaard Undergraduate, Social Work, Foster Business, and Engineering Libraries. Although there are some group study rooms in the Health Sciences Libraries and Information Center, more are needed. Growing numbers of classes in the Health Sciences are moving to problem-based learning, which treats the library and its resources, both print and electronic, as the ultimate classroom. Students are expected to use library resources in groups that may be simultaneously accessing databases, using printed resources, viewing clinical simulations, using electronic reserve materials, and engaging in heated discussions with instructors and colleagues. Other academic departments throughout campus have likewise moved to resource-based teaching methods which incorporate these kinds of resources. For many subjects, particularly in the social sciences and humanities, the library is the laboratory for learning. The need for group studies is especially acute in the Suzzallo and Allen Libraries; the

planned Suzzallo Renovation calls for 10 group study rooms of varying sizes and all with networked access.

A number of academic libraries have begun to create a new kind of library group study facility. Two examples are the Leavey Teaching Library at the University of Southern California, and the Grainger Engineering Library at the University of Illinois. Sometimes called collaboratories because they provide space for collaborations among faculty members, students, and librarians, or for other project teams, these facilities will be equipped with powerful, networked computer workstations and appropriate multi-media equipment. Every available electronic information resource is accessible through the "gateway" workstations in these rooms. Located within easy access of traditional library resources, these facilities will support in a unique and innovative way, the changing needs of university library users. On this campus, the UWired Collaboratories, the Center for Teaching, Learning, and Technology, and the UWired Commons, all located within the Odegaard Undergraduate Library, have begun to fulfill this need.

User space of any kind, whether for individuals or groups, is inadequate in many of the branch libraries because of collection growth. Shelving has had to be increased at the expense of user research space. In the Mathematics Research Library, for example, the square footage allocated to most seats is well below 20 square feet. A standard of 30 square feet for an individual allows enough room to add a portable or hardwired computer, and also room to consult books and take notes.

Study seats should be designed properly to accommodate people with disabilities. Librarians in individual facilities have taken the initiative to adjust selected seats but further progress in this area must be a goal of the Master Plan. It will be important to provide several more study rooms especially designed for users with disabilities. These must be equipped with workstations that respond to the needs of sight and hearing impaired students and must be adjusted to accommodate wheel chairs. The four small study rooms for people with disabilities in Suzzallo are located in an isolated portion of the building, are away from collections and services, do not have fire/safety alarms, and do not have networked access. One of the large group study rooms in the Suzzallo Renovation is designated for users with disabilities.

Fixed desks and bulky library furniture often make it impossible for librarians to adapt facilities to meet changing program needs without significant funding. An example of this is in the Forest Resources Library where the facility itself, a large rectangle with few permanent partitions, is relatively flexible. However, bulky or fixed furnishings are restricting the librarian's ability to add workstations or to provide additional study seating close to outlets or away from noise centers. Progress was made in the Allen Library and to some degree in Suzzallo, in acquiring more compact and flexible furnishings, but the Libraries must continue to seize opportunities to make these improvements.

No one should have to select seating on the basis of room temperature. In Suzzallo, users frequently complain that seating is located in areas that are either too warm or too cold. Inconsistent or fluctuating temperatures affect both books and people. Lighting for study seating should be designed by qualified consultants and should be consistent throughout the Libraries. The even and consistent lighting in the Allen Library has been successful. Users should have the option of using portable computers at their library study seats and should have the option of

connecting to the campus network. Again, power is available at seats in the Allen Library and in a handful of other locations, but not consistently throughout the Libraries.

Enrollment increases will mean an even greater demand for learning and research space, adding to the issues described above. The Libraries' strategy must be to leverage the existing square footage in the Seattle campus Libraries and the Sand Point facility along with any future facilities projects to accommodate this increased demand. Therefore, the Libraries will take opportunities in all facilities projects to create learning and research spaces that respond to the changing needs of faculty, students, and other users.

