

**Strategic Planning Subcommittee
Meeting Agenda
March 28, 2022
1:40pm – Zoom (details in the calendar invite and below)**

1. Approval of minutes
2. Update on College's intent to plan for space needs (Allison)
3. Update on North Hall (Mark)
4. Proposal for a subcommittee of SPS, ad hoc committee on space planning, to devise plan/priorities and report to SPS at each meeting as it does so, with Mark Flower and Oswald Fraser co-chairing (Allison)
5. Open discussion of considerations and priorities for space, to be considered by ad hoc committee on space planning

**Strategic Planning Subcommittee
Minutes
March 28, 2022
1:40-2:50pm**

Present: Yi Li (*Chair*), Allison Pease (*Designated Chair*), Ric Anzaldua, Ned Benton, Andrew Berezhansky, Teresa Booker, Brian Cortijo, Mark Flower, Heath Grant, Karen Kaplowitz, Dyanna Pooley, Francis Sheehan, and Alison Orlando (*recorder*)

Guests: Hungde Chan, Rulisa Galloway-Perry, Brian Kerr, John Paul Narkunas, and Andrew Sidman

1. **Approval of minutes from February 15, 2022.** The minutes were approved as proposed.
2. **Update on College's intent to plan for space needs.** Allison P. reiterated to the committee that Goal 4 of the 2025 Strategic Plan has two objectives related to space. The first is to "use space creatively to sustain priorities" with the KPI of "implementing a framework for space allocation and reallocation." The second is to "build plans for adding space to the college" with the KPI of an "adoption of a CUNY-recognized and funded plan for space." She said that with that being established she wanted to share where we are in this process, and share some thoughts for moving ahead.
3. **Proposal for a subcommittee of SPS, ad hoc committee on space planning, to devise plan/priorities and report to SPS at each meeting as it does so, with Mark Flower and Oswald Fraser co-chairing.** Allison P. explained that an ad hoc committee on space planning, which will act as a subcommittee of the SPS will be established to create a space plan that will act as a framework for our space needs. She added that the ad hoc committee would be part of the shared governance process and report back to the SPS and College Council when necessary. Mark F. described the next steps for the ad hoc committee on space planning. He explained that he recently obtained the CUNY Space Guidelines from Cliff Resnik, the Director of Facilities Planning at CUNY. Mark F. felt that the first step would be for the ad hoc committee to use the CUNY Guidelines as an outline and work on creating our own space guidelines that would act as a framework to guide our own processes. Once this has been created and approved by the proper governance bodies, he felt that the ad hoc committee would move on to create an analysis of our space needs. Brian C. suggested that the registrar's office be involved in the process to provide information on classroom utilization. Mark F. agreed and spoke about the composition of the subcommittee. He felt that it should include himself, Oswald Fraser, Anthony Bracco, Kim Chandler, 2 to 3 faculty members, and 2 to 3 HEOs. Andrew B. inquired about student representation on the committee. Mark F. agreed students should be included on the committee and said he would speak with Andrew B. about the details.
4. **Update on North Hall.** Mark F. said that he met with Cliff Resnik and received new information about North Hall that he wanted to share. He explained that CUNY is interested in doing a private/public partnership for the North Hall space. CUNY has estimated that based upon the FAR (floor to area ratio) the building to be constructed would be around 830,000 square feet. In this partnership, CUNY is hoping to work out a lease that would allow CUNY to acquire and use 200,000 square feet of the space at no cost. The downside is that John Jay would not have sole use of the space and CUNY is looking at having either Guttman Community College or the School of Professional Studies share the space with us. There was a discussion on the pros and cons of either of these options. Mark F. explained that CUNY would use the new space to house our library, which would become a shared space with the school that shares the facilities with us. CUNY is now planning to hire an architectural planner to work with the different invested entities to understand their needs with the timeline that the architectural planner would need 2 to 3 months for the process. CUNY would then work with an architect with the timeline of having the

building ready in fall 2026 or spring 2027. They are hoping to start demoing North Hall next year, and start construction in 2024.

- 5. Open discussion.** The floor was opened for a discussion. Teresa B. inquired about what would happen to the space in Haaren Hall when the library vacates the space. Mark F. said that the space is currently 56,000 square feet and it would become available for the college to use as office or classroom space. Ned B. felt that there should be another group formed to consider a plan on how to use the vacated library space if it moves to North Hall. He added that the college needs to engage early with CUNY so we are able to build back Haaren Hall for our use. Allison P. felt that the ad hoc committee would address this. She said that the ad hoc committee would first create a framework for space guidelines and determine our priorities. She said then the committee would focus on how to utilize space at the college including the vacant library space. Ned B. said that she is describing a different process, and that he is speaking about the CUNY process. He added that the process he is concerned about is getting the plan for the old library space incorporated into the CUNY plan for North Hall. Allison P. said that Mark F. and Oswald F. would act as the liaisons to the CUNY process due to their administrative role. Ned B. also stressed that there should be a faculty member on the committee on what is happening in North Hall. Mark F. said that CUNY is going to consult with different entities within John Jay on the North Hall project. Ned B. still had concerns. Allison P. said that she understands his concerns, and that the college will keep trying to insert ourselves into the CUNY process at every opportunity. Yi L. noted that a member of the library should be considered for the ad-hoc committee. Andrew B. agreed on the importance of having a librarian in the process, as they are aware of student space needs in the library. Francis S. said that it is imperative that a librarian be included on the decisions in North Hall but added that there may be other choices for those working on the plan for the vacated space. He added that we must figure out how to tie in a funding source to complete the work on the vacant space in Haaren Hall for it to be useful to the college. Paul N. wanted to reiterate that if a librarian is included that it should be a member of the faculty, and echoed Ned's point that a faculty member should be on the committee. Yi L. felt that we have to be mindful of the funding source for renovating the current library space but we do not want to make it a precondition to be part of the project. He added that that we need to engage with the architectural planner within the upcoming months. Andrew S. noted that the new ad hoc committee should also focus on our current space needs as we have hired 30 new faculty starting in the fall. Ned B. noted that he feels that our space needs have not been met with the offer from CUNY. Allison P. inquired if there are any suggestions for the ad hoc committee to consider. Andrew B. asked the committee to consider moving the game room because of noise complaints, and having meditation rooms that are not classrooms. Brian C. felt that it is important that the committee focus on macro-level principles as we have been operating without them. The meeting was adjourned.

DRAFT



CUNY Space Guidelines

April 2019

Space Guidelines
are planning tools,
not mandates or
entitlements

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Introduction

Facilities are one of the primary resources of a university; providing safe and up-to-date classrooms, labs, libraries, and equipment that allow faculty and students to accomplish their best work is essential to the university's ability to carry out its mission. At the City University of New York (CUNY), the [Office of Facilities Planning, Construction and Management \(FPCM\)](#) is responsible for delivering the University's capital program, which is the means for identifying and addressing facilities improvements at each of the 24 individual institutions that make up the University. FPCM works closely with campus personnel to analyze the quantitative and qualitative needs of each campus. The quantitative needs are evaluated using CUNY's Space Guidelines and the qualitative needs are gathered in the University's Capital Infrastructure and Equipment Program. Both have been updated recently.

FPCM is comprised of four departments: Space Planning (SP); Design, Construction and Management (DDCM); Fiscal Management (FM); and Real Estate Transactions (RET). Space Planning is responsible for quantifying space needs across the University through master plans and studies. Space Planning works closely with the other three departments to plan for the needs of each institution in terms of actual campus conditions, available and projected capital appropriations, and maximizing opportunities with private-sector partners.

As early as 2008, Space Planning began efforts to update CUNY's 1972 Space Guidelines, which had been supplemented over the years with *ad hoc* benchmarking conducted during master plan studies at the individual colleges. This report is the result of a comprehensive and inclusive process undertaken with participation from the colleges and guidance from Paulien & Associates, educational programming consultants.

Space guidelines are an important tool used by colleges and universities throughout the country to determine space needs and to provide direction for capital projects. CUNY's existing guidelines were analyzed and compared to benchmarks from other institutions of higher education, with the goal of creating planning tools that will be responsive to the different academic offerings and campus settings across CUNY's 24 institutions. The recommended guidelines balance aspirations with realistic goals by taking into account the availability of land and funding. Space guidelines are not mandates or entitlements but rather flexible, equitable parameters for understanding space needs at a given campus, both in comparison to other campuses and to project the University's future facilities needs.

History of CUNY Space Guidelines

The 1972 Guidelines were developed in response to the *1967 Progress Report of The Regents Statewide Plan for Expansion and Development of Higher Education (1964)*. The *1967 Progress Report* specifically recommended CUNY develop Space Guidelines. The Progress Report states:

During the coming year, a detailed and careful study should be undertaken by the State Education Department of the standards of other factors used by City University and State University to plan capital expenditure and project space requirements for different buildings. These unit factors are of fundamental importance in terms of realistic planning and effective relationship between program requirements and eventual building costs (page 27.)

The Space Factors Committee, which began meeting in July 1968, was comprised of representatives from the New York State Education Department, the State Construction Fund, CUNY, the State University of New York (SUNY) and the Dormitory Authority of the State of New York (DASNY). The committee's objectives were:

- To establish procedures allowing flexibility in the planning, design, and construction of facilities adequate for a successful educational program.
- To develop planning techniques ensuring efficient use of public funds for construction.

Their process included:

- Development of terms and definitions;

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- Gathering of data and existing processes from public and private institutions of higher education;
- Benchmarking to identify the planning standards and space factors of comparable institutions/systems of higher education in other states; and
- Dissemination of the completed guidelines to the public institutions in New York State.

The committee presented its first report in 1970 to the Board of Regents; after further refinement of the standards and factors, the guidelines received final approval in 1972.

Rationale for Updating 1972 Space Guidelines

When the CUNY Space Guidelines were adopted in 1972, 12 of the 24 institutions had already been established prior to the *1967 Progress Report*, and five were opened between 1968 and 1971 as the guidelines were in development. Therefore, a significant percentage of CUNY facilities were designed and built prior to the adoption of the 1972 Space Guidelines.

The 1972 Guidelines were developed at a time when the University was expanding access to public higher education through open enrollment. Over time, as part of renovation projects, CUNY's older facilities have been modified in line with the Guidelines, but there are many spaces throughout CUNY that are larger or smaller than recommended. In addition, the diversity of CUNY's programmatic offerings and facilities makes static guidelines difficult to use.

Consequently, the 1972 Guidelines are based on assumptions that are no longer applicable. Since then, CUNY and the world of higher education have undergone many changes, including:

- The colleges now offer a large percentage of courses in the evenings and on weekends, whereas 40 years ago CUNY served a more traditional daytime student population.
- The advent of personal computers has greatly transformed the campus environment, both in instruction and administration.
- The Library Services component of campuses has been especially affected, in that the space requirements have shifted from stack areas to wired study spaces and information commons.
- The University no longer has a physical education requirement for undergraduate degrees, and athletic and physical education programs vary by campus.

These and many other changes, along with the high costs of real estate and construction, necessitate revising the CUNY Space Guidelines to enable more efficient use of the University's facilities resources.

Development of New Space Guidelines

After selecting Paulien & Associates as consultant through an extensive, competitive process, the project kicked-off in July, 2011. Meetings were held with academic and administrative representatives from both the senior and community colleges to gather data and test assumptions. Presentations and discussions were also held with the Facilities Committee of the Council of Presidents. In October 2011, a survey was prepared by Paulien & Associates and sent to all of CUNY's Vice Presidents of Finance and Administration and Campus Facilities Officers [Appendix D]. The survey covered the following space uses: Classroom Technology, Computer Labs, Faculty Offices and Support Spaces, Student Gathering and Collaborative Learning Spaces, and Space Deficits that Affect Student Retention. Results were shared in a concurrent session at the University's annual Finance Conference in November, 2011.

Benchmarking, completed by both Paulien and the Space Planning Department, concluded that most states do not have set space guidelines, and those that do: a) do not have standards for all of the space types identified by CUNY, and b) have little documentation as to the rationale for the established guideline(s) at the institutions that do have them.

The recommendations in these updated guidelines take into account the existing facilities inventory, the likelihood of building additional facilities given economic constraints, and differences in campus settings, e.g. the College of Staten Island is a 204-acre self-contained campus and Baruch College has just 3.3 acres in a dense urban setting.

Terms and Acronyms

The following terms are used throughout this document:

Archibus– the software package used to record the facilities inventory of the University.

Full Time Faculty (FTF) – both tenure-track and non-tenure track faculty headcount; adjuncts and visiting faculty are not included in this total. This data is tracked by Human Resources and is available at <https://www2.cuny.edu/about/administration/offices/hr/staff-facts/>

Full Time Equivalent Student (FTES) – a calculation that translates students in credit bearing courses from the aggregate into the corresponding number of students if all were full time (15 credits/semester for undergraduates; 12 credits/semester for graduate students). Used for undergraduate and master's students only; planning for Ph.D. students is based on headcounts.

Gross Square Feet (GSF) – the floor area of a structure included within the **outside** faces of the exterior walls, including all areas having floor and roof surfaces.

Net Assignable Square Feet (NASF) – the amount of space that can be used for people or programs, it is the area of an assignable space measured **within** the interior surface of the exterior walls, not including building services, circulation, mechanical space, or structural.

Net Square Feet (NSF) – The amount of the usable space **within** the interior surface of the exterior walls. It is the sum of ASF and non-assignable space, including building service, circulation, and mechanical areas.

Head Count – the actual number of students enrolled regardless of the number of credits/courses they are taking.

*Weekly Student Contact Hour (WSCH)** – The number of hours per week a student is scheduled in a classroom or laboratory situation. One student attending a course a nominal four hours per week generates a nominal four WSCHs. (Actual contact hours are 50 minutes each). All supervised courses generate contact hours. Contact hours and credit hours may or may not coincide.

Room Categories, Room Types, Building Area Measurement definitions and descriptions used in the guidelines and in CUNY's space inventory system (Archibus) reference the Postsecondary Educational Facilities Inventory and Classification Manual (FICM), 2006 Edition, published by the National Center for Education Statistics. Access the full online and PDF download at <https://nces.ed.gov/pubs2006/ficm/>.

Space Types

Space types, outlined below, are drawn from the industry standards defined in [The Postsecondary Education Facilities Inventory and Classification Manual \(FICM\)](#).

Instructional

1. Classrooms

Regularly-scheduled teaching, demonstration or recitation rooms that do not contain specialized equipment for student use. Within this category, subtypes include:

Seminar rooms -- capacity of up to 20 stations

Classrooms – capacity 21 to 74; and

Lecture halls – capacity of 75 and up

Classroom service space – immediate support space which directly serves the instructional space as an extension of the activities therein.

2. Instructional Labs

Regularly scheduled teaching and demonstration space containing specialized equipment for student use. Includes immediate support space which directly serves the instructional space as an extension of the activities therein.

3. Open Labs

Irregularly scheduled teaching and demonstration space containing specialized equipment for student use, at times available on a drop-in basis. Includes Ancillary Spaces that support instruction (darkrooms, greenhouses).

4. Research

Space equipped for use by students, faculty and technical staff for research projects that are independent of the scheduled instructional program.

5. Academic Offices

Areas used by faculty, both full-time and adjunct, and their administrative staff for non-teaching and non-research activities.

Support

6. Library

Areas comprised of the following elements:

Stacks – space to house the college’s library collections.

Seating/study – space for student and faculty use, can be located remotely.

Support – space for administrative functions and general processing. Includes classrooms dedicated to the library for the instruction of research.

7. Physical Education, Recreation, and Athletics

Rooms or areas used by students, faculty, staff or the public for athletic activities. Includes ancillary space that serves an activity space as an extension of the activities generated by the facility (e.g. locker rooms).

