



Flyer 242

Library Storage Facilities,
Management, and Services May 1999

INTRODUCTION

A recent article in the *Chronicle of Higher Education* described storage facilities as central to the new model of the research library.¹ Responding to ever-mounting operations costs and declining opportunities for new construction on the central campuses of many universities, ARL member libraries are turning to off-campus storage for cost-effective expansion. ARL libraries in the aggregate add over 10 million volumes a year and many face severe overcrowding. This state of affairs stands in stark contrast to erstwhile hopes that electronic publishing would quickly reduce the volume of materials printed worldwide, slowing the relentless growth of library collections and the need for new space.

Most ARL libraries already house a significant amount of material in offsite storage facilities, and the pace of both new construction and renovation of existing structures has accelerated during the past decade. The typical new facility is a cold-storage warehouse that maximizes the use of space through high-density shelving. In addition to efficient space utilization, strategic advantages include preservation and protection of library collections and lower construction and operating costs per volume.

This SPEC survey focuses on the physical characteristics of library storage facilities, the management issues inherent in their operation, and the services they provide. It complements a survey conducted in 1990, *Remote Storage: Facilities, Materials Selection and User Services*, SPEC Kit #164. In both publications, secondary storage is defined as the housing of more than 50,000 items at a site remote from the collections of which they are a part. The new survey is a snapshot of the extent to which ARL libraries are using remote storage and highlights current trends in design, environmental conditions, and services.

SURVEY RESULTS

Fifty-eight of the 122 ARL member libraries (48%) responded to the survey. Forty-nine respondents (85%) reported either using secondary storage or having construction underway, while 9 (16%) reported no activity. Available data, however, suggests that the number of ARL libraries using secondary storage is probably close to 80. A few institutions indicated that they were just beginning to conduct feasibility studies.

Description of Facilities. Offsite storage in some cases involves use of a nearby annex and in others, housing in a more removed facility. Distances from the main campus vary considerably. California, for example, has two large cooperative facilities—one in the northern and one in the southern part of the state—and for some of the libraries in the University of California system distances exceed 100 miles. At other institutions, the facility is less than a mile away.

Facilities reflect varying approaches in siting and design. Some are built entirely underground, some are high-rise buildings, and still others were converted from existing warehouses or commercial buildings. Fifteen libraries reported using buildings constructed during the past 10 years. Older facilities often coexist with new. Many are modular in design, making it possible to add units as needed (thus allowing for just-in-time construction).

At least 12 ARL libraries operate high-density units that employ many of the design characteristics of the Harvard Depository, the first large, high-density library storage facility. These structures are warehouse-like, with high ceilings to allow for tall, adjustable, open-rack shelving. Bound volumes are stored in trays by size; and volumes, trays, and shelves are barcoded to support retrieval. To maximize efficiency, shelves are designed to accommodate trays packed two deep with volumes of similar size.

While shelving by size is the rule (22 libraries or 38%), 17 respondents (29%) reported shelving by subject classification. In every facility, almost all space is assigned to materials storage, but space is also allocated for processing, and 22 libraries (38%) reported the availability of a reading area for patrons. Eleven libraries (19%) reported the availability of a high-security area for special collections.

Materials Handling and Management. Storage facilities frequently bring together low-use books and journals, archives, special collections, microforms, motion picture films, photographs, and magnetic media. Inventory control and retrieval systems are critical to reliable access. Most libraries identify stored materials in their online catalogs and link them through barcodes or inventory control numbers to exact locations. Five libraries (9%) reported using stand-alone inventory control systems and 33 libraries (57%) manage inventory control through the library's

integrated system.

Environmental Conditions. The most notable characteristic of the new storage facilities is excellent climate control. Several facilities built within the last five years or under construction are designed to store materials at 50°F and 35% relative humidity, in acknowledgment of evidence that cool, dry conditions extend the life of almost all materials in library collections. Other new facilities are run at slightly higher temperatures and humidity levels (55 to 65°F and 40 to 50% relative humidity). Emphasis in all new facilities is on maintaining constant conditions throughout the year. Many buildings have sophisticated HVAC systems that control daily fluctuations to no more than 2 or 3 degrees and 2 or 3% relative humidity.

In contrast to the excellent environmental conditions in newly constructed or renovated facilities, 12 libraries (21%) that use older storage facilities noted that these buildings are not equipped with environmental control systems.

Because light is damaging to library materials, new and renovated facilities also feature low lighting and limit the amount of time that lights are turned on. Sodium vapor lamps are preferred, but several libraries reported the use of less expensive fluorescent light fixtures with UV shields.

Fiscal Management. By and large, operating costs of storage facilities are covered by the library's overall budget support from the university or the state. Where a storage facility operates on a cost-recovery basis, fees are typically charged for processing incoming materials, housing, and retrieval.

Only 26 libraries provided information on total operating expenditures. Annual costs ranged from \$5,000 to over \$2 million, with a median figure of \$152,135. Personnel costs are dominant, accounting on average for 60% of the budget. In 16 libraries, expenditures for utilities, maintenance, and other building costs are part of the institution's capital budget. Twenty-two libraries reported having onsite staff at their storage facilities—usually support staff and students. Fourteen very large facilities are managed by a professional staff member.

Services. Library patrons seeking to use materials stored offsite request them electronically or in person at a circulation desk. Primary access is through retrieval and delivery of the physical object. Services also include the use of fax machines (19%) and Ariel—RLG's document transmission system—(14%) to deliver copies of articles rather than the materials themselves.

Depending on demand and the distance between campus and storage facility, some libraries support two

or three deliveries a day during the regular academic year to ensure rapid access to collections. For many libraries the target for delivery is 24 hours. For geographic reasons, distant facilities usually offer a turnaround time of two working days.

CONCLUSION

The majority of ARL libraries use secondary storage facilities. While these are first and foremost a strategic response to space crises, they have other strategic advantages. During the past decade, design specifications have evolved and consensus has emerged on key characteristics of climate-controlled, high-density environments. Because of the pressure to house collections at lower costs, many ARL libraries will accelerate the migration of major parts of their collections to secondary storage.

A pivotal requirement for the success and acceptance of offsite storage is effective inventory control and rapid delivery systems. As the documentation reproduced in this SPEC Kit suggests, libraries have invested extensively in educating users regarding the need for alternatives to traditional library practice. Websites are becoming a standard tool for providing up-to-date information for users. Electronic document delivery will be employed increasingly to offset diminished onsite access. Finally, hospitable environmental conditions will buy libraries the time required to undertake long-range preservation reformatting and conservation programs.

This SPEC Flyer and Kit were prepared by Jan Merrill-Oldham, Harvard University, and Jutta Reed-Scott, Association of Research Libraries, as part of the OLMS Collaborative Research/Writing Program.

¹Jeffrey R. Young, "In the New Model of the Research Library, Unused Books Are Out, Computers Are In," *Chronicle of Higher Education*, 17 October 1997, A27-8.

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