Housing Library Collections

Dramatic changes are affecting university research libraries in these last years of the 20th century. There is no aspect of the administration of research libraries in which the pattern of change is more clearly demonstrated than in balancing new technologies with existing and growing print collections. There is currently a rapid move from the traditional collection-based environment to the service-centered library founded on the expanding electronic network of information resources which are increasingly easy to use and are extremely powerful. Yet hard copy collections are still heavily used, must be housed, and will continue to grow indefinitely, albeit at slower rates. Our challenge is to continue providing access to print collections for a majority of users and at the same time to provide the space and facilities required for networked information use.

It is useful to examine the balance between printed and electronic publication rates. Total US and foreign printed book publication between 1990-92 averaged 700,000 new book titles/editions per year. 1994 output was approximately 800,000 new book titles/editions. U.S. figures for 1995 reflected the highest number of new book titles/editions ever recorded -- 62,039, exceeding the previous high of 56,027 in 1987. In 1992 there were 118,500 hard copy serials available worldwide; in 1994 this figure increased to more than 140,000 hard copy serials published throughout the world. The 1997 figure was over 156,000 for serial titles in hard copy only. Current projections by publishers, scholars and librarians do not indicate a diminution of print publishing in the foreseeable future. As long as there are large numbers of printed titles being produced, the Libraries will be responsible for acquiring and providing them for its users.

Electronic publication rates are increasing at an even higher rate. By 1997 there were 6,661 serial titles either exclusively online or in addition to the hard copy version, and there were 2,240 serials available on CD-ROM. While it is clear that there is a growing receptivity to electronic publications, not everyone does or will feel comfortable reading electronic formats; not everyone will be able to afford access to these formats; and conversion of restrospective titles will be slow and expensive, leaving many millions of titles unconverted.

Therefore, the University Libraries must confront on a long term basis the problem of housing hard-copy collections. Large new library buildings cannot continue to be constructed in the thirty year cycles that we have enjoyed in the 20th century. Conversion to space saving formats such as microforms and electronic formats can provide some relief. Yet, as discussed above, slow user acceptance and high conversion costs will decrease the viability of this strategy for at least the coming decade.

Within the University Libraries the average of six year's net growth in all Libraries' printed volume collections between 1985 and 1991, was 72,800 volumes per year. The same figure for 1996-97 was 91,540 volumes. At a conservative average of 18.2 volumes per square foot (national standards suggest a planning figure of 10 to 12 volumes per square foot), that amounts to a Libraries-wide bound volume collection growth of 4,000 - 5,000 square feet per year. Other formats such as maps, microforms, and government documents are growing at an average of 3,800 square feet per year. This amounts to 7,800 - 8,800 square feet of annual growth, approximately the same amount as that contained in the entire Social Work Library.

However, it seems likely that the rate of growth of the Libraries hard-copy collections will diminish in the next few years. Funding constraints for higher education will result in a dip in collection growth rates in the next biennium. Along with this dip, continued inflation of publications costs, the availability of and increasing user acceptance of other formats, and other factors are sure to continue this trend. Assuming that the rate of growth in the hard copy collections begins to decreases at a rate of 3% per year over the next five years, this still leaves annual growth in excess of 7,000 square feet in the year 2004.

This continued substantial growth makes it crucial to examine the current and projected availability of library shelving space. The Allen Library (completed in 1991) was built primarily to solve the collection space problem in the main humanities and social sciences collections and in special collections, government publications, maps, natural sciences, and microforms-newspapers. If the only growth Suzzallo and Allen had needed to accommodate were for the collections within them, there would have been growth room available until 2001.

In 1994 three branch libraries (Geography, Philosophy, Political Science) were consolidated and their collections moved into the Suzzallo and Allen stacks. The fine arts and architecture branch libraries are so full that they must transfer material to the Suzzallo and Allen stacks on a regular basis. Factoring in the new books which have been added annually to the Suzzallo and Allen Libraries since Allen was built, the total annual increase has been 30,000 to 40,000 volumes, and the stacks in these two libraries are now 85% full. It should be noted that 85% full is the maximum recommended capacity for library shelves; otherwise the books are packed so tightly on the shelves that users cannot pull them out, reshelving is extremely difficult for library staff, and the books suffer damage.