8. Assembly and Exhibition

Areas where non-class programmed activities take place. Within this category, subtypes include:

- Seating – all seating and non-lobby circulation space.
- Stage – performance-related space.
- Assembly Ancillary – all support facilities for stage and seating areas.
- Administrative – space needed for coordination of assembly activities.
- Exhibition space – all display space.
- Exhibition Ancillary – all support facilities for exhibition space.

9. Student/Faculty Services

Areas for non-academic use by students and faculty. Within this category, subtypes include:

- Lounge/Recreation – rooms providing area for extra-curricular, non-educational activities.
- Student Activities – areas for use by organized student groups.
- Food Services – all areas directly related to eating facilities.
- Bookstore – areas and support facilities used for merchandising.

10. Administrative Offices

Areas used by administrative staff that are not part of instructional departments, e.g. general tutoring, student support service, and continuing education.

11. Information Technology

Non-instructional electronic computing facilities and associated support spaces.

12. Campus Services

Areas for campus operations and maintenance. Within this category there are two subtypes:

- Central Services – non-maintenance campus services (mail, duplicating).
- Buildings and Grounds Services – space for building and grounds maintenance.

Space Guideline Applications

Space guidelines (typically expressed in NASF per FTES) are defined for each space type and vary by:

- Type of institution – community college, four-year (senior) college or graduate institution.
- Level of instruction – i.e. undergraduate or graduate.
- Discipline.
- Utilization – the number of hours per week a room is to be used and the standard occupancy rate for the number of seats, or stations, expected to be filled when the room is in use.

Space Guidelines are used in three ways:

1. Space Needs Modeling – quick analysis of space needs at a very high level, based on Full Time Equivalent Students (FTES), used as a rule of thumb and to compare campuses.
2. Master Planning – analysis of space needs at a department-by-department and room utilization level -- based on FTES, contact hours, program offerings, faculty and staff head counts, grants, and community offerings -- used to create a road map for reallocation of space, renovation projects, and new facilities. Master Plans include analysis beyond space needs and are undertaken in ten-year cycles, as programmatic changes occur or real estate opportunities arise.
3. Building Programming – detailed analysis of spaces for a renovation or a new facility -- based on specific programs, station counts, and faculty and staff counts --used to create a room-by-room plan for a capital project.

Space planning is generally broken into categories by function to address the needs of a campus. Two categories and 12 space types (defined in the previous section) are used for Space Modeling, Master Planning and Building Programming.

Space Needs Modeling

Space Needs Modeling is generally used by FPCM to provide quick system-wide comparisons between campuses. It is used for the senior and community colleges but is not appropriate for the CUNY School of Law, the Graduate Center, the Macaulay Honors College, the School of Journalism and the School of Professional Studies. These institutions are not included, due to the unique programs offered and the fact that their facilities do not contain many of the space types.

The Space Model analysis is based on Full-Time-Equivalent Student (FTES) data. It can be applied to existing FTES data provided by the Office of Institutional Research and Assessment or to projected FTES counts from the colleges or other Central Office sources. It is not necessary to break the FTES by discipline for this analysis.

A Net Assignable Square Feet (NASF) need is generated, which when compared to the recorded NASF of a campus, provides a simple perspective of the need versus the existing facilities inventory.

Master Planning

The Department of Space Planning works with individual CUNY campuses to create and/or update master plans. This is true for all CUNY institutions, not only the senior and community colleges. The purpose of creating a facilities Master Plan is to provide a detailed guideline for the physical development of the campus in order to support the academic mission. The plan seeks to:

- A. Develop a physical plant that efficiently addresses the academic mission and plant operations.
- B. Create an aesthetic environment that supports learning and student development.
- C. Provide a document to support the College's need for capital funds that includes scopes, priorities, magnitudes and phasing.

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

It is important to note that a final Master Plan proposal is conceptual and does not necessarily reflect what the final design of a new or renovated building will look like.

Ideally, a Master Plan should be performed every ten (10) years. Grounds for requiring a Master Plan include: the campus has outgrown its present facilities; it has had changes in the academic programs or focus; FTES have exceeded projections; future demographic changes are anticipated, etc.

Master Plans examine both the current and future space needs of a campus, based upon existing and projected academic offerings and enrollments, using Full Time Equivalent Student (FTES) data. Current needs are calculated using actual enrollments and facilities use, whereas future space needs are generated by attempting to capture the aspirations of an institution, both in terms of academic changes and enrollment targets. The space needs are generated in Net Assignable Square Feet (NASF), which is then compared to the recorded NASF of a campus, both in terms of space quantity and quality. Capital projects are then developed to bring the facilities in line with the need. The projects are prioritized and organized in terms of costs, scheduling and anticipated availability of funding.

Enrollment Data

The first step in the Master Planning process is to develop enrollment data. Colleges are required to submit enrollment projections at the beginning of the master planning process. These enrollment projections must be based on academic and financial planning that the colleges undertake on an ongoing basis with the University Office of Academic Affairs and the University Budget Office. Enrollment projections are developed in order to:

- Provide the consultant team with the academic composition of the College, including all disciplines taught, not just majors offered.
- Provide direction as to areas of growth/reduction and new programmatic initiatives by associating the FTES in courses to each discipline for current and future academic years.

Space Planning provides direction to the colleges to assist with the submission and approval process.

Programming

The time between capital project development in a Master Plan and the full funding for a capital project can be a number of years. Therefore, the first step in the design of the capital project is to verify that the assumed projections have materialized and that the recommended space is still required and correctly programmed.

Building Programming is used by FPCM, campus planners and consultants to provide a detailed room-by-room plan for a proposed capital project. Building Programming is based on specific programs identified for inclusion in the new space. The number of classrooms and labs, and the station counts within those rooms, are based on instructional delivery goals. Offices and support spaces are based on projected faculty and staff counts and desired delivery of services. Consideration should be given to student gathering space, anticipated technology support spaces, and building operations and maintenance space.

Net-to-Gross Ratios

CUNY's ratio of NASF-to-GSF varies from building to building. While every effort is made to make CUNY's facilities as efficient as possible, the vertical nature of the University's buildings requires circulation space that reduces the Net-to-Gross ratio. The Net-to-Gross Ratio is further constrained by the fact that most new academic buildings today are for a mix of space types. An examination of CUNY's existing inventory shows a range of 38% to 79%, with an average Net to Gross Ratio of 57%. Those with the lowest net-to-gross ratios are generally buildings with large atriums, extensive mechanical systems or facilities originally built for non-educational functions. Those with the highest net-to-gross ratios are single purpose structures, most often libraries, but sometimes performing arts or physical education facilities, built specifically for CUNY. See the table below for guidelines for the most common building types.

CUNY Guidelines for the Net to Gross Ratio for New Buildings or Major Renovations

<i>Building Type</i>	<i>Net-to-Gross Efficiency Ratio</i>
Classrooms and/or Offices	60-70%
Laboratories, with or without offices	50-60%
Recreation Facility	70-74%

These ratios are based on data from University of New Mexico, Office of Planning and Space Management, Building Efficiency Ratio Guidelines (2007) which, in turn, rely on multiple SCUP and Tradeline, Inc. data reports.

Designs for the renovation or new construction of buildings not addressed in the above guidelines should be benchmarked against similar facilities to establish an appropriate net-to-gross target early in the design process. Any building design that falls below these guidelines must be reviewed early in the design process to understand if there is a justifiable rationale for not meeting these targets. Although it will be difficult to exceed these guidelines, buildings that do should be held as models for future planning.

New Guidelines by Space Type

Classrooms

Room Size:

The 1972 guidelines for classrooms dates from an era when classrooms were outfitted with tablet arm chair seating, little or no technology, and pedagogy was instructor-focused. The new guidelines allow for a variety of classroom types including interactive, flexible environments.

Level of Analysis	1972 Guideline	New Guideline
Space Needs Modeling	NA	12 NASF/FTES \leq 8,000 FTES 10 NASF/FTES \geq 8,000 FTES +1 NASF/ FTES at Community Colleges, NYCCT, and CSI (the only CUNY campus in its borough) to support continuing education programming
Master Planning	16 NASF/seat or station	20 NASF/seat or station
Space Programming	Under 25 seats 20 NASF 26 seats to 59 16 NASF 60 to 75 seats 14 NASF Above 75 seats 13 NASF	Seminar Room (< 20) 22-28 NASF Classroom (20-75) Tablet-arm chairs 14-18 NASF Tables & chairs 18-22 NASF Active learning 23-27 NASF Lecture Hall (> 75) Chairs 13-15 NASF Tables & chairs 16-18 NASF

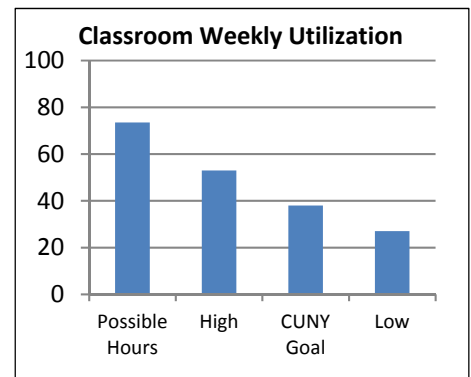
Utilization Rate:

The 1972 Classroom Utilization guideline of 30 hours per week dates from a time when CUNY colleges offered primarily traditional day programs; however, today most CUNY campuses offer evening and weekend courses in addition to the day programs. Paulien & Associates recommends the following guideline for classroom utilization:

	1972 Guideline	New Guideline
Classroom Utilization Guideline	30 hours/week	38 hours/week

This guideline is based on existing use patterns. Each classroom should have 38 hours per week of regularly scheduled instruction. Continuing Education and other non-credit use does not count towards the 38 hours.

This recommendation follows a review of all 50 states, which found that only 31 states have classroom utilization rate guidelines. The guidelines range from a high of 53 hours per week to a low of 27 hours per week; the average is 35 hours per week. Theoretically, a classroom could have 73.5 hours per week if a college ran a 14-hour day (8 AM to 10 PM) with 15 minutes between classes, 7 days a week. However, that is not practical; it would require extremely tight scheduling and would make cleaning the facility difficult.



Room Utilization Studies

To create the right mix of instructional space on a campus, room utilization studies are performed as part of a Master Plan. General-purpose classrooms and instructional laboratories are reviewed in terms of capacity, number of course meetings, percentage of hours used, percentage of seats occupied, and square feet per seat/station.

Calculations Used:

Room Utilization Rate (RUR) is the average number of hours a group of rooms is scheduled per week.

$$\text{Average Room Utilization Rate} = \frac{\text{(Scheduled Weekly Room Hours)}}{\text{(Number of Rooms)}}$$

Example: XYZ College has 164 classrooms, scheduled for a total of 4,155 hours. The average RUR is 25.3 hrs/wk.

$$\frac{4,155}{164} = 25.3$$

These weekly room-hour targets are averages. Some rooms will be used less, and others more, allowing an institution flexibility. For rooms well under the target, a condition assessment survey should be undertaken to determine quality of the space or other factors that make it an undesirable room.

Station Occupancy Ratio (SOR) is the proportion of stations (seats) in use when the room is scheduled. This can be calculated on a room-by-room basis or for the overall inventory of rooms.

$$\text{Average Station Occupancy Ratio} = \frac{\text{Scheduled Weekly Student Contact Hours (WSCH)}}{\text{Scheduled Weekly Room Hours}}$$

WSCH data is provided by the Office of Institutional Research and Assessment (OIRA).

Example: Room 123 has 34 seats. The room is scheduled for use 23 hours/wk with a total of 450 weekly student contact hours. On average, 58% of the stations are filled when the room is in use.

$$\frac{450}{(34 \text{ seats} \times 23 \text{ hours})} = 58\% \text{ SOR}$$

	1972 Guideline	New Guideline
Classroom Station Occupancy Guideline	80%	Master Planning: 70% Programming: 75% up to 60 seats, 65% above that

i.e. on average, 70% (or more) of the seats in a classroom will be occupied each time the room is used. For the 32 states with guidelines, the range is from a low of 57% to a high of 80%; the average is 64%.

Overall Inventory Example: XYZ College has 164 classrooms with a total of 74,825 seats. In Fall 2012, 54,321 seats were occupied in classrooms during a particular class hour, equal to an Average Station Occupancy Ratio of 72.6% of the stations in use per room.

$$\frac{54,321}{74,825} = .726, \text{ or } 72.6\% \text{ of seats were filled during that class hour.}$$

Classroom Space Need for a campus is determined by dividing the NASF/station guideline by the product of the Classroom Utilization Guideline and the Classroom Station Occupancy Guideline:

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$$\frac{20 \text{ NASF}}{(38 \text{ hours per week} \times 70\% \text{ of the seats used})} = 0.75 \text{ NASF/student/hour}$$

The result is then multiplied by the college's total Weekly Student Contact Hours (WSCH) in classrooms, to yield the total NASF of classroom space needed for the campus.

Example: If XYZ College taught 172,114 WSCH in classrooms in a semester, then the total classroom space needed is $0.75 \times 172,114 = 129,086$ NASF.

Developing the Recommended Classroom Inventory

A college's existing classroom inventory affects the courses offered at that institution. The Master Plan study must provide not only the aggregate NASF needed in classrooms but also recommendations for creating an appropriate mix of rooms to meet a college's desired course delivery.

Every campus should have some large lecture halls that allow for the teaching of multiple sections in one venue, for prominent faculty to teach large groups of students, and for student orientations. At the other end of the spectrum small rooms that seat 15-20 students are needed both at community colleges for remedial programs, and at the senior colleges and graduate schools for graduate seminars. The mix of classrooms in the middle range must be based on the individual institution's programs.

The Master Plan team works with the college to identify the appropriate mix of classrooms. In some instances new rooms will need to be built, in other instances new furniture and technology upgrades may be all that is required to adjust the classroom inventory.

Laboratories

The 1972 CUNY Space Guidelines for NASF per student station in laboratories are outdated and cumbersome to use. Disciplines are listed in a chart across multiple pages with an assigned station NASF per discipline. The rationale for NASF is not provided and the breakdown of disciplines does not account for current teaching and interdisciplinary work.

Paulien & Associates established the following calculations for Instructional Laboratories in the Space Modeling application. All Senior and Community Colleges start with 8 NASF per FTES, then additional NASF is added based upon the disciplines offered at the college.

Paulien & Associates created the *Instructional Laboratory Space* chart for Master Planning and Building Programming to provide a current methodology for Laboratory Space Need calculations.

<i>Level of Analysis</i>	1972 Guideline	New Guideline
Space Needs Modeling		
Instructional Labs:	NA	8 NASF/FTES <u>plus*</u> Allied Health offerings +1 NASF Sciences intensive +1 NASF Professional programs +1 NASF (architecture, engineering, etc.) Technology offerings +2 NASF Graduate programs +1 NASF
Open Labs:**	NA	3 NASF/FTES
Master Planning	Charts avail. upon request	See chart on page 14
Space Programming	Charts avail. upon request	Same as above

* These program areas are space-intensive. In order to qualify for the additional NASF, a college must have significant offerings in these program areas.

** Every campus has a mix of open labs. This guideline is based on current ratios across CUNY.

Utilization Rate:

Paulien & Associates recommends the following guideline for classroom utilization:

	1972 Guideline	New Guideline
Instructional Lab Utilization Target	24 hours/week	27 hours/week

Each instructional laboratory should have 27 hours per week of regularly scheduled instruction. Continuing Education and other non-credit use does not count towards the 27 hours.

This recommendation follows a review of all 50 states which found that only 32 states have Instructional laboratory utilization-rate guidelines. The guidelines range from a high of 29 hours per week to a low of 12.5 hours per week; the average is 23 hours per week. Instructional laboratories have lower utilization targets than classrooms in order to account for preparation time by lab instructors/technicians. (At this time it is difficult to show a chart of the overall laboratory use at a given campus as this data is not recorded in one system similar to classroom data. This has to do with departmental scheduling versus centralized scheduling. It is anticipated that CUNYfirst will make this data more readily available.)

These weekly room hour targets are averages. Some rooms will be used less, and others more, allowing an institution flexibility. For rooms well under the target, a condition assessment survey should be undertaken to determine quality of the space or other factors that make it an undesirable room.