In the collections exceeding 100%, staff members have added eight shelves to seven-shelf sections and sometimes must place books on top of other shelved books. One unit places books on the floor. The Kane Hall Auxiliary Stacks, the storage facility to which less used materials have been sent from the library system, is now operationally full.

During this time of transition, then, from one era to another in information production, organization, retrieval, and storage, the problem of how to allocate space for hard copy collections is one of the most pressing. Considering all factors which can now be predicted, including the growing success of electronic resources, the cost of capital construction projects, and the ability or the will of the citizenry to support these projects, the wisest course seems to be to plan caps on the sizes of hard copy collections housed in the on-campus libraries. The availability of a large, nearby off-site shelving facility with expedited retrieval and electronic access will relieve the pressure on the on-campus libraries and still allow ready access to the research collections.

The University Libraries and Public Service

The Libraries system plays a vital role in the University's public service mission. Properly planned and well-functioning facilities are a necessity for the Libraries' work in this area. For example, library staff provide tours of the various units for thousands of people each year. These tours and orientations teach school children, Access Program participants, and many others about the workings of a major research library. Librarian subject specialists provide information and consulting services to a wide array of individuals and groups. For instance, the Drama Librarian provides research materials, user education, and material from the repertory collection to members of the Seattle theater community. The Music librarians answer questions from local musical groups, including members of the Seattle Symphony. They are frequently requested to identify pieces of music, and have even assisted in restoring a tape recording of a purported crime for the Seattle Police Department. The Engineering librarians teach inventors and entrepreneurs from this region how to access patents and trademarks.

The Health Sciences Libraries and Information Center provides extensive services to hospitals, physicians and other health care professions in the Northwest. It also experiences heavy onsite use of the collections and services by unaffiliated individuals including UW Medical Center patients, lay public, students from other colleges along the I-5 corridor, lawyers, and drug and bio-technology firms.

Microforms-Newspapers provides reference and research service for practicing journalists from Seattle and other communities and participates in the state-wide Preservation Microfilming Project of the state's newspapers. Photographs from the Libraries historical photography collections appear regularly in local, national, and international newspapers, periodicals, monographs, and on television.

The Nordic Area librarian prepares exhibits from the Libraries' extensive Scandinavian collections for members of the local community, provides reference assistance for citizens interested in genealogy, and has held receptions and tours for the King of Sweden, the ambassadors of Norway and Denmark, the President of Iceland, and the consul generals of each country. Similar examples could be cited from the activities of the Slavic, South Asian, East Asian, History, Fisheries-Oceanography or Mathematics librarians, or many of their colleagues.

None of these services could be performed without high quality facilities to house properly the collections, to support telecommunications and network access, and in which to utilize computers, projectors, and audio and video equipment.

C. Proposals to Remedy Deficiencies in Facilities

In the section that follows are descriptions of the Libraries' top three Facilities Master Plan priorities. These items do not represent all of the work required to achieve system-wide facilities that respond to the Libraries' strategic goals to support the teaching and research of the University, but they are the most urgent and will require the greatest investments of funding.

A second section, entitled "Capital Projects for the Future," details the next tier of essential capital projects.

In addition, the Libraries will continue to submit requests for minor capital improvements for a number of units.

The Three Master Plan Proposals

1. The Suzzallo Library

The 100% construction drawings have been completed and are under review for Phase One of the Suzzallo Renovation Project. Although funding was not received by the University for construction in the 1997-99 biennium, this project remains the highest priority in the Libraries Facilities Master Plan because of serious life/safety and high cost maintenance problems. The Suzzallo Library is among the ten campus buildings most vulnerable to serious damage in an earthquake. The building systems are worn out, obsolete and unable to sustain environmental conditions to preserve the collections and properly house users and staff. Water leaks, improper temperature controls, and inadequate fire suppression systems all represent potential hazards to library materials. Life and safety code issues, old mechanical/ventilation and electrical systems and the presence of asbestos pose potential hazards and uncomfortable situations for library users and staff. Additionally the building must be brought into compliance with the requirements of the 1991 Americans with Disabilities Act. The exterior masonry, glass, and roof areas of the 1925 and 1935 sections need to be repaired, cleaned, and sealed.

Programmatic improvements in the Suzzallo Library scheduled for Phase One of the renovation include the addition of nine group study rooms, consultation offices for the humanities and social sciences librarians, and two instruction and training rooms. The Government Publications circulating collection will be on open shelves for the first time. In addition, Central Circulation and Reference and Research Services will be moved up to the 1st floor of Suzzallo, in spaces much more visible and convenient for library users.

Interim solutions: There is no interim solution for the Suzzallo Renovation Project. The life/safety issues listed above do not have any remedy except within the Renovation.

2. Fine Arts Library

The University Libraries Master Plan proposes a new consolidated Fine Arts Library. The existing Art Library (Art Building), Drama Library (Hutchinson Hall), Music Library, and Music Listening Center (Music Building) will be consolidated into this state-of-the-art, multimedia facility. A new consolidated facility would support changes in learning and research in the fine arts resulting from increasingly interdisciplinary work and the influence of technology and multimedia. A new library would also address serious facilities deficiencies in these four branches.

While print and visual collections are the core of fine arts teaching and research, technology is influencing these disciplines as well. Electronic applications in composition in music and stagecraft in drama, and high-resolution digital distribution of art images are now important in supporting curriculum and research. Technological capability in the existing libraries is minimal. There is inadequate learning and research space, and what space is available is not readily adaptable for multimedia purposes. There are no teaching facilities, collaborative work spaces, or computer commons in any of these libraries.

The Art, Drama, Music Library, and Music Listening Center are the Libraries' most over-crowded facilities. Collection space in Art and Music is at 140% and 137% respectively. In the Music Library, staff must pile books on the floor and on counters when large amounts of circulated material return at the end of each quarter. The Drama Library is at 90% capacity. For

each book added to the Art and Music Libraries, one must be removed and sent to the Suzzallo and Allen Libraries or to Kane Hall Auxiliary Stacks (although this facility is now full). Following a tour of the four facilities in 1996, the Faculty Council on University Libraries sent a letter to Provost Huntsman supporting a new Fine Arts Library.

The University Libraries Facilities Master Plan includes a proposal for construction of a Fine Arts Library to combine the four facilities. The new facility would be a state-of-the-art multimedia collection, study, instruction, and research facility designed to provide essential support to faculty and students of the three schools. The new facility will emphasize image and sound reproduction capabilities, and will contain well-equipped user education facilities, reference and research services, fully electronic faculty, student, and librarian team collaboration spaces, group and individual study space, and space for collections.

Specifically, the new Fine Arts Library will:

- Bring together related information resources and services in one state-of-the-art facility convenient to faculty and students in art, drama, and music and accessible to users with disabilities.

- Provide the infrastructure, equipment, and staff needed to deliver art images, high-quality sound, scores, play texts, and video workstations throughout the library, to classrooms, and to the desktop.

- Enhance services to students and faculty. None of the present libraries provides collaborative work areas, production facilities, electronic classrooms, or specialized multimedia facilities.

- Provide a facility which meets the requirements of the Americans with Disabilities Act.

- Provide longer hours of opening. The current open hours vary among the four locations, but none is open later than 9 p.m. during the week, and weekend hours are restricted to 1-5 p.m. on Saturday (Drama is closed entirely on that day) and Sunday. With the consolidation of libraries (e.g. from four circulation desks to one), staff will be reallocated to providing a higher level and an expanded array of technology, research, instructional, and reference services.