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

	1972 Guideline	New Guideline
Laboratory Station Occupancy Guideline	80%	80%

CUNY Average Station Utilization Guideline for instructional laboratories is 80%; i.e. on average, each time an instructional laboratory is used 80% of the seats (or more) will be occupied. For the 32 states with guidelines the range is from a low of 60% to a high of 85%; the average is 77%. This can be calculated on a room-by-room basis or for the overall inventory of rooms.

Room Utilization Studies

As with classrooms, room utilization studies are performed as part of a master plan in order to create the right mix of instructional space on a campus. Instructional laboratories are reviewed in terms of capacity, number of course meetings, percentage of hours used, percentage of seats occupied, and square feet per seat/station.

Individual Room Example: College XYZ's Room 1234 has 24 seats. The room is used 20 hours during the week with a total of 382 seats occupied during those hours. On average, 80% of the stations are filled when the room is in use.

$$\frac{382 \text{ seats}}{24 \text{ seats} \times 20 \text{ hours}} = 80\% \text{ SOR}$$

Laboratory Master Planning

The mix of instructional and open laboratory space is based upon the programs offered at an individual campus. The Master Plan team works with the college to identify the appropriate mix of laboratory types.

The Instructional Laboratory Space Need for a campus is determined using the ***Instructional Laboratory Space*** chart below. A department-by-department analysis is developed by applying the recommended NASF per FTES to the current and approved projected FTES by discipline.

Using the following definitions and service factors, instructional and open lab NASF is based on the individual discipline in the chart on the next page.

Equipment Level Definition:

Low	Table top equipment or open space for physical activities with very little equipment
Moderate	Equipment that does not require structural accommodations
High	Equipment requiring structural accommodations

Service Factor: (Percentages are relative and gauged with consideration given to the space-per-student factor)

10-20%	Primarily storage space
25-30%	Requires a variety of service spaces, such as: storage for materials, student project work, chemicals, or glassware; experiment or preparation areas; single purpose rooms such as spaces for kilns or NMRs; secure areas such as server rooms, chemical or pharmaceutical storage; and storage for larger materials, equipment, machinery, etc.
40-50%	Similar to above but may require instrument storage or repair rooms, bio-hazards area, cold or freezer storage, food pantries, costume storage, vehicles, etc.

Utility Level Definitions:

Low	Electrical and up to two sinks
Moderate	Increased electrical for equipment, gas, compressed air, fume hoods, and room air changes
High	Systems for bio-hazards, sterile environments, animal washing facilities, dust collection, and fuel or flammable substance handling.

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

Instructional Laboratory Space

Equipment Level = Low	Equipment Level = Moderate	Equipment Level = High
NASF/ Student Service Factor Total FTES Utility Systems Level	NASF/ Student Service Factor Total FTES Utility Systems Level	NASF/ Student Service Factor Total FTES Utility Systems Level
35 10% 38.5 1 Computer Lab (general), Economics, English, Film Studies (Critique), Foreign Languages, Humanities, Mathematics, Music (Choral), Social Sciences (general), Sociology, Statistics	40 30% 52 2 Archaeology, Astronomy, Earth & Environmental Sciences, Geology	60 40% 84 3 Bioengineering
40 20% 48 1 Computer Science, Geography, Law/Legal Studies, Library Science, Marketing, Management, Secretarial Science, Trading Floor, Travel/Tourism	55 25% 68.75 2 Biology, Biomedical Education, Chemistry (Analytical), Criminology, Food Science, Marine Sciences, Psychology (Physiological)	70 25% 87.5 2 Art (Printmaking), Integrated Manufacturing, Physics (Advanced), Robotics
40 30% 52 1 Anthropology (Cultural), Engineering Technology, Law (Moot Courtroom), Physics (General)	60 20% 72 2 Anthropology (Physical), Electrical Engineering/Electronics, Film Studies (Editing, Production), Photography (Printing)	80 25% 100 2 Chemical Engineering, Chemistry (Inorganic/Organic)
50 20% 60 1 Audiology, Communication, Drafting, Education (Demonstration, Methods, Curriculum), Graphic Design, Journalism, Linguistics, Psychology (Theory, Counseling), Social Work, Speech & Hearing	60 30% 78 2 Dental Hygiene, Dietetics, Emergency Medical Technology, Home Economics, Medical Lab Technology, Occupational Therapy, Ophthalmic Dispensing, Physical Therapy	80 25% 100 2 Support Workshops (Wood, Glass, Metal and Fabrication Shops)
50 30% 60 1 Art (Drawing, Painting)	60 50% 90 2 Clothing, Textiles, TV/Radio Broadcasting	80 40% 112 3 Culinary Arts
50 40% 70 1 Music (Instrumental, Keyboards)	80 30% 104 2 Architecture, Art (Ceramics, Sculpture), Clinical Environment (Wet), Nursing, Radiologic Technology	100 25% 125 3 Environmental Controls, HVAC, Kinesiology, Stage Technology, Welding
60 30% 78 1 Art (General, Multi-media)		150 25% 187.5 3 Music (Instrumental, Keyboards)
80 25% 100 1 Music (Instrumental, Keyboards)		180 25% 225 3 Art (General, Multi-media)
100 20% 120 1 Dance, Theatre (Non-Assembly Space), Public Safety		200 25% 250 3 Music (Instrumental, Keyboards)

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

Research

Research space is used both by faculty and upper level undergraduate/graduate students. The 1972 CUNY Space Guidelines lists disciplines in the same chart as instructional laboratories across multiple pages with an assigned station NASF per discipline. The rationale for NASF is not provided and the breakdown of disciplines does not account for current interdisciplinary work.

Paulien & Associates created four tiers for use within the Space Modeling application. Senior Colleges are assigned a tier based on their academic offerings and research grant portfolios. A college may be moved from one group to another if there is a significant change in their programs and/or grant funding.

Research space was not allocated at Community Colleges in the 1972 Guidelines and is not recommended in the new guidelines.

<i>Level of Analysis</i>	1972 Guideline	New Guideline	
Space Needs Modeling	NA	Group 1: CCNY and Hunter	300 NASF/(0.75 x FTF)
		Group 2: Brooklyn, Lehman, Queens	250 NASF/(0.75 x FTF)
		Group 3: CSI, John Jay, York	100 NASF/(0.75 x FTF)
		Group 4: Baruch, Medgar Evers, NYCCT	50 NASF/(0.75 x FTF)
Master Planning	Varies by discipline	See chart on page 15	
Space Programming	Same as above	Same as above	

Research space can be expensive to build, particularly in the natural sciences. Therefore, when planning research space at a campus during Master Planning and Building Programming it is important for the college and FPCM to work closely with the Executive Vice Chancellor/ University Provost and the Associate Vice Chancellor/University Vice Provost for Research to determine the percentage and level of research expected of the faculty at the given institution.

While almost every faculty member participates in some form of research, not all require additional space or specialized environments. Colleges must identify the ratio of faculty with physical space requirements versus theorists working in their offices. CUNY does not provide second offices for research.

Since 2000, CUNY has planned science research space on campuses in open lab environments, to the extent possible. This method allows colleges to assign research space as lab modules rather than enclosed rooms. Planning for these lab spaces must be an iterative process that evaluates the existing need, research aspirations, and the associated capital investments required. A uniform guideline should not be applied unilaterally to all faculty without these conversations.

Paulien & Associates created the ***Research Laboratory Space*** chart to provide a current methodology for department-by-department Research Space Need calculations in Master Plans.

Research Laboratory Space

Equipment Level = Low				Equipment Level = Moderate				Equipment Level = High			
Total Utility		Total Utility		Total Utility		Total Utility		Total Utility		Total Utility	
NASF/ Service Faculty Factor	NASF/Systems FTES Level	NASF/ Service Faculty Factor	NASF/ Systems FTES Level	NASF/ Service Faculty Factor	NASF/ Systems FTES Level	NASF/ Service Faculty Factor	NASF/ Systems FTES Level	NASF/ Service Faculty Factor	NASF/ Systems FTES Level	NASF/ Service Faculty Factor	NASF/ Systems FTES Level
20	00%	20	1	320	25%	400	2	480	25%	600	2
Anthropology (Cultural), Economics, English, Film Studies (Critique), Foreign Languages, Humanities, Mathematics, Social Sciences (General), Sociology, Statistics, Computer Science, Geography, Law/Legal Studies, Library Science, Marketing, Management, Social Work				Anthropology (Physical), Electrical Engineering/Electronics, Biology, Biomedical Education, Chemistry (Analytical), Criminology, Food Science, Marine Sciences, Medical Lab Technology, Psychology				Chemical Engineering, Chemistry (Inorganic/Organic), Robotics			
40	30%	52	1								
Education (Demonstration, Methods, Curriculum), Linguistics, Engineering Technology, Nursing, Physics (General)											
160	20%	190	1								
Audiology, Communication, Graphic Design, Psychology (Theory, Counseling), Speech & Hearing											

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

Academic Offices

The University’s academic office space is one of the most taxed resources within CUNY. These guidelines do not provide for multiple offices for faculty, i.e. academic offices and research offices are one and the same, and while faculty serve as a department chair they do not retain a faculty office as well.

Academic Office space includes space for full-time faculty, adjunct faculty, administrative support staff, graduate students, and support functions including conference rooms, filing, supplies, copy/printing and storage. A department-by-department space needs profile is developed during the Master Plan study by applying the NASF by title/function listed to existing and projected faculty, adjunct and staff counts by department as provided by the college.

<i>Level of Analysis</i>	1972 Guideline	New Guideline
Space Needs Modeling	160 NASF/FTE Faculty + 40 NASF Evening Faculty	10.5 NASF/FTES (Based on 190 NASF* x FTES/18)
Master Planning	Department Chair Office 180 NASF Faculty Office 120 NASF Evening Faculty 40 NASF Secretarial Station 80 NASF Reception, Conference, and File Room space dependent upon number of FTE Faculty in academic department	Department Chair Office 180 NASF Faculty Office 120 NASF Adjunct Space 40 NASF Graduate Student 20 NASF Higher Education Officer (HEO) 150 NASF Assoc./Asst. HEO 120 NASF Assistant to HEO 80 NASF Gittleson/College Assistant 40 NASF Conference rooms 20 NASF per occupant Support Space 20 NASF per FTEF Circulation Allowance 25% of above total (for open-office areas and w/in suites)
Space Programming	Same as above	Same as Master Planning

* Basis for Space Needs Modeling:
 120 NASF Office
 +20 NASF Support Staff
+20 NASF Conf./Meeting Rms.
 160 NASF subtotal
+30 NASF Circulation
 190 NASF Guideline

Libraries

Libraries are undergoing a transformation and the existing formula for determining library space needs no longer holds true. The research conducted during this project found that while library space still includes stack areas, administrative offices, classrooms for teaching research, and independent and group study spaces, no recent formulas to determine the quantity needed for each function have been developed by other institutions of higher education or by the Association of College and Research Libraries (ACRL). ACRL had promulgated guidelines until it rescinded them in the 1990s.

Recent library projects across the campuses have taken advantage of CUNY’s interlibrary loan program that allows students at one college to request books from another CUNY campus, consequently reducing the need for stack space. Additionally, some campuses have, or are exploring the use of, compact shelving systems to reduce stack areas. In each case, the stack space saved has been or will be converted to study areas, the space most requested throughout the University. Therefore, for master-planning purposes, library space is considered in its entirety rather than as calculations for stack, seating and administrative functions.

Programming the breakdown of library space within the campus allotment should be determined on a campus-by-campus basis. The consultant team must work with the individual college to determine the appropriate mix of stacks, study and administrative spaces. Because CUNY has the advantage of being located within the five boroughs of New York City, college library staff have the opportunity to regularly visit other libraries within the system and share library planning strategies to maximize the resources of the entire University.

<i>Level of Analysis</i>	1972 Guideline	New Guideline
Space Needs Modeling*	NA	Senior Colleges: 8 NASF/FTES Community Colleges: 5 NASF/FTES
Master Planning*	Stack Space: 0.1 NASF/ volume Seating: 3.75 - 7 NASF for each student (undergraduate/graduate) and each faculty Administration: 25% of stack and seating total	Senior Colleges: 8 NASF/FTES Community Colleges: 5 NASF/FTES
Space Programming	Stack Space: 0.1 NASF/ volume Seating: 3.75 - 7 NASF for each student (undergraduate/graduate) and each faculty Administration: 25% of the stack and seating total	Stack Space: 0.08 NASF/volume Seating: 30 NASF/seat at tables/carrels 20 NASF/seat in study rooms (Distribution determined by the College) Administration: use Academic Office guidelines

* The differential between senior college and community college library guidelines are based on benchmarking and the additional collection requirements for BA vs. AA accreditation.

Libraries at CUNY and SUNY campuses were recorded and compared. Comprehensive Colleges within SUNY, those most like CUNY’s Senior Colleges, have between 10 and 21 NASF/FTES of library space, with an average of 13 NASF/FTES. CUNY Senior College libraries range between 4 and 15 NASF/FTES, with an average of 8 NASF/FTES. Six of the eleven campuses fall below the 8 NASF/FTES average. The current CUNY Library Guideline would generate a need of more than 660,000 additional NASF or 1.1 million GSF of library space at the Senior Colleges alone; and

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the cost to build that GSF would be roughly \$1 billion. Although more library space at CUNY would be ideal, it is not realistic to assume that the colleges will have either the land or the capital dollars to match SUNY's 13 NASF/FTES average. Therefore, the **recommended guideline for Library space at CUNY Senior Colleges is 8 NASF/FTES.**

SUNY's community college libraries have between 3 and 10 NASF/FTES, with an average of 6 NASF per FTES. While researching the significant discrepancy in library NASF/FTES across SUNY campuses, it was found that those community colleges with large libraries are serving as the only public library for the larger community. CUNY's Community College libraries range between 2 and 4 NASF/FTES, with an average of 3 NASF/FTES; and, while the libraries are open for community use, they are not the sole public libraries in their communities. All of CUNY's Community Colleges have expressed the need for additional library space; however, like the Senior Colleges land and capital dollars limit the Community Colleges' ability to expand their libraries. Therefore **the recommended guideline for Library space at CUNY Community Colleges is 5 NASF/FTES.**

Physical Education, Recreation, and Athletics

Guidelines for physical education, athletics and recreation can vary widely. Physical Education space in the 1972 Guidelines is based on Weekly Scheduled Contact Hours. CUNY, like many universities no longer has a physical education requirement in its degree programs; however, it is important that the colleges be able to offer a complement of athletic programs.

Paulien & Associates found multiple ways of calculating physical education/athletic space, including allotments per FTES, and minimum allotments. Because athletic space -- i.e. gymnasias, swimming pools, tennis/handball/racquet courts, etc. -- are all built to standard sizes, in order to have an array of these space types the NASF/FTES will be larger at schools with lower enrollments; i.e. a gym distributed across 10,000 FTES will result in a lower NASF/ FTES than if it were across 2,000 FTES.

<i>Level of Analysis</i>	1972 Guideline	New Guideline																																																																																																				
Space Needs Modeling	Formulas based on Weekly Scheduled Credit Hour (WSCH) in Physical Education classes + Minimum of 15% of developed total for service space, such as lockers.	Core for all institutions 34,740 NASF + Senior Colleges: FTES up to 3,000 no add'l space + FTES over 3,000 4 NASF/FTES + Brooklyn/Queens* +50,000 NASF Community Colleges: FTES up to 3,000 no add'l space + FTES over 3,000 2 NASF/FTES																																																																																																				
Master Planning	Same as Space Needs Modeling	Same as Space Needs Modeling																																																																																																				
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<i>Space</i>	<i>NASF/station</i>	<i>Stations</i>	<i>NASF</i>																																																																																																			
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* Additional NASF allotments of 50,000 NASF were made for Brooklyn College’s program in Teacher Education that prepares Physical Education teachers and Queens College’s NCAA Division 3 status. Should a college develop a similar program or change its NCAA status, an additional allotment would be merited.

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

Administrative Offices

The 1972 Guideline for Administrative Offices is 6.0 NASF/FTES. A review of the Administrative Office space within CUNY found a range of 6 to 17 NASF per FTES across the campuses. Through benchmarking it was decided to base the guideline on the size of the institution. Paulien & Associates has found that the national trend of improved support for students has increased the administrative services at most colleges over the past few decades.

Below are the recommended guidelines for Administrative Offices:

<i>Level of Analysis</i>	1972 Guideline	New Guideline
Space Needs Modeling	6 NASF/FTES	Up to 5,000 FTES 15 NASF/ FTES + 5,000- 10,000 FTES 10 NASF/ FTES + 10,000- 15,000 FTES 8 NASF/ FTES + > 15,000 FTES 6 NASF/ FTES
Master Planning	President 480 NASF Vice-President 320 NASF Dean of College (or Equiv.) 300 NASF Dean (or Equivalent) 240 NASF Associate Dean (or Equiv.) 180 NASF Other Admin. Office Persons 120 NASF Secretarial Station 80 NASF Additional space, as needed, for: File, Storage, Work space Conference Rooms Reception Rooms Coat Rooms	Same as 1972 Guidelines + Director 180 NASF Campus Services Manager 120 NASF Executive or Special Asst. 120 NASF Counselors (office) 120 NASF (cubicles) 80 NASF Administrative Assistant 80 NASF Graduate Student 20 NASF College Assistant (incl. Gittleston) 40 NASF Conference rooms 20 NASF/seat Internal Circulation 20% of total
Space Programming	Same as Master Planning	Same as Master Planning

To illustrate, for a campus with 12,281 FTES:

$$\begin{aligned}
 &5000 \text{ FTES} \times 15 \text{ NASF/FTES} = 75,000 \text{ NASF} \\
 &+ 5000 \text{ FTES} \times 10 \text{ NASF/FTES} = 50,000 \text{ NASF} \\
 &+ 2281 \text{ FTES} \times 8 \text{ NASF/FTES} = 18,248 \text{ NASF}
 \end{aligned}$$

143,248 NASF, or 11.66 NASF/FTES.

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

Assembly and Exhibition

Assembly areas are spaces where non-class programmed activities take place. Within this category there are sub-types including: Seating, Stage, Ancillary, Administrative, and Exhibition spaces (see *Space Types* on page 3 for definitions). Assembly guidelines remain the same as those in the 1972 Guidelines.

<i>Level of Analysis</i>	1972 Guideline	New Guideline
Space Needs Modeling	Community Colleges 34,310 NASF Senior Colleges: < 8,000 FTES 47,670 NASF 8,000 - 13,000 FTES 55,030 NASF > 13,000 FTES 61,450 NASF	Same as 1972
Master Planning	See above	Same as 1972
Space Programming	See chart below	Same as 1972

The above recommendations are based on the following broad guidelines (using NASF from chart below):

Community College: 500-seat theater, 1,000-seat auditorium, and 2,400 NASF exhibition display.

Senior College (< 8,000 FTES): 200-seat recital hall, 500-seat theater, 1,000-seat auditorium, 8,000 NASF of display.

Senior College (8,000-13,000 FTES): 200-seat recital hall, 200-seat and 500-seat theaters, 1,000-seat auditorium, 8,000 NASF of display.

Senior College (>13,000 FTES): 240-seat recital hall, 300-seat and 500-seat theaters, 1,200-seat auditorium, 8,000 NASF of display.

Recommended Space Need for Assembly and Exhibition Facilities
(adapted from 1972 Guidelines)

<i>Space Type</i>	<i>Size Option 1</i>	<i>Size Option 2</i>	<i>Size Option 3</i>
Recital Hall			
Capacity	200	240	
Seating Space	2,000	2,880	
Stage Space	1,200	1,200	
Ancillary Space	1,200	1,200	
Admin. Space	240	280	
Subtotal NASF	4,640	5,560	
Theater			
Capacity	200	300	500
Seating Space	2,400	3,000	5,500
Stage Space	1,600	1,600	3,420
Ancillary Space	3,200	3,200	6,840
Admin. Space	160	300	550
Subtotal NASF	7,360	8,100	16,310
Auditorium			
Capacity	1000	1200	
Seating Space	8,000	12,000	
Stage Space	3,000	3,000	
Ancillary Space	3,000	3,000	
Admin. Space	800	1,200	
Subtotal NASF	14,800	19,200	

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

Exhibition Facilities			
Display Space	2,400	8,000	
Service Space	800	2,000	
Admin. Space	NA	1,920	
Subtotal NASF	3,200	11,920	

Exhibit space is to be determined on a project-by-project basis, based on intended functions, available space and costs. It should include display space, service space (storage, IT/AV controls, etc.) and administrative space such that the space can meet the functional demand.

Student/Faculty Services

Student/Faculty Services space includes lounges, student clubs/organization meeting rooms and offices, food services and bookstores. The 1972 Guidelines recommend 10.5 NASF/FTES; however the average at CUNY Community Colleges is 3 NASF/FTES and at CUNY Senior Colleges 5 NASF/FTES. The national benchmarking analysis conducted for this study did not find a general formula used by other state systems that could be applied to CUNY.

A comparison survey of CUNY and SUNY student/faculty services allotments across the campuses determined that, in this case, SUNY’s Comprehensive Colleges are not like CUNY Senior Colleges in that each has a significant residential component with dining services and is located in a non-urban setting with plenty of land but limited cultural attractions in the surrounding area. SUNY’s community colleges are more similar to both Senior and Community Colleges at CUNY in terms of student/faculty services space. At SUNY’s Community Colleges, Student/Faculty Services space ranges between 4 and 11 NASF per FTES, with an average of 7 NASF per FTES. **Therefore, the CUNY Guideline was lowered to 7 NASF per FTES as a more realistic goal.**

<i>Level of Analysis</i>	1972 Guideline	New Guideline
Space Needs Modeling	10.5 NASF/FTES	7 NASF/FTES
Master Planning	Same as above	Same as above
Space Programming	Lounge/Recreation Facilities: Meeting Room 20 NASF/person Lounge 20-40 NASF/person Table Tennis 300 NASF/table Billiards 350 NASF/table Student Services/Organizations: No specific guideline* Includes counseling rooms, student government offices, student publications, student club offices administrative offices and political, religious, and fraternal organizations Food Services: See chart below Bookstore: Dependent upon the scope of the operation planned	Same as 1972 except as noted Student Service/Organizations: Office space (private and shared) to follow guidelines for space sizes from Administrative Offices to enable assignment flexibility.

* Based upon the nature of the college

Recommended Food Service Spaces
(From 1972 Guidelines)

Space needs are broken into two categories: dining on campus and vending/snack areas.

Facility	User NASF/Station	Support NASF/Station	Total NASF/Station
Cafeteria:			
On campus food prep	12	16	28
Partial on campus prep	12	8	20
Off campus prep	12	1	13
Dining Room (per seat)	16	16	32
Snack bar	10	10	20
Vending Machine	12	1	13

The following formula, using turnover rates (TR) from the chart below, is used to calculate the necessary dining seating requirements of a campus:

$$(\% \text{ of FTES} \times \text{TR}) + (\% \text{ of FTEF} \times \text{TR}) + (\% \text{ of Staff} \times \text{TR}) \times 32 \text{ NASF.}$$

The percentage of users is estimated by looking at the surrounding establishments that offer alternative dining options. A range is provided to address the fact that some campuses will have more outside selections available, thereby lowering the seating requirements, while others must rely on campus-provided dining.

Users	Turnover Rate (TR)	Needed Stations
60-75% of FTES	3	= Student seats
40-50% FTEF	2	= Faculty Seats
60-80 % Non-Faculty Staff	2	= Staff Seats

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

Information Technology

Information Technology space includes non-instructional electronic computing facilities and associated support spaces. The 1972 Guidelines included “Data Processing” and “Instructional Resource Facilities.” These two categories covered computing facilities, graphics, photography, TV and radio studios, and other instructional support spaces. As technology has changed the use of these spaces has evolved. Data processing centers are now data hubs that connect to the University’s Central Data Center, which require less space than in the past.

After surveying the existing NASF dedicated to IT space throughout CUNY, Paulien & Associates recommends:

0.75 NASF per FTES at both Senior and Community Colleges for Information Technology Space.

The breakdown of this space is to be determined by each campus. (The network distribution closets across the campuses are allotted within the gross square footage of building, and do not have an NASF calculation).

With regards to the Instructional Resource Facilities, advancements in digital technology and printing have impacted the need for graphics and photography. As such, these functions are now part of many desktop software packages, which faculty and staff access directly from their personal/office computers, making a separate guideline unnecessary.

TV and radio studios across the University are generally used as part of the instructional program or student services offerings. Therefore, those studios that support instruction are calculated as part of the instructional or open lab guidelines, and those used by student clubs are considered to be part of the Student/Faculty Services guideline.

Campus Services

Campus Services space is the area necessary to house and support campus operations and maintenance. The 1972 Guidelines did not take into account the campus acreage when calculating the necessary space for campus services. Paulien & Associates recommends the following guidelines for campus services:

<i>Level of Analysis</i>	1972 Guideline	New Guideline
Space Needs Modeling	Central Services: 3% of total of previous categories Building and Grounds Services: 4% of total of previous categories	Based on campus acreage: < 20 acres 5% of total preceding NASF 20- 100 acres 7% of total preceding NASF > 100 acres 8% of total preceding NASF
Master Planning	Same as above	Same as above
Space Programming		See below for specifics

Campus Services space can be divided into two categories:

1. Central Services – central non-maintenance facilities, including the following:
 - Mail receiving and distribution: Determined campus by campus.
 - Central duplicating: Determined campus by campus.
 - Central Receiving and storage: Determined campus by campus.
 - Administration: Use Administrative Offices guidelines.
2. Buildings and Grounds Service – These areas are for building and grounds maintenance; programming of the actual spaces are to be determined on a project-by-project basis within the master plan’s recommended NASF. The following chart provides a gauge for the various space types required within this category.

Facility	UP TO 7,000 FTES	7,001 TO 13,000 FTES	13,000+ FTES
Dead Storage	6,000	7,800	8,500
Shops	7,500	9,000	9,000
Active Storage	6,000	8,000	8,000
Vehicle Storage*	4,000	4,500	4,500

*Only applies for colleges with campus grounds.

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

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Master Planning Process

A. Development of Enrollment Projections (see attached sample Appendix E)

1. Purpose
 - a. Provides the consultant team with the academic composition of the college, including all disciplines taught, not just majors offered.
 - b. Provides direction as to areas of growth/reductions, and new programmatic initiatives by associating the Full Time Equivalent Students (FTES) in courses to each discipline for current and future academic years.
2. Preparation
 - a. Space Planning (SP) will schedule a meeting to discuss the enrollment projections process. Attendees must include SP, CUNY Office of Institutional Research and Assessment (COIRA), College Vice Presidents of Finance (Administration) and Academic Affairs (Provost) and a representative from the College's Office of Institutional Research.
 - b. SP, with assistance from COIRA, will provide the colleges with an Excel file pre-populated with data to assist in this process.
3. Format
 - a. Column 1: "DEPARTMENT NAME" – Department name from COIRA
 - b. Column 2: "DISCIPLINE" – Discipline from COIRA; these are all areas not just majors offered. College Provost and Office of Institutional Research will add or eliminate disciplines to customize the chart for the campus.

The list may be rearranged to reflect academic structure in terms of how the disciplines align by division and/or department.
 - c. Column 3-8: "Fall #### Actual FTES" the breakdown of FTES by discipline for each Fall semester for the **previous** five years. This data is provided by COIRA.
 - d. Columns 9 -18: "Fall XXXX Projected FTES" – these are the proposed breakdown for FTES by discipline for each of the Fall semesters going into the **future** for ten years. The college provides this data.
 - e. Chart should be accompanied by a memo indicating the rationale for the projections proposed in the future year columns.

B. Submission Process

1. Cover letter to be addressed to: Executive Vice Chancellor for Academic Affairs; Senior Vice Chancellor for Budget, Finance and Financial Policy; Associate Vice Chancellor of Budget and Finance; and Vice Chancellor for Facilities Planning, Construction and Management.
2. CC's to include: University Dean for Executive Office, University Dean for Institutional Research & Assessment, and Director of Space Planning.

C. Approval Process

- a. The Office of Academic Affairs (AA) and the University Budget Office (UBO) will review the submission
 - i. If further information is required, they will:
 - (1) Contact the college with questions, and/or
 - (2) Request a meeting with the college and/or SP.
 - ii. If no further information is required, they will forward approval notification to the college and SP.

These guidelines provide a resource to analyze and plan for space needs and are targets, not mandates, entitlements or guarantees. Deviations from the guidelines are possible, provided the basis and rationale is well-documented and accepted by CUNY Department of Space Planning.

- b. Once AA and UBO have signed off on the enrollment projections, SP will forward the chart to the Master Planning consultants.

Please note, the Enrollment Projects must be approved by AA and UBO prior to hiring a consultant for the Master Plan study.

Calculations are developed by space type similar to the Space Modeling exercise but with more detail. Starting with instructional space, the first step is to understand how the existing classrooms and laboratories are utilized.

Type of Institution

1. What type of institution do you represent?
 - Community College
 - Four Year College
 - Graduate & Professional School

Classrooms and Technology in Classrooms

2. At your institution, what is the prevalent seating type in the classrooms?
 - Traditionally sized Tablet Armchairs
 - Larger Tablet Armchairs
 - Tables and Chairs
 - Fixed Tables and Chairs
 - Fixed Tablet Armchair
 - Other:
 - If other, describe:
3. What classroom capacity is perceived as the most needed at your institution (round to the nearest capacity mentioned)?
 - 30 student seats or less
 - 40 student seats
 - 50 student seats
 - 60 student seats
 - 80 student seats
 - 100 student seats
 - 120 student seats
 - 150 student seats
 - 200 student seats
 - Over 200 student seats
4. Define what is considered "smart" technology at your institution.
5. What percentage of your institution's classrooms are smart classrooms?
 - Less than 10%
 - 10% - 25%
 - 25% to 33%
 - 34% to 50%
 - Over 50%
1. Check the technology that is used in your institution's smartest classrooms:
 - One Mounted Overhead Projector
 - Two Mounted Overhead Projectors
 - More than two Mounted Overhead projectors
 - Plasma/LCD Monitor(s)
 - Automated response system (clickers, PDA, etc.)
 - Docu-camera
 - Smart Board
 - Tablet Technology
 - Instructor Access to the Internet
 - Student Access to the Internet
 - Student Computers
 - Student Laptop Connectivity
 - Instructor Podium with computer/laptop and various controls
 - Sound System for listening to digital movies and music

- o Microphone for the Instructor
 - o Distance Education Capabilities (asynchronous)
 - o Distance Education Capabilities (interactive)
 - o Other (please specify)
- 2. How many distance education classrooms are there at your institution?
 - o 0
 - o 1 - 5
 - o 6 - 10
 - o 11 - 15
 - o Over 15
- 3. Are the distance education capabilities:
 - o Asynchronous (not interactive)
 - o Interactive
 - o Both
 - o Other (please specify)
- 4. Does your institution have a technology plan for classrooms?
 - o Yes
 - o No
 - o I don't know
- 10. Is the technology plan being implemented?
 - o Actively being implemented
 - o Implemented as funds are available
 - o The plan sits on a shelf