- Provide adequate housing, growth space, and preservation for these multi-format collections.

A consolidated Fine Arts Library allows us to bring together the collections and expert staff in a technologically appropriate and modern facility to support the current and future needs of student and faculty in the fine arts. Construction of this library would release approximately 4,938 ASF in the Music Building, 4,884 ASF in the Art Building, and 2,432 ASF in Hutchinson Hall.

COMPARISON OF EXISTING AND PROPOSED DISTRIBUTION OF SPACE

	Existing ASF	Proposed ASF
Collections	6,497 (53%)	12,765 (38%)
User/Svc. Space	4,329 (35%)	15,849 (48%)
Staff/Processing	1,428 (12%)	4,710 (14%)
TOTAL	12,254 ASF	33,324 ASF

The Fine Arts Library project is one in which potential connections to other programs in the College of Arts and Sciences will be explored. There may well be complementary projects which could feasibly be housed as well in such a facility. In addition, this project should be very attractive to potential donors who are supporters in the fields of music, art, and the theater.

Interim solutions: Only very negative alternatives exist for the Music Library, the Music Library Listening Center, the Art Library and the Drama Library. In lieu of the expanded and upgraded space proposed, these branch libraries will continue to become more crowded and less usable for faculty, students, and other users. While some of the collections can be sent to other sites (the Suzzallo and Allen Libraries or Sand Point), certain core materials must remain onsite for reference, reserve, and the circulating collections. In each case, it is not possible to further reduce the user seating to add more shelving. Nonetheless, as parts of the collections are transferred to alternate shelving facilities, the Libraries will endeavor to make these materials as accessible as possible to the primary users.

3. Natural Sciences/Natural Resources Library

The University Libraries Master Plan proposes a new consolidated Natural Sciences/Natural Resources Library on the southwest part of campus, perhaps in connection with the planned Life Sciences projects. The existing Natural Sciences (Allen Library), Fisheries-Oceanography (Ocean Teaching Building), Forest Resources (Bloedel Hall) libraries and components of the Map Collection (Suzzallo Library) will be consolidated into this facility. Due to elimination of duplicative functions and collections, the new facility, at 47,100 ASF, will actually comprise less space than the 50,600 ASF in the existing libraries.

The growth of interdisciplinary science research and teaching combined with the geographic centralization of most life science and natural resources programs on or near the southwest part of campus makes a strong case for a consolidated new library located close to relevant academic programs. Library use surveys done in 1992 and 1995 show that many users in programs supported by these libraries must visit several different libraries due to the interdisciplinary nature of their research. For example, a student working on changes in salmon habitat would use the Fisheries-Oceanography Library for specific information on salmon and limnology, the Forest Resources Library for forest hydrology and soils, the Natural Sciences Library for geohydrology, climate data and basic biological works, and the Map Collection for geospatial information on land cover and use changes. While an increasing amount of new information will be come available electronically, much of the complementary historical record will remain in paper format.

In addition, surging undergraduate enrollments, especially in the life sciences and forest resources, have placed additional strains on the ability of these libraries to support library needs

of undergraduates for computer access, collaborative work areas and instruction and presentation space that create an environment conducive to active learning. The Fisheries-Oceanography Library and the Forest Resources Library are both located in buildings that were constructed thirty years ago, and it is very difficult to provide the type of library services needed now and in the future.

Specifically, the new library will:

- Bring together related information resources in one location that are now in four separate locations. Subject areas and academic programs supported by the library include atmospheric sciences, biology, botany, ecology, environmental studies, fisheries, forest resources, genetics, geology and geophysics, global change, hydrology, marine studies, oceanography, wildlife, and zoology. Cartographic information, including geospatial data, is essential support for many of the above programs.

- Move the life sciences collections closer to users. The botany and zoology departments are located at a greater distance from their primary library – Natural Sciences in the Allen Library – than any other Seattle campus academic department. With the new library situated closer to the Health Sciences, better support will be provided to life sciences research in that area as well.