Computer Labs

- 6. Is your institution increasing or decreasing the number of computer labs?
 - o Increasing
 - o Decreasing
 - o Neither – Staying about the same
 - o I don't know
- 7. Are the majority of computer labs at your institution for use by multiple academic programs or is the majority for a single academic program?
 - o Multiple Academic Programs
 - o Single Academic Program
 - o The use is evenly split between Multiple and Single Academic Programs
 - o I don't know
- 8. Of those computer labs that are for a single academic program, what is the major reason?
 - o Specific Software
 - o Lab was funded by a grant with user restrictions
 - o Department funded Lab
 - o Scheduling Conflicts
 - o Other (please specify)
- 9. Do you have spaces at your institution with computers that are classified as classroom space rather than laboratory space?
 - o Yes
 - o No
 - o Maybe
 - o I don't know

10. How extensively are laptop carts used at your institution?
- We do not have any laptop carts.
 - We have a few.
 - We have a moderate number of laptop carts.
 - We have a lot of laptop carts.
11. Where are the laptop carts stored? Check all that apply.
- Storage closet
 - Within the classroom or lab
 - In a faculty member's office
 - The office responsible for instructional technology stores them
 - Other (please specify)

Faculty Offices and Faculty Support

12. What percent of the full-time faculty at your institution share office space?
- 0%
 - 1% to 5%
 - 6% to 10%
 - 11% to 15%
 - 16% to 20%
 - 21% to 25%
 - Over 25%
18. If over 25%, what is the percentage?
19. How many faculty and administrators have more than one office?
- Less than 10
 - 11 to 20
 - 21 to 40
 - 41 to 50
 - 50 to 75
 - 76 to 100
 - More than 100
20. Does your institution create any type of open office environments (cubicles or workstations) for full-time faculty?
- Yes
 - No
 - I don't know
21. Are adjunct faculty (non-permanent, part-time) provided any type of office space at your institution?
- Yes
 - Yes, but not consistently
 - No
 - I don't know
22. If so, what type of space is provided?
- Several adjuncts to an office, permanently assigned
 - A resource area with non-assigned, shared desk space (first come, first served)
 - Other (please specify)
23. Does your institution have a teaching/learning center for faculty development?
- Yes
 - No
 - I don't know

24. What types of activities occur in this space? Check all that apply.
- Instruction on technology (hardware)
 - Instruction on software
 - Curriculum Development
 - Development of on-line Curriculum
 - Curriculum Research
 - Assistance with instructional techniques
 - Other (please specify)

Student Gathering/Collaborative Learning Spaces

25. Are there enough student gathering spaces at your institution?
- Yes
 - No
 - I don't know
26. Are there enough collaborative learning spaces where students can interact among themselves or with faculty for project work or time after class?
- Yes
 - No
 - I don't know
27. Do any of the student gathering / collaborative learning spaces have technology associated with them?
- Yes
 - No
 - I don't know
28. Please describe the technology provided, if any.
29. If your institution does have student gathering or collaborative learning spaces, where is this space located? Check all that apply.
- In the library
 - Group seating in corridors
 - Small rooms or alcoves off of a main area
 - Main lobby of a building
 - Other spaces have been converted to create these environments
 - Other (please specify)
30. Does food service contribute to the successful use of these student gathering / collaborative learning spaces?
- Yes
 - No
 - I don't know

Student Retention

31. What non-residential space is lacking at your institution that will help with student retention? Number in order of importance with 1 being the most important.
- Student Gathering Spaces
 - Food Service
 - Library
 - Tutoring Centers
 - Technology rich instructional spaces
 - Senior Capstone project space
 - Student Organization Space

- o Student Center Space
- o Day Care Centers
- o Updated facilities
- o Student Learning spaces
- o Computer labs
- o Other

ikon.5 architects

June 7, 2017

John Jay College

Lloyd Sealy Library Feasibility Study

COLLECTION ANALYSIS

General Collection

220,000 vol. - currently static (approximately 2000 v. weeded + 2000 v. purchased -annually average)
(approx.. additional 5,000 vol. circulating on average)

Assumptions for growth

- Assume continue to weed annually ½% collection per year = 1000 vol.
- Assume continue to purchase 2000 vol./year for next 25 years on average
- Net growth to collection 1000 vol./year x 25 years = 25,000 vol.
- Total General Collection in 25 years = 250,000 vol.

Assumptions for planning / size

- Shelving 175 vol./ SFS; need 1428 SFS or 714 DFS
- 715 DFS x 15sf/DFS = 10,714 nsf x 1.25 circulation = **13,500 SF**
- in compact mobile storage assume 50% reduction = **7000 SF**

Bound Periodicals

34,200 vol. currently (and shrinking)

Assumption for size

- assume 2% reduction/year for next 5 years (before project complete) = 684 vol. x 5 yr. = 3,420 vol.
- Total Bound Periodical Collection (weed + purchase to remain static) = 30,000 vol.

Assumption for planning / size

- Shelving 150 vol/ SFS; need 200 SFS or 100 DFS
- 100 DFS x 15sf/DFS = 1,500nsf x 1.25 = 1,875 SF / **2000 SF**
- In compact mobile storage assume 50% reduction = **1000 SF**

Law Reference Collection

23,800 vol. currently (and shrinking)

Assumption for size

- Assume 2% reduction/year for next 5 years (before project complete) = 476 vol. x 5 yr. = 2,380 vol.
- Total Law Reference Collection (weed + purchase to remain static) = 21,420 vol.

Assumption for planning / size

- Shelving 125 vol./ SFS; need 171 SFS or 86 DFS
- 86 DFS x 15sf/ DFS = 1,290 nsf x 1.5 = **2000 SF**
- In compact mobile storage assume 50% reduction = **1000 SF**

Closed Special Collections

1,627 linear feet currently to store all books and boxes (incl. all current books + 527 loose boxes)

Assumptions for growth

- Assume growth equivalent of 100 boxes per year for 25 years = 2500 boxes = 2500 linear feet
- Total linear feet needed = 1627 lin.ft + 2500 lin. ft. = **4,127 linear feet of storage**
- Additional space for (8 laterals, 6 3-drawer files, 2 5-drawer files, 3 microforms, 2 flat files) = **300 SF**
- 115 DFS x 15 sf/ DFS = 1725 sf x 1.25 = **2156 NSF + 300 SF = 2456 NSF**
- In compact mobile storage assume 50 % reduction = **1078 SF + 300 SF = 1378 NSF**

Open Special Collections

- A. Police Blotters: 880 boxes = 400 linear feet shelving
- *assume modest growth to 1000 boxes* = 500 linear feet shelving or 14 DFS x 15sf/DFS = **210 NSF**
- B. Open special collection: 11,520 vol.
- Assume 1% growth/year for 25 years= 115 vol./year = 2880 vol.
 - Total open special collections = 14,400 vol.
 - 82 SFS or 40 DFS x 15sf/ DFS = 600 nsf x 1.25 = **1000 NSF**
- C. Total Area needed for Open Special Collections = **1,210 NSF**

General Reference Collection

33,288 vol. (assume remaining static)

Assumptions for planning / size

- Shelving 150 vol./ SFS; need 221 SFS or 110 DFS x 15sf/ DFS = 1650 nsf x 1.5 (actual) = **2,500 NSF**

Ready Reference Collection

1000 vol. (assume remaining static)

- Shelving 135 vol./SFS; need 8 SFS or 4 DFS x 15 sf/DFS = **60 NSF**

Browsing Collection

350 vol. new books = 3 SFS = 30 NSF

Assumptions for growth

- Assume adding 36 casual periodicals in low profile display/tilt/ storage units = 108 NSF

Total Area needed for Browsing Collection= **168 NSF**

Microforms Collection

- 27 cabinets (2' x 2.5' x 4' or 8') = 135 nsf x 1.33 = 180 NSF
- 2 cabinets (1.5' x 3') = 4.5 nsf x 1.33 = 6 NSF

Total Area needed for Microform collection = **200 NSF**

Access Services Collection

Reserve

5200 vol.

- Assume no change
- Shelving 175 vol/ SFS = 30 SFS or 15 DFS = **550 SF**

AV/Media

14 cabinets (3' x7')

- Assume no change = **200 SF**

Interlibrary Loan

24 linear feet open shelving total = **6 NSF**

June 7, 2017

John Jay College

Lloyd Sealy Library Feasibility Study

DRAFT PROGRAM

Summary of Program Components

- I. **Library Entrance**
 - gallery/display
 - soft seating
- II. **Vending/ Café Parlor**
 - soft seating
- III. **Access Services**
 - circulation & reserve
 - media
 - circ librarian office
- IV. **Learning Commons**
 - reference desk & tech Help desk
 - computer workstations
 - variety of seating (table, carrel, soft, collaborative)
 - group study rooms
 - ready reference collection
 - scan/print room
 - classrooms
 - maker space
- V. **Browsing Library**
 - Browsing collection (new books, periodicals, faculty books)
 - Variety of seating
- VI. **Reference Reading Area**
 - General reference collection
 - Open special collections
 - Variety of reference seating
 - Group study rooms
- VII. **Quiet Reading Room**
 - variety of seating
 - seminar room
- VIII. **Compact Mobile Storage Collections**
 - general collection
 - bound periodicals
 - law reference
 - microforms
 - variety of seating
- IX. **Special Collections**
 - new special collection reading room suite
 - closed special collection storage
- X. **Staff/Administration**
 - Technical services
 - Administration
 - Support/ work areas
- XI. **General Support**
 - Storage

I. Library Entrance

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> • gallery display area lobby -Lloyd Sealy story -faculty books/ digital display 	1	250 sf	250 sf		
<ul style="list-style-type: none"> • soft seating • library book security • security guard desk 	1	250 sf	250 sf	10 seats	
				10 seats	500 nsf

II. Café Parlor

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> • vending machines • microwave, counter, sink • coffee machine • café seating 					
					250 nsf

III. Access Services

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> • circulation desk & work area <ul style="list-style-type: none"> - 2 service position at desk - 1 workstation behind desk - Sensitize/desensitize - Cash box - Book return - Self-checkout station - Book cart storage (6) - ILL shelving / 24 lin ft - 3 lateral files 	1	650 sf	650 nsf		
<ul style="list-style-type: none"> • reserve desk <ul style="list-style-type: none"> - 1 service position desk - 1 workstation behind desk - sensitize/desensitize 	1	250 sf	250 nsf		
<ul style="list-style-type: none"> • reserve collection <ul style="list-style-type: none"> - 5200 vo l/ 15 DFS 	1	550 sf	550 nsf		
<ul style="list-style-type: none"> • Media/AV collection <ul style="list-style-type: none"> - 14 cabinets 	1	200 sf	200 nsf		
<ul style="list-style-type: none"> • Circulation librarian office 	1	120 sf	120 nsf		
					1770 nsf

IV. Learning Commons

Component	Qty	ASF	Total ASF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> Information/reference desk <ul style="list-style-type: none"> -2 service positions (sit dn w/ patron pull up) - 18' lin ft ready reference behind desk -atlas 	1	200 sf	200 sf		
<ul style="list-style-type: none"> Tech Help desk (separate) <ul style="list-style-type: none"> -1 service position (sit dn w/ patron pull up) 	1	100 sf	100 sf		
<ul style="list-style-type: none"> Computer work stations <ul style="list-style-type: none"> (current reference= 61) (current comp lab = 95) (156) distributed in sections 	1	7000 sf	7000 sf	200 seat	
<ul style="list-style-type: none"> Reading/Study seating <ul style="list-style-type: none"> - 4-person table (36) - Study carrels (4) - Soft seating (0) - Genius bar (12) 	1	1800 sf	1800 sf	60 seats	
		450 sf	450 sf	10 seats	
		1050 sf	1050 sf	30 seats	
		900 sf	900 sf	20 seats	
<ul style="list-style-type: none"> Open Collaborative seating <ul style="list-style-type: none"> - 2 person/one surface (0) 	1	1600 sf	1600 sf	40 seats	
<ul style="list-style-type: none"> Ready Reference Collection <ul style="list-style-type: none"> -1000 vol / 4 DFS 	1	60 sf	60 sf		
<ul style="list-style-type: none"> Scan / Print room <ul style="list-style-type: none"> - 4 workstation w/ scan - 4 printers - 2 copiers 	1	150 sf	150 sf		
<ul style="list-style-type: none"> Group Study Rooms <ul style="list-style-type: none"> - 4-6 person room (5) - 8-12 person room (0) 	10	154 sf	1540 sf	40 seats	
	2	192 sf	384 sf	16 seats	
<ul style="list-style-type: none"> Classrooms <ul style="list-style-type: none"> - 40 person info literacy (36) - 20 person seminar (0) 	1	1000 sf	1000sf	40 seats	
	1	500 sf	500 sf	20 seats	
	1	400 sf	400 sf	10 seats	
<ul style="list-style-type: none"> Maker Space <ul style="list-style-type: none"> - 4 soft seats - 6 bench seats - Large plotter(future) - 3d printer (future) - printers 					
				486 seat	17,134 nsf

V. Browsing Library

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> Browsing collection <ul style="list-style-type: none"> -350 vol. / 3 DFS -36 periodical titles in display tilt 	1	168 sf	168 sf		
<ul style="list-style-type: none"> soft seating 	1	700 sf	700 sf	20 seats	
<ul style="list-style-type: none"> table seating 	1	480 sf	480 sf	16 seats	
				36 seats	1348 nsf

VI. Reference Reading Area

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> General reference collection -33,288 vol. / 110 DFS -4 on-line catalog stand up 	1	2500 sf	2500 nsf		
<ul style="list-style-type: none"> Open special collection -police blotters 500 lin ft / 14DFS -open collection 14,400 v./ 40 DFS 	1	1210 sf	1210 nsf		
<ul style="list-style-type: none"> Reading Study Seating -4 person table - carrels -soft seating 	1	1800 sf 450 sf 1050 sf	1800 nsf 450 nsf 1050 nsf	60 seats 10 seats 30 seats	
<ul style="list-style-type: none"> Group Study - 4-6 person rooms 	5	154 sf	770 nsf	20 seats	
				120 seat	7780 nsf

VII. Quiet Reading Room

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> 40 person quiet reading room - (5) 4 person tables - Carrels 	1	600 sf 900 sf	600 nsf 900 nsf	20 seats 20 seats	
<ul style="list-style-type: none"> 20 person Seminar Room - Expandable to quiet room 	1	500 sf	500 nsf	20 seats	
				60 seats	2000 nsf

VIII. Compact Mobile Storage Collections

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> General collection -250,000 vol. / 714 DFS 	1	7000 sf	7000 nsf		
<ul style="list-style-type: none"> Bound Periodicals collection -30,000 vol. / 100 DFS 	1	1000 sf	1000 nsf		
<ul style="list-style-type: none"> Law Reference collection -21,420 vol / 86 DFS 	1	1000 sf	1000 nsf		
<ul style="list-style-type: none"> Microforms -29 cabinets 	1	200 sf	200 nsf		
<ul style="list-style-type: none"> General Collection Seating -table -carrels -soft -microform reader station (2) 	1	1200 sf 900 sf 1050 sf 50 sf	1200 nsf 900 nsf 1050 nsf 50 nsf	40 seats 20 seats 30 seats 2seats	
<ul style="list-style-type: none"> (4) On line catalog terminals 				92 seats	12,400 nsf

IX. Special Collections

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> New Reading Room -incl.SC librarian office -12 reader seats -display and storage 	1	2450 sf	2450 nsf	12 seats	
<ul style="list-style-type: none"> Closed Special Collections (in compact mobile) -4127 lin ft shelving/ 115 DFS -lateral files microforms, etc 	1	1378 sf	1378 nsf	12 seats	
				12 seats	3828 nsf

X. Staff Areas (does not include circulation librarian or SC librarian office- included in their space)

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
ADMINISTRATION					
<ul style="list-style-type: none"> Administration offices (9) 	9	120 sf	1080 nsf		
<ul style="list-style-type: none"> Admin Reception w/ wkst (1) 	1	100 sf	100 nsf		
<ul style="list-style-type: none"> Faculty workstations (2) 	1	64 sf	128 nsf		
<ul style="list-style-type: none"> Files, locker, cabinet storage rm 	1	100 sf	100 nsf		
TECHNICAL SERVICES					
<ul style="list-style-type: none"> TS offices (5) 	5	120 sf	600 nsf		
<ul style="list-style-type: none"> Open workstations (10) 	10	64 sf	640 nsf		
<ul style="list-style-type: none"> Process shelving/lateral files/carts/ catalogs/etc. 	1	1000 sf	1000 nsf		
IT OFFICES					
<ul style="list-style-type: none"> 4 works stations (4) 	4	64 sf	250 nsf		
<ul style="list-style-type: none"> Utility shelving/config worksurface 	1	100 sf	100 nsf		
SHARED WORK ROOM					
<ul style="list-style-type: none"> Copiers, printers, supplies 	1	100 sf	100sf		
SHARED CONFERENCE RM					
<ul style="list-style-type: none"> 12-15 person room 	1	300 sf	300 nsf		
SHARED KITCHENETTE					
<ul style="list-style-type: none"> Counter, sink, refrig, micro, table for 4-6 	1	120 sf	120 nsf		
STAFF HOTELING RM					
<ul style="list-style-type: none"> 32- ½ high lockers 	1	64 sf	64 nsf		
					4582 nsf

XI. General support

Component	Qty	NSF	Total NSF	User Seats	Dept.Total NSF
<ul style="list-style-type: none"> Library IT Server Room 	1	150 sf	150 nsf		
<ul style="list-style-type: none"> General Storage 	1	300 sf	300 nsf		
					450 nsf

TOTAL NET SQUARE FEET.....52,042 nsf

TOTAL USER SEATING.....816 seats

(current patron seating 461 seats)

Current available gross square footage (what we have to build in) 66, 733 gsf

Targeted Net square footage to fit within the gross45,000 nsf +/-

Deficient of space available.....52,042 nsf – 45,000 nsf = **(7,042 nsf)**

Potential addition/expansion of entry level of 3,800 – 4000 sf, therefore targeted deficient of nsf = 3,000 – 4000 nsf

THE CHRONICLE
OF HIGHER EDUCATION®

The Library of the Future

How the heart
of the campus
is transforming



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About the Author



Scott Carlson is a senior writer at *The Chronicle of Higher Education* who explores where higher education is headed. Since 1999, he has covered a range of issues for the publication: college management and finance, facilities, campus planning, energy, sustainability, libraries, work-force development, the value of a college degree, and other subjects. He has written such in-depth reports as “Sustaining the College Business Model,” “The Future of Work,” “The Right Mix of Academic Programs,” “The Campus as City,” and “The Outsourced University.”

Carlson has won awards from the Education Writers Association and is a frequent speaker at colleges and conferences around the country. His work has also appeared in *The Baltimore Sun* and *Baltimore City Paper*, among other publications. He is a graduate of the University of Minnesota-Twin Cities.

Cover photo
by Matt Roth for *The Chronicle*

Academe thrives on information. In articles and books, in one-of-a-kind items and hard drives full of data, scholars find the raw material for their work. And once their work is published, it enters that same ecosystem, to inspire researchers to come.

The collectors, curators, and guardians of that scholarly material have traditionally been academic libraries and the people who staff them. Libraries occupy a central position on campus, literally and figuratively. For scholars and students, they serve as an essential gateway to knowledge, providing resources and readings that would not be available otherwise. For publishers, they have been both a financial lifeline and a challenger in debates over copyright, censorship, and free and open access to information. For the campus and community, they are a place to connect.

Recent years have seen enormous upheaval for the world of academic libraries and librarians. The challenges started nearly 30 years ago, when the internet put many libraries' worth of material into the hands of anyone with a broadband connection. Since then, academic libraries have been central in a range of debates and challenges at colleges: the use of data and privacy, the cost and accessibility of scholarship, the support for underserved students on campus, and the financial problems that trouble higher education as a whole. Covid-19 brought a new set of challenges to colleges and universities — and yet it was the libraries, prepared by their work on the issues above, that helped institutions make the transition to teaching and research in the pandemic.

The world of academic libraries is vast. Libraries are distinct among campus facilities

in that they serve at least three functions: as a place, as a collection, and as a source of human expertise. This report looks at those three functions and how they have become loci of change for academic libraries:

- **Space:** Despite worries about declining usage with the advent of the internet, library buildings have remained a campus anchor and a popular destination for students and scholars. As scholarly materials have shifted from paper to electronic forms, colleges have had to rethink what purpose a library building serves.

Libraries are distinct among campus facilities in that they serve at least three functions: as a place, as a collection, and as a source of human expertise.

- **Collections:** Those changing scholarly materials have presented new challenges related to copyright, access, and preservation. Libraries are playing an increasing role in transforming the publishing world, and they have to make hard decisions about what to emphasize in

a collection. Sometimes, that choice of what to emphasize can mean highlighting priceless items that are invaluable to the institution.

- **The profession:** The changing information landscape is affecting the work of librarians, too. Their skills have had to become more technical and more varied — and the librarian profession is seeking more diversity in its ranks as well.

Libraries are often described as the “heart” of a campus — a designation that acknowledges their physical presence and their traditional role in managing the intellectual output of academe. Libraries stand as one of the biggest investments for a college — and as one of its most potent resources. Shepherding the library through this period of change is vital work for campus leaders who want to protect the legacy of an institution.



TEMPLE U.

Temple U.'s Charles Library, designed by the international firm Snøhetta.

SECTION 1



MATT ROTH
FOR *THE CHRONICLE*

The Future of Library Spaces

LIBRARIES ARE OFTEN among the most iconic structures in a community. The Great Library of Alexandria, which burned during an invasion by Julius Caesar more than 2,000 years ago, is still regarded as a kind of mythical place that collected the knowledge of the ancient world and hosted the great scholars of the era. Celebrated American libraries — like the majestic New York Public Library, guarded by stone lions, or the many smaller Carnegie libraries scattered across the nation — have long served as grand, public gathering spaces for learning and discourse.

On a college campus, too, the library is a focal point, frequently occupying a prominent place on the quad. Just think of how Low Memorial and Butler Libraries anchor Columbia University's lawn in Morningside Heights. And while college campuses have no shortage of noteworthy buildings by star architects, the libraries are often the most stunning buildings among them — like the rounded reading room of Lehigh

As information has become available online, libraries have gone through renovations to emphasize social connections, group study, and new services for students and scholars.

Master-planning the evolution of a library is a key step in saving money on a renovation or new construction, and in creating a building that can evolve for new demands.

Departments and offices outside the library often seek space in a new or renovated building. Entities that align with a library's mission and roles should get priority.

University's Linderman Library, with its stained-glass dome over rows of bookshelves set up like spokes on a wheel, or the new Charles Library at Temple University, with its soaring, cedar-clad atrium, designed by the celebrated international firm Snøhetta. New, well-planned libraries and thoughtful renovations often draw visitors in droves after the ribbon is cut.

Libraries are often four to five times the size of many other buildings on campus, which makes the challenge of managing them particularly acute.

While libraries are signature places on a campus, the actual uses of those spaces have shifted. As information has migrated from bulky paper journals that occupy shelf after shelf to databases that can be readily and remotely accessed, library spaces have opened up and changed purposes in recent years, leading to a wave of renovation plans and new building projects. At the core of this transformation is a question: How should colleges build and renovate libraries to accommodate new technology, incorporate campus centers and programs, and still serve their traditional functions as storehouses of knowledge and places for social interaction?

THE RECENT EVOLUTION IN LIBRARIES

Traditionally — and particularly at large and medium-size research institutions — libraries were about the ordering and offering of stuff on shelves. Because of the

voluminous output of academe — and the pre-internet need for each college to own a hard copy of everything — the library was often a hulking structure, filled with paper. Study spaces could be solitary, dark, and spartan.

But as the internet emerged as a powerful research tool in the 1990s and early 2000s, the use of paper materials began to decline dramatically — and the number of library visitors fell with it, particularly at buildings that were dark, outdated, and uninviting. Some administrators and board members began to question why a campus needed a library at all.

This skepticism led librarians to show that a library can be more than just a pile of books. Library directors began to realize that people could be drawn in with comfortable furniture, warm and natural lighting, and well-curated materials — really, all the elements that big-box booksellers had borrowed from the classic libraries of yore. In return, college libraries borrowed something from the booksellers: They ditched prohibitions on food and drink, and set up coffee shops and cafes.

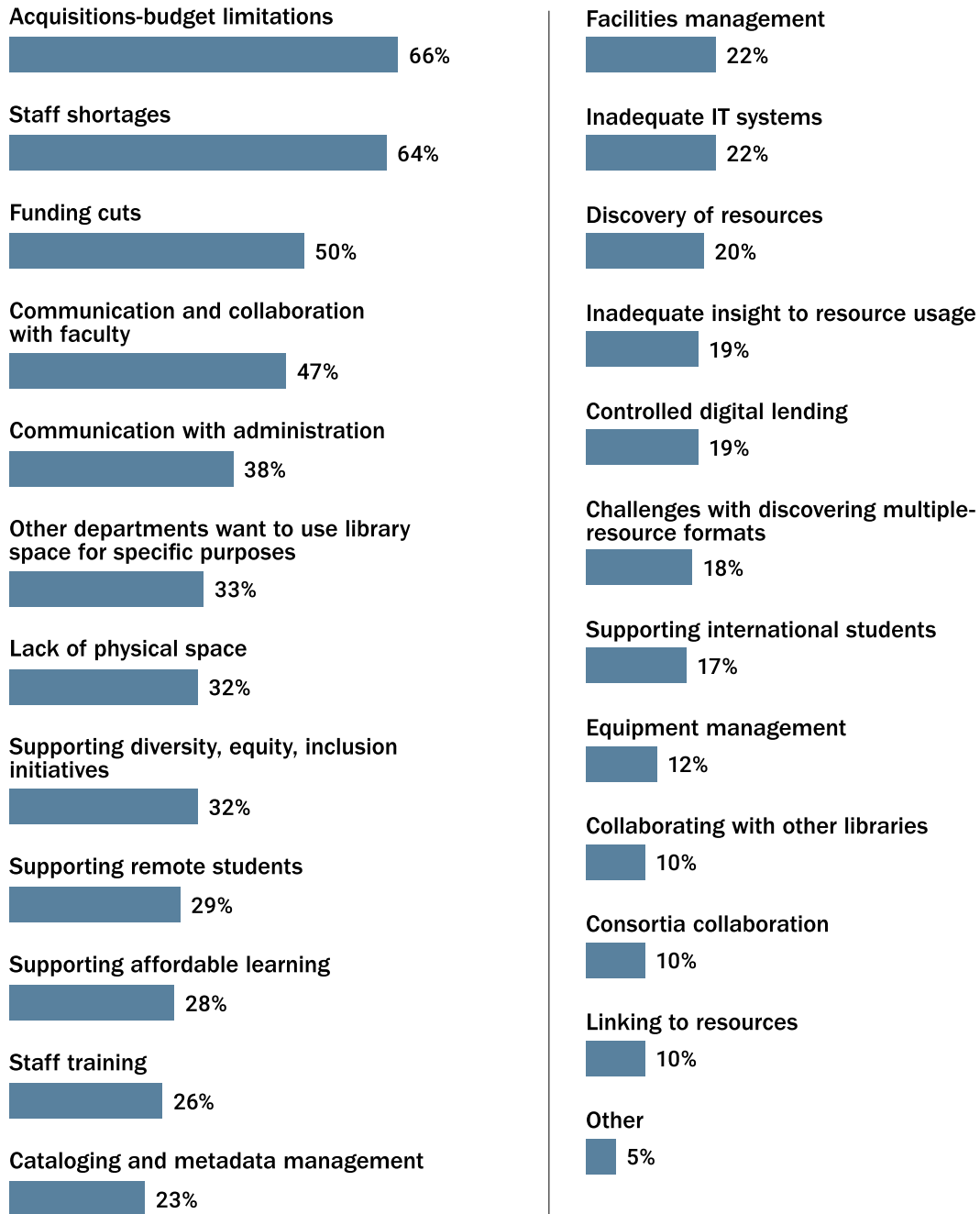
Particularly on large campuses, the decline in paper materials enabled many institutions to close specialized libraries for various disciplines. “You’re trying to bring more of your resources under one roof, whether it’s your collections or your people, so you’re not as spread out and the staffing needs aren’t as great across campuses over multiple facilities,” says David Zenk, a principal with the Gund Partnership architecture firm.

As libraries consolidated and discarded paper journals, they made way for open spaces that could draw in students with other kinds of services — and that put pressure on libraries to house programs that might once have seemed far afield. More libraries began to include writing and tutoring centers, “makerspaces” and fabrication labs, and technology rooms for data visualization and virtual and augmented reality. Some libraries have included lecture halls and classrooms,

Top Challenges

Tight budgets, staffing, and communication are among the chief issues facing academic libraries.

Which of the following are significant challenges for your library?



Note: Responses are from libraries in North America.

Source: Library Journal/State of Academic Libraries survey, 2021, conducted spring 2021, released summer 2021.



GOUCHER COLLEGE

A college store, cafe, art gallery, and radio station can all be found at the Athenaeum, a library at Goucher College.

radio stations, museums, even treadmills — all of which can be found in the Athenaeum, a library at Goucher College. Study spaces also changed. Now libraries offer a range of seating possibilities and configurations for students working alone and in groups.

The library as a place is as vital as ever, but the demands on its spaces are high, and new technology and new workplace patterns following the pandemic only add to the complexity of stewarding the design and construction of a library. The sheer volume of space in libraries — they're often four to five times the size of many other buildings on campus — makes the challenge of managing them particularly acute. Planning for that space at a time of change is crucial.

THE MASTER-PLAN PROCESS

To manage the various demands on library space and prepare for changing technologies and practices, college libraries should devise a master plan, says David R. Moore II, the higher-education studio director at the architecture firm McMillan Pazdan Smith and a co-author of *Planning Optimal Library Spaces: Principles, Processes, and Practices* (Rowman & Littlefield, 2018). Master plans are well known in the context of campuses or cities, where they lay out the fundamental rules and goals guiding growth, development, and other future changes. Rarely are master plans seen in the case of single buildings, Moore says, but master planning is essential for libraries because they are so complex.

“Leverage every square inch of space for its best and highest purpose,” Moore says, and a first step is to assess how much of that space is taken up by rarely used paper materials. At one Midwestern university library, Moore found that 75 percent of the institution’s materials had not been checked out or moved in a decade or more. “That was the equivalent of almost a 120,000-square-foot building in the heart of campus that was doing nothing for the university.”

The librarians who have worked in that space for years sometimes have a hard time conceiving of how to change it; people outside the library often have little sense of how the space is divided, or even how many people occupy it on a day-to-day basis. The master-planning process involves conceptually emptying out that space, and then putting elements back in, based on the specific needs and mission of the institution and its students. Input should be solicited from library personnel, college leadership, campus planners and facilities offices, patrons, and the academic-support programs (like writing centers) that could occupy the space.