- Enhance services to undergraduates. None of the present life sciences libraries provide effective support to collaborative undergraduate education. There are no group work areas, instruction rooms, general purpose computer labs, or specialized computing/multimedia facilities. Hours of opening would be increased substantially over what is now offered in most libraries.

- Eliminate duplication in collection, services and staff. Simply put, the new library can operate more effectively and efficiently as a single integrated unit than as four separate ones. Fewer staff will be needed, less space will be devoted to housing collections, and more diversified space provided for users.

The combined collections and expertise of staff, housed in a technologically sophisticated and flexible facility, will form a state-of-the-art information and resource center which can address the needs of interdisciplinary science research, teaching, and learning in the 21st century. The library will be better positioned to support both local use as well as distance learning.

Construction of this library would release approximately 14,042 ASF to the College of Ocean and Fishery Sciences and the College of Forest Resources. It would also free space in the Allen and Suzzallo Libraries which would be reassigned to support central campus library needs.

COMPARISON OF EXISTING AND PROPOSED DISTRIBUTION OF SPACE

	Existing ASF	Proposed ASF
Collections	32,800 (65%)	26,000 (55%)
User/Svc. Space	13,000 (25%)	16,300 (34%)
Staff/Processing	4,800 (9%)	4,800 (10%)
TOTAL	50,600 ASF	47,100 ASF

The Natural Sciences/Natural Resources Library project should be very attractive to donors in a wide variety of academic subject interests.

Interim solutions: The need for the Natural Sciences/Natural Resources Library is great, as outlined above. However, until the new space is achieved, the Libraries will utilize electronic linkages as much as possible to bridge the gap between disciplines which have already relocated to the lower campus with collections which are still located on the upper campus. As collections need to be removed from the most crowded of the branches, the Libraries will endeavor to make them as accessible as possible from the alternative shelving facilities.

Capital Projects for the Future

The libraries listed in this section will be included in future capital projects requests.

1. **The Health Sciences Libraries and Information Center** (HSLIC) currently confronts critical space shortages in both collection and service areas. Programs such as IAIMS (Integrated Academic Information Management System) implementation, new departmental and research initiatives, and new directions in health sciences education are forcing a complete re-thinking of library facilities and services for the health sciences. Collection space is at 100% capacity, and scientists and practitioners alike are predicting a continued dependence on health sciences literature appearing in printed formats. At the same time, growing numbers of classes in the Health Sciences are moving to problem-based learning which treats the library and its resources, both print and electronic, as the experiential classroom. A number of classes meet regularly in the library with active involvement by librarians to collaboratively explore resources ranging from printed reference tools to databases and Web-based electronic serials. To support this educational initiative, library space in the future must be flexible enough to accommodate informal study groups of varying sizes, wired for electronic access to resources by computers at virtually any location in the library, and supportive of formal and informal instruction by library staff and faculty. Enrollment increases are also expected to impact the demand for user space in HSLIC. Finally, it is important to find a solution for HSLIC in order to make space available for expansion of grant and contract initiatives which are a major activity in the Health Sciences.

More exploration must be done with other Health Sciences entities which are housed in T-Wing to determine if there is adjacent space for HSLIC expansion. One possibility is the expansion of the existing basement compact shelving area currently used by HSLIC into contiguous space for collections in order to free up 2nd and 3rd floor areas for instructional and training space, for individual and group research and learning space, and for other services.

2. The **Architecture and Urban Planning Library** is in need of expansion. This library moved to its present location in Gould Hall in 1971. Since that time its collection has more than doubled, while the seating capacity has been decreased by almost one-third in order to accommodate more shelving. This active and important branch library has no teaching space, little space for reference and consultation, and no space for collection growth.

Academic libraries are rapidly being transformed from facilities which house books and journals into places for teaching, learning, and accessing burgeoning digital and networked information resources. A proposal in 1996 projected the enclosure of a 1,000 SF balcony space and renovation of the existing 5,276 SF library to provide properly equipped individual and group spaces for learning and research and to increase the space for collections. The University

Libraries will continue to work with the College of Architecture and Urban Planning to pursue this project.