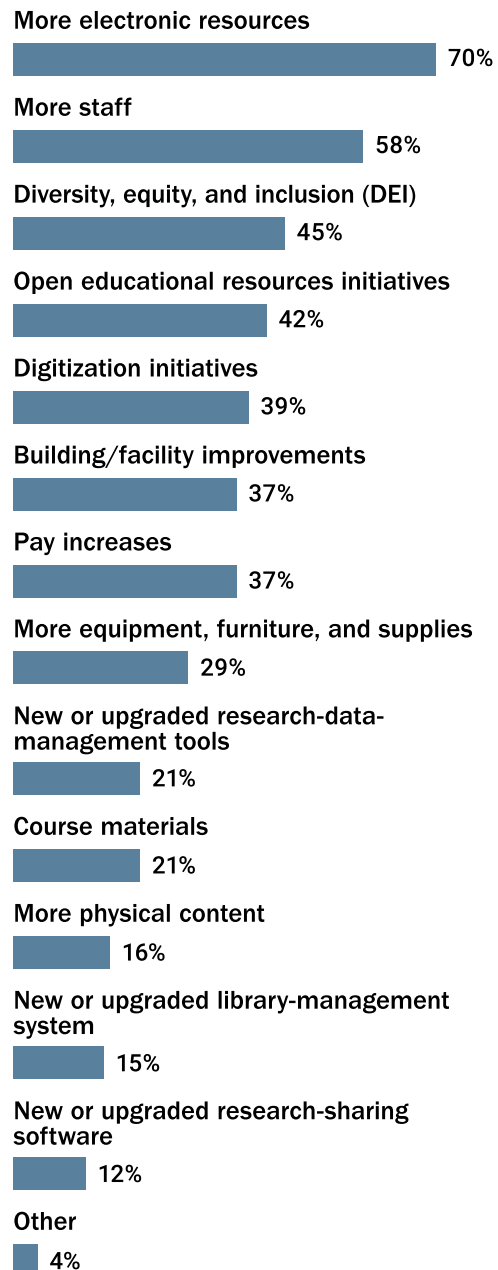
The master-planning process is also a way of staging a renovation. Most campus libraries can’t simply shut down for two years for construction; students, staff, and faculty members need access to the library materials continuously. Undertaking a renovation in stages can help cash-strapped institutions transform a library, tackling the space section by section over years. “You can begin to implement that work and move that ball forward five yards at a time, rather than waiting for the one big Hail Mary check,” Moore says.

And master plans are a way of boosting morale among personnel and excitement among donors. During the recession, Moore saw how master plans rejuvenated library staff who believed that money for a renovation would never arrive. “Put a master plan out there, and let them realize that there are actually intermediate things that can happen and projects that the library staff can rally around,” Moore says. “It gives intermittent goals. It can create a sense of purpose.”

A Long Wish List

Staff and electronic- and diversity-related resources were the top areas in which libraries wanted to invest.

If your library budget magically received an additional 25 percent to further the institutional mission, what might you invest in?



Note: Responses are from libraries in North America.
Source: Library Journal/State of Academic Libraries survey, 2021, conducted spring 2021, released summer 2021.

The library at Northern Arizona University completed a master plan in anticipation that the university would soon undertake its own major master plan, which could incorporate the library's potential future scenarios in its decision-making. Staff and faculty members supporting the university's Cline Library

worked, entirely remotely during the pandemic, with the Boston architecture firm Sasaki. Under the plan, the library would seek to unify its amalgamated building, composed of three sections built in the 1960s, '80s, and '90s. Its floors could put more emphasis on its special collection of items



JILL KOELLING FRIEDMANN

Cynthia Childrey, library dean and university librarian at Northern Arizona U., with a map from the Cline Library's collection of materials on the Colorado Plateau.

from the Colorado Plateau, on the library's makerspace, or on collections of children's literature kept by the university's College of Education, the College of Arts and Letters, and the Honors College.

"We called out those possibilities for the university to consider in the future as a part of its plans," says Cynthia Childrey, library dean and university librarian.

In the library-design and planning stages, architects and designers offer some consistent pieces of advice: First, the position of a library in the organization can make a crucial difference in library support. Zenk has seen cases where the library is just another entity in the organization, vying for budget dollars at meetings with the president and CFO. Since libraries already serve numerous colleges, departments, and administrative entities on campus, he advocates a "hub and spoke" structure. "When the library moves from being one of the chairs around the table to being the center of the hub, they actually become more successful," he says. "You're not necessarily competing for the same resources as everyone else. You're helping everyone else to be successful."

Second, design for flexibility. Libraries are in the midst of major changes in what materials they carry, how they are used by people, and which kinds of technology they support. "You need to have a long-term view," says Zenk. While working on the library at Ohio State University, he and his colleagues discovered that different departments and groups needed modular space that could grow and shrink with the university's needs. "Leverage what you can do with furniture and movable elements — everything on casters and wheels." Don't adhere too strongly to a single vision for what a library can be. Years ago, he worked on a reference-staff area, tailoring every square inch to the librarian who led the facility — who retired right before the area opened. "Everything that we had done to respond to one set of needs was probably going to be a pitfall for the next person who came in."

And hire architects and designers who have experience with library projects. Libraries have unique elements: structural re-

quirements to support the weight of books, large open spaces that demand attention to acoustic properties, climate control for not just comfort but preservation, and a balance between spaces for people and for materials. "I've known some library projects that got pretty close to the completion — within a couple of months from opening — and somebody says, Where's all the library

"Leverage every square inch of space for its best and highest purpose," says one architect. A first step is to assess how much of that space is taken up by rarely used paper materials.

shelving?" says Peter Bolek, president and director of design at HBM Architects and Interior Designers, a firm that focuses on public and academic libraries. Designers who do not have experience with library projects might also fall into outdated ideas about what a library is — or they could feel pressure from administrators to include in the library plan campus offices that need square footage but are not necessarily best situated in the library.

THE SPACE LEFT OVER BY BOOKS

Compact shelving (which allows whole shelving units to roll together side by side, cutting down on aisle space) and off-site

storage (in which libraries often combine collections, discarding underutilized duplicates) have opened up possibilities on the cleared floors of library buildings. Some institutions have also done away with reference desks and other fixed service points, relying on mobile librarians armed with devices.

All of that new open space can be a source of inspiration, leading libraries to feature complementary services or centers from other parts of the institution, or it can be a point of conflict among library staff, the administration, and people at various centers and departments on campus seeking more room.

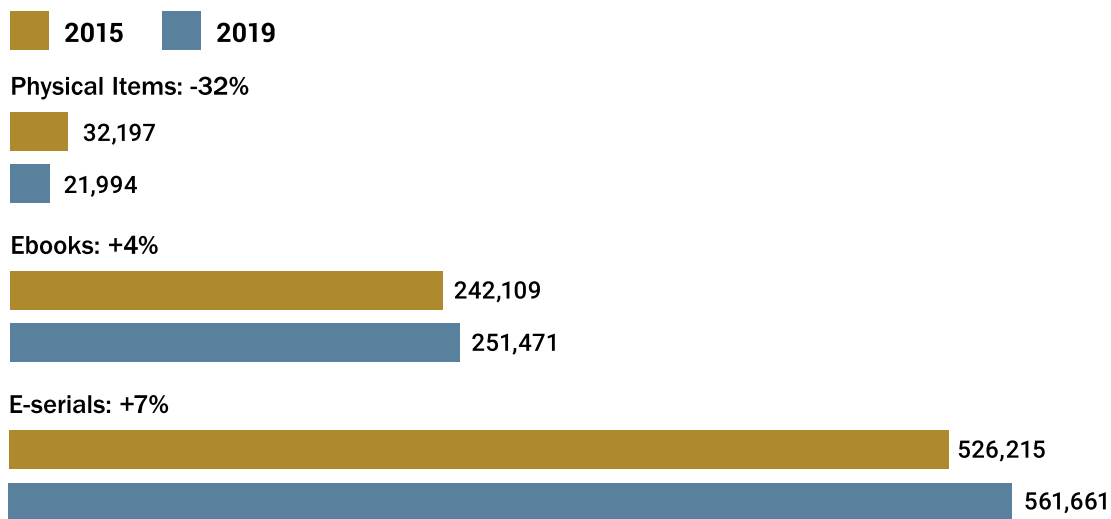
“My philosophy is that we want partners, not tenants,” says Lorraine J. Haricombe, vice provost and director of the University of Texas Libraries. A faculty-innovation center will get space in her library, in part because librarians already work with that center on digital materials and new teaching practices. Campus security has been lobbying for room in the library, too, but Haricombe has not granted it. “They just want offices. They are not going to do anything for me in particular.”

Space is sometimes a contentious topic on a campus. It’s often a resource that various departments and offices compete to get, and they hoard it once acquired. With space opening up in the library, librarians have often felt pressure from upper administration and various academic departments that want to claim that space. Library directors, meanwhile, have their own ideas about what they would like to see in their buildings, tied to the library’s mission.

“Maybe the library no longer needs as much square footage for the physical collection, but that doesn’t mean that they don’t have their own internal needs that can replace that freed up space,” says Eric A. Kidwell, director of the library at Huntingdon College, in Montgomery, Ala., and co-chair of a committee surveying academic library buildings for the Association of College & Research Libraries. “But what some academic libraries are facing is that our administrations are just looking for space, and they’re viewing the library as an easy target.”

Electronic Materials Dominate

Electronic books and serials accounted for the vast majority of materials checked out in 2019, and their usage has been growing.



Note: E-serials include electronic articles, journals, periodicals, and other materials available online.
Source: Association of College and Research Libraries, 2019

The primary resource the library offers isn't actually square footage, it's librarians, says Bolek. To counter a sense that the library is merely overflow space for the campus, administrators should choose departments and centers that have a connection to library expertise to enrich students' educational experience. In Bolek's work, he has seen libraries incorporate academic

departments that are working on preservation efforts, mapping and data, and genealogy. Writing and tutoring centers, commonly found in libraries, are connected to student research and the help that librarians can provide beyond a mere Google query.

Much of the new space in library renovations is open and loosely programmed,



CAT CURTIS MURPHY, MTSU

Middle Tennessee State U's James E. Walker Library makes virtual-reality equipment available to students through the library's makerspace, established in 2016.

VIRTUAL LEARNING

Meaghan Moody is an immersive-technologies librarian at the University of Rochester. But she says her MLIS degree wasn't of much help in developing the tech skills she now relies on. Instead, she gained hands-on experience with virtual-reality (VR) and extended-reality (XR) projects through internships with academic libraries. Moody described how such projects have contributed to the learning experience for both students and faculty members.

“I tried VR for the first time in 2016, and I was drawn to the idea of being able to create and experience new realities and new forms of storytelling. So many writers, artists, filmmakers, and activists use these technologies to tell new, immersive stories that engage the user in a different way.”



“In my previous position [at the University of Pennsylvania], I collaborated with Senior Instructor Mélanie Péron on her ‘Paris Under Occupation’ course. Together, we traveled to Paris just before the pandemic as part of a study-abroad class. I helped her students create 360-degree recordings of places in Paris that were described in *On The Inner Stage* by Marcel Cohen, which tells the story of his family who never came back from deportation. We asked the students to engage with the text and instructions from the author (whom they later met) to create scenes which were later embedded into a map and used as course material for future classes.

“I also participated in the creation of the Penn & Slavery Project augmented-reality campus tour, which takes users on a tour of slavery’s legacy at the University of

Pennsylvania in six stops. The project is centered on undergraduate archival research and shares this history in a transformative way that aims to broaden the audience and make this history more visible on Penn’s campus.

“More recently, I worked with Associate Professor Kate Phillips in the Writing, Speaking, and Argument Program here at the UR, who is teaching an introductory writing course themed on the concept of ‘uncertainty.’ We led her students through some VR experiences such as virtual climbing walls and roller coasters that would test their senses of certainty. She then asked how the experiences impacted their awareness of being physically located on campus while virtually being somewhere else. Students were then asked to reflect on this experience in a series of writing assignments.”

“XR allows users to explore a topic in new ways that may inspire new questions and ways of thinking. XR also requires diverse perspectives and skill sets and provides interesting opportunities for the merging of theory and practice. ... The inherently interdisciplinary nature of XR also benefits from having a centralized space, where all disciplines can engage with one another.”

meant to draw students to study and socialize. Kidwell and others believe that libraries will return to an ancient concept exemplified by the Library of Alexandria, where the building takes on a primary role as a community, lecture, and exhibition space.

Some architects caution against planning for too many loosely programmed community areas. With colleges opening new dorms, recreation centers, student centers, and more, many campuses have no shortage of places where students can hang out. “Open study space is probably running its course as a sort of a standard project,” says Nate Goore, a principal at MKThink, a planning and design firm. “There are just not enough people to go around to fill these places.” Administrators, library directors, and library planners should consider what else is available on campus — and what kind of interactions those places support.

Amy E. Badertscher, associate vice president for libraries and strategic innovation at Kenyon College, was wary of following the usual trends while planning a new library, which opened in 2021. As she toured other libraries to get ideas for her own building, she noticed several of them had set up social spots, but couldn’t draw students or muster resources to fulfill the purpose of those places. “Everyone was all into the cafes, but we saw so many places where there was supposed to be a cafe, but never was a cafe,” she says.

“What is the library that’s going to last 50 or 100 years?” she says. “Is this just a student union, or is it really a go-to place for student success?”

Groups oriented toward student success got square footage in the new library: offices for the registrar, student support and accessibility, academic advising, the writing center, and career development. She calls them “partners” in the mission to get students through college and into a calling. Grouping these functions together helps serve students.

“Our challenge is creating a multitude of spaces,” says Kidwell. “Group spaces, individual spaces, spaces for technology or collaborative learning, or a space where

somebody just wants to go off and read a book.” After all, the library offers yet another unique resource: rooms and even whole floors where people can sit together, silently working. It’s the library’s traditional role — one rarely found on campuses or in the surrounding cities, without having to pay a fee.

PLANNING FOR NEW TECHNOLOGIES AND NEW USES

But many emerging spaces in libraries are anything but quiet and traditional.

“Makerspaces” and seed libraries: As people have expressed increased interest in learning practical skills and crafts, libraries have followed, setting up rooms with various tools and workstations aimed at building electronics, sewing fabric, or making art.

Libraries have added “makerspaces,” seed libraries, immersive classrooms, media rooms, and even space for children.

“I’ve worked with a lot of different academic libraries where a librarian has gone on to get additional training in woodworking to become a resource in a creation lab,” says Bolek.

Middle Tennessee State University’s James E. Walker Library established a makerspace in 2016, helping the university earn a mention in *Newsweek* last year as one of the “best maker schools in the nation.”

“It was clear that there was growing



JMU

A student at James Madison U. uses a 3D printer.

demand for more experiential learning and access to advanced ‘making’ technologies,” says Kathleen L. Schmand, the library’s dean. “The library had a reputation for being an early adopter of innovative technologies, and it was interested in extending more experiential learning to support teaching and learning at MTSU.”

The makerspace has been used by students in English classes, to retell stories with various equipment in different media, and by students in mechatronics courses, to build circuit boards. Interior-design students have built prototypes of furniture for classes and competitions. “3D printing is by far our most actively used technology, but AR/VR technology is not too far behind,” Schmand says.

Valerie Hackworth, who leads the library’s curriculum support for the makerspace, works with faculty members to find ways to use the workshop in their courses. “I customize experiences for individual faculty, groups of faculty, classes, and groups from off-campus, including other universities, STEM camps, high schools, and military groups,”

she says. In November 2021, the makerspace attracted nearly 2,500 visitors — a record at the time. The university spent \$150,000 to establish it, and spends about \$30,000 a year on supplies and new technology.

James Madison University features the Makery and 3SPACE, two places for creative, hands-on work, within Carrier Library. With money from the math department and the College of Science and Mathematics, JMU established 3SPACE in 2013 as the first general-use 3D-printing classroom in the country, and faculty members frequently reserve the room for credit and noncredit courses and workshops. The Makery — which features laser cutters, sewing machines, a workbench for building electronics, and more — is available for drop-in visits from students, faculty, and staff members; it also lends out a range of digital and audio-visual equipment, like cameras and microphones, digital drawing tablets, and lighting. The space has been used to create a diverse array of items, like personal-protective equipment against Covid-19, and machines to weigh and mea-

sure delicate, endangered pygmy shrews.

Carrier Library also features a seed library, established in early 2020. James Madison is in Harrisonburg, Va., in the Shenandoah Valley, with its rich farming and gardening culture. Librarians at the university had dreamed for years of starting a seed library, in part as a way to connect with people and organizations in the surrounding community, and to support food-justice programs. The seed library is run on an honor system: Patrons can take the seeds they need and are not expected to contribute ones harvested from last season, although the library encourages people to “engage with the full life cycle of the plants they are growing and share seeds back with the community.” The library does not track how many use the seed library, but seeds were distributed to nearly 400 people through a contactless pick-up program from the spring of 2020 to the spring of 2021.