ARCHITECTURE AND URBAN PLANNING LIBRARY PROGRAM
(in square feet)

	Existing ASF	Proposed ASF
Collections	2,586	2,842
Invidividual research space	731	1,200
Group learning/research space	175	348
Computer workstations	100	336
Reference/consulting	169	336
Circulation/Reserve	297	543
Staff/Processing workspace*	1,121	726
TOTAL	5,275 ASF	6,331 ASF

* Will be reorganized to create more user space

3. The **Chemistry Library** was relocated in 1988 from Bagley Hall to the Chemistry Library Building (formerly the Drama-TV Building). The new location provided a better physical environment for library collections, but actually contained less space than in Bagley. Thus, the library was operationally full at the time of the move, and general user seating was reduced to 30% of the Bagley total. Although 15% of the Chemistry collection has been sent to storage during the past seven years, it remains among the most overcrowded branch libraries. In addition to the lack of collection space, the library also ranks low for both quantity and quality of user seating, work space, and computer access. Increasing undergraduate enrollments in Chemistry have exacerbated the situation.

A program statement prepared in 1994 for a proposed move back to Bagley Hall called for a library that contained more than 10,000 square feet of space – or about 2/3 larger than the present 6,000 square feet. These figures are still valid today. The library needs additional space to provide quality workspace for users, computer access to electronic information resources, and adequate housing for collections. Learning and research space for individuals and groups account for 60% of the increased space.

CHEMISTRY LIBRARY PROGRAM
(in square feet)

	Existing ASF	Proposed ASF
Collections	3,350	4,600
Invidividual research space	1,000	3,400
Group learning/research space	225	600
Service areas	790	1,100
Staff/Staff Support	725	800
TOTAL	6,090 ASF	10,500 ASF

4. The **Mathematics Research Library**, located in Padelford Hall, is a crowded, outdated facility. Space and structural constraints severely limit this library's ability to house collections, deliver services, and provide suitable space for users and staff. While a small storage space in the Padelford basement enables most of the collection to be housed in one building (although in two separate locations), this space is nearly full. The library therefore is marginally viable with 37% of the collection in storage, little in the way of service and user space, and very cramped conditions for staff. The design and structure of Padelford preclude renovation or expansion in the current space, and new and larger space must be provided in order for the library to remain viable. A preliminary program calls for doubling the size of the library in order to provide services that address user needs effectively.

The Mathematics and Statistics Departments both recognize the need for new, expanded space. Both departments rely heavily on the library for research and instructional support and require close access to its resources and services. Mathematics, in particular, has identified expanded space for the library as its top facility need and is committed to working with interested parties to find or construct new space for the library. A new facility should adequately house collections and also contain ample and diverse user spaces and services that can provide effective support for undergraduates and K-12 initiatives.

MATHEMATICS RESEARCH LIBRARY PROGRAM

Current Space (in square feet):
Library 3,065
Storage 751
TOTAL 3,816

Current Collection Size (# of volumes)
Math Stacks 27,767
Math Storage 16,342
TOTAL 44,109 volumes

Annual increase: 1,450 volumes (1996-97)

Program Needs (in square feet):
Collection Space 4,000 (15 volumes per square foot)
Staff 500
Service 300
Individual research space 900 (30 seats)
Group learning/ research space 400
Computer workstations 400 (10 seats)
TOTAL 6,500 square feet

5. A renovation of the existing **Natural Sciences Library** (NSL) space in the Allen Library will be required when NSL is relocated to the new Natural Sciences/ Natural Resources Library. Although it is not yet known for sure how this library space will be used, the need for increased electrical and telecommunications capacity seems likely. The Special Collections and Preservation Division is a unit which would benefit by increased visibility and collection space if it could expand to the Ground Floor of Allen