Immersive technology and media rooms:

Planners of Kenyon College’s new Chalmers Library focused on setting up technologically complex rooms, giving instructors a chance to shake up how they teach.

A studio, for example, offers digital-media resources to students at Kenyon, where there has been growing demand for media production not tied to a specific discipline. A history major, for example, can use equipment in the studio to make a documentary film, calling on nearby library staff members for help.

In its special-collections section, the library has set up a classroom with large screens that can show the details on fragile and rare items. In another part of the building, a classroom enables students to gather in small-group pods with shared screens and other ways of interacting through technology.

The crowning room is the library’s immersive classroom, with large screens that extend 270 degrees around occupants. Faculty members had asked for a room that would feature immersive technology that would allow a student to experience what it’s like inside of, say, a human heart, or a 17th-century cathedral. At the library’s opening, a profes-

sor displayed a high-definition digital image of the 224-foot-long Bayeux Tapestry on the surrounding screens, lecturing while zooming in on some of the tapestry’s scenes of the Battle of Hastings.

These tools are pricey to purchase and maintain. “A decent projector can cost \$10,000,” says Paul Mollard, the library’s director for academic technologies. “We’ve got seven in the immersive classroom, plus a high-end computer. So you can see how it adds up quickly.” Not to mention that the library had to hire audiovisual designers and installation contractors to set up the room.

Badertscher is trying to build an endowment that will cover technology replacement in the future, but raising money for intangible infrastructure is always challenging.

“What is the library that’s going to last 50 or 100 years? Is this just a student union, or is it really a go-to place for student success?”

A place for children: Late adolescents can be found in droves in college libraries, but one might not expect toddlers. Yet with more adult students balancing coursework with parenting, and with young graduate students and faculty members raising families of their own, more academic libraries have had to accommodate the youngest patrons.

Iowa State University conducted a \$320,000 renovation of its Parks Library during the summer of 2019, adding more seating, outlets, whiteboards, and audiovisual equipment. But the library also set up a family-friendly study

room that features two universal docking stations, printers, and whiteboards for adults, along with small furniture, various toys, and computers loaded with educational software.

Wendy Wintersteen, Iowa State University's president, set up a task force to study the need for child care on campus, which found that students wanted a place to be with their children without feeling out of place. The university's vice president for human

resources suggested the library as a central location for a family room. As soon as word got out that the library would feature a room for children, people began inquiring about reserving it. (After it opened, librarians had to change some of the reservation procedures to prevent students without children from camping out there.)

Parents have rules: Children cannot be left alone, and parents must submit user and



JAMES D. DECAMP

The planners of Chalmers Library at Kenyon College focused on setting up technologically complex rooms, giving instructors options for how they teach.

emergency-contact information. “For us, it all came down to policies,” says Hilary Seo, dean of library services. And a clear message: “We are not a day care.”

The library worked with the university’s family-services office to pick safe furniture and toys for the room, which is close to a family restroom, a lactation room, and the children’s literature area. For security measures, the window into the room has a vinyl film to limit visibility, the door has a key-code, and the room is on campus security officers’ rounds.

When the Cline Library at Northern Arizona University began considering incorporating collections of children’s literature as part of its master plan, faculty members suggested that the library could draw more local grade-school kids through College of Education courses and summer programs.

The notion of bringing children into the building stimulated a conversation on the steering committee, which included faculty members with kids.

“There has been a very long-term desire at the university for child care,” says Childrey, the dean. “This topic coming up in the context of the master plan immediately raised that idea — the feeling that as a staff or faculty member, I would love to be able to bring my children into Cline Library and have a place where there are collections that will serve them.”

Lan Ying Ip, an architect with Sasaki who worked on the Cline master plan, says the prospect of kids in a college library might raise some unexpected design and operational challenges. Not only does the college have to provide kid-size bookshelves, furniture, toilets, sinks, and so on. “You have to have sightlines to make sure you can see the little kids everywhere, and you have to have staff in proximity to these spaces,” she says.

Unique collections as an anchor: For years now, special collections have been of increasing importance to the mission and public profile of the academic library — a trend that seems likely to continue. In a world where you can get almost anything

mass-produced or delivered online, special collections can stand out as beautiful and almost mythical troves that fascinate prospective students, draw the attention of scholars, and excite donors. Special collections are often related, even deeply attached, to the mission and academic focus of a college. And special collections often house the archives and history of the institution itself.

Cline Library will put more emphasis on its collection of materials of the Colorado Plateau, the central focus of the university’s special collections, which includes thousands of photographs, films, maps, and letters documenting the history of the region. Through partnerships, the library also maintains archives for the Hopi Tribe, the Navajo Nation, the Arizona Historical Society, and more.

Special collections are often related, even deeply attached, to the mission and academic focus of a college.

“Because of all of the relationships we have,” says Childrey, “we felt it was important to think about how special collections and archives draw people into the library, connecting it with the community and beyond in the region, and connecting it with these other cultural organizations.”

The master plan calls for the collections to move from a gallery on the second floor to a prime location in the front of the building on the first floor. Ip, from Sasaki, says that the placement also signals the library’s commitment to local Indigenous people.

ROLE AND RELEVANCE

Q: What do you see as the value of libraries, and what do they need to do to stay relevant?

“Libraries are the great equalizers in combating the digital divide and the information divide. I want to help advance the commitment of diversity to all in fostering lifelong information-literacy skills; technology imagination and innovation; strategic researching; and transforming libraries into indispensable learning environments for promoting multicultural awareness in all libraries.”

“ALL universities and colleges need to offer undergraduate and graduate degrees in librarianship and information science to create more opportunities for people of color to look at the profession as a thriving and surviving one.”

- Kimberly M. Gay, head of the Reference and Information Services Department, John B. Coleman Library, Prairie View A&M University



“Libraries need to act more quickly to show our value to our institutions, so that our budgets aren’t cut because ‘everything is online and students have been searching the web for years, so they can find anything.’ We should have curricula that we can present – not just a random set of information that might be useful, but a series of sessions that will build students’ knowledge in specific ways, with class time to practice skills.

“We need to be more agile so that we can make decisions or changes quickly, not over years. It’s good to be thoughtful and we don’t have to react to every new idea, but we also have to be willing to fail on occasion, and then learn from that.”

- Carol Shannon, informationist, A. Alfred Taubman Health Sciences Library, University of Michigan at Ann Arbor



THE PANDEMIC'S EFFECT ON LIBRARIES

After Covid-19 shut down campuses across the country, libraries were one of the first institutions to adapt to a “contactless” world, having spent years already delivering materials through the internet and supporting students and faculty in remote locations. Many academic libraries helped the rest of their campuses adapt as well, offering help in designing online courses and in finding high-quality open-access materials for students under financial strain.

Naturally, the use of library space changed drastically during the pandemic, as buildings emptied out. A number of academic libraries shifted their in-person programming (like book readings and library workshops) to Zoom, and found that they were getting many more people to participate in the events — and from locations around the world. Some librarians saw online events as a good way to engage alumni and donors.

Many library staff members found that they could do essential work from home, since much of their work was online anyway — and for some, working remotely has become a preferred setting, at least part of the week. Many library directors and college human-resources directors are already thinking through who gets to work from home and how often, and how that might affect workplace culture and customer service.

As the world tries to go back to “normal,” many of the adaptations for Covid could stick around, with profound implications for space. “In the next three or five years, that’s what’s going to affect planning decisions more than anything else,” says Goore, of MKThink. But the outcomes are largely unknown at the moment.

Will people remain remote part of the time, in work or in class? Offices consume a third to nearly half of available square footage on some campuses, so work-from-home policies could lead some institutions to reallocate office space and set up “office hoteling” workstations, where a staff member with a laptop or a device can set up shop for the day. And students may prefer the conve-

“The model of libraries being an academic center is going to have to expand to being kind of a center of student experience and kind of a center of the whole student.”

nience and connectivity of an online setting for large survey courses and lectures.

“I hope after this we don’t see another 100-seat lecture hall built again,” says Zenk, the architect with Gund. Remote learning offers more flexibility than “a large, structured learning environment like that, that you can’t use for anything else,” he says.

At the same time, Zenk says, more library services and features may be higher-touch than before. Students have lost a lot in the pandemic, and they have experienced significant stress. Tutoring and writing centers may be busy helping them catch up, but Zenk says he has worked with clients who are considering locating counseling services and career development in the library.

“The model of libraries being an academic center is going to have to expand to being kind of a center of student experience and kind of a center of the whole student,” he says.

Many architects discuss the ways their industry pays more attention to ventilation and flexible spaces that include moveable furniture or mobile dividing walls. “If a library can move their equipment around to provide more space,” says Bolek, of HBM, “that’s going to allow them to still be operational if there is a need for more social distancing in the future.”



ALAMY

The rotunda at Lehigh U.'s Linderman Library has a stained-glass dome over rows of bookshelves set up like spokes on a wheel.

THE LIBRARY AS A PUBLIC — AND WELCOMING — SPACE

There has never been a more crucial time for the public space the library provides.

Online, people are able to wall themselves off from information and fellow citizens who might have different views, and they can be as cruel or dismissive as they want to be, as they never have to encounter people with differing opinions

in the flesh. In many ways, the library will continue to play its longtime role as a connector and reconstructor, and as a center for democracy.

Public space has become sparse in America. It is often privileged and not really public at all, because it requires a fee to be enjoyed. This tension was cast in sharp relief in 2018, when two Black men were arrested in a Starbucks coffee shop in Philadelphia, in front of incredulous onlookers.



The men hadn't ordered anything yet — they were waiting for a friend to show up — and Starbucks employees had called the police to remove them.

In the years since, the country has struggled with race relations, stark political divisions, sophisticated misinformation campaigns, and finally the pandemic, which shuttered most public spaces in the country. Those dynamics create an opportunity for libraries.

"It's even more important now," says Lisa Forrest, director of the Davidson College

Library, "to connect people to your services and your resources, to ideas and to one another."

Public space has often been called a "third space" — that is, not home and not work, but a location that supports serendipitous interactions. The coffee shops and reading rooms that have long been part of library buildings support this kind of interaction. Some libraries have added small theaters or auditoriums, where people can gather, along with programming to support such spaces.

Library directors and designers note that it's important to signal the kind of community connections and interactions the library wants to encourage through the aesthetics and layout of the building. Does the design of the building celebrate dead white men who established the institution, or the array of people who use it today?

"Libraries now have to really be careful to be welcoming to all students," says Ip, of Sasaki. In her focus-group sessions with students from Northern Arizona University, she found, "students did not feel welcome in the library because of how the space looked, how it felt, and what was hanging on the walls."

A focus on wellness — even beyond avoiding airborne viruses — also permeates today's discussion about library spaces. Rooms that support quiet meditation and study, solitude in the presence of others, and biophilic design (which incorporates living plants and other natural features) all have been shown to have beneficial effects on health.

In a noisy era, designers and librarians need to plan for those elements. But they are well within the tradition of library design. Libraries may take new and exciting modern shapes, but there is still a public love for the traditional trappings of a library.

"People come into our library, and they say, This feels like a library," says Kidwell, of Huntingdon College. "That's always said positively, never said as a negative. There's still value in your campus library looking like a library, not looking like a convention center."

SECTION 2



CLEMSON UNIVERSITY
ADOBE DIGITAL STUDIO,
DERRICK SIMPSON

The Future of Collections

MANY PEOPLE SEE a library as a place that simply gathers a vast range of knowledge in a physical place and stores it for eons — a giant brick box of stuff. But that view doesn't quite capture the real influence that academic libraries have on the production, vetting, and interpretation of all that material — or the changing conception of what's considered collectible material in the first place.

Major research libraries have some of the largest single budgets of any entity on campus. Each year, they spend tens of millions of dollars on books, journal subscriptions, various technology platforms, and many other things. That buying power held sway in a subtle but profound way. In a sense, libraries for many years have been a hurdle for publishers and authors on the path to success, and a check on their work. Books and other publications that peddled blatant misinformation generally did not find a home in academic libraries, and thus could be more financially difficult to produce.

A growing movement toward open-source journals, course materials, and other scholarly products is strongly supported by the library community.

Data will play a more important role in scholarship in the coming years. Libraries may need more resources to work effectively with data.

Special collections and unique items can be a draw for scholars, and can bolster a library's connection to students and the local community.

“What we chose to purchase set what was financially viable to publish,” says Lisa Janicke Hinchliffe, an affiliate professor in the School of Information Sciences at the University of Illinois at Urbana-Champaign. We clearly live in a different world now, where the barriers to publishing have dropped. Anyone with a phone and a Twitter account can create content; people with more-sophisticated technology can create whole publications. “The degree to which libraries as collectors served as a sort of filter on quality, it’s really quite gone away,” Hinchliffe says. “The dynamics are different.”

Libraries’ traditional role as gatekeepers of information distribution has diminished, but they are increasingly involved in knowledge production and in shaping the publishing industry. Librarians are working with scholars to produce textbooks, monographs, and journal articles. And a new and emerging role for libraries — collecting the

data behind the latest research — is creating opportunities for even more new content and discoveries.

“It’s an interesting shift from libraries being concerned with acquiring and preserving what is produced to actually having an active role in shaping what is produced,” says Hinchliffe.

Libraries are driven by two imperatives: a vision for openness, where information is publicly available, and a responsibility to identify, collect, and offer validated, trusted information. Those two imperatives are often at odds under the current system.

“The work of maybe several decades for libraries and publishers alike is to manage this tension,” says Roger C. Schonfeld, the program director for libraries, scholarly communication, and museums at Ithaka S+R, a consulting and research firm that specializes in libraries, museums, and academe.



U. OF ILLINOIS

Libraries have increasingly been playing an active role in shaping what is produced, says Lisa Janicke Hinchliffe, an affiliate professor at the U. of Illinois at Urbana-Champaign.

THE OPEN MOVEMENT

For more than two decades, librarians have been integral to the growing movement surrounding open access to scholarly research and materials. The open movement embraces the ethos of open access as well as the enhanced exchange of knowledge during the research process, among other priorities. It is driven by some grounding principles, including that access to knowledge and research is a fundamental right, not something that should be placed behind barriers of cost or restrictive copyright, particularly now that the internet has made publishing easier and less costly.

After all, librarians and other advocates point out, much of the financial support for the research and writing of journal articles and other scholarly material comes from public coffers. Why should the product, then, be owned by corporate publishing giants who guard that material with multimillion-dollar contracts and licensing agreements?

Initially, the idea of offering free access to scholarly publications was met with derision from publishers and even some in the academic community. But today, open access has blossomed into an international movement, drawing the attention of government agencies and nongovernmental organizations — even bodies as prominent as the United Nations. “Compared to when we started in 2001, the good news is that it’s hard to throw a rock and hit somebody who hasn’t at least heard the term ‘open access’ or has some sense of what it is,” says Heather Joseph, executive director of the Scholarly Publishing and Academic Resources Coalition, an advocacy group for the open movement. “Where we are now in the movement is in sort of a battle for the heart and soul of how open access is implemented — and to what end.”

Publishers have accepted that higher education and the research community support open access, says Joseph, and many are adjusting their business model to respond to the movement. Where publishers once

charged subscribers and readers to access journal articles and other scholarly work, many now seek to charge institutions and authors substantial fees on the front end to guarantee free access to readers. Those fees can range widely: *PLOS*, a nonprofit open-access publisher, charges anywhere from \$775 to more than \$5,000 per article; *Nature*, the prestigious science journal, charges more than \$11,000. “Show me a researcher at a small institution here in the U.S., let alone a developing country, that’s going to be able to do that,” Joseph says. “They can’t.”

“It’s hard to throw a rock and hit somebody who hasn’t at least heard the term ‘open access’ or has some sense of what it is.”

Publishers are pushing libraries and library consortia to sign on to these “transformative agreements,” under which libraries essentially must pay to publish the work of their institutions’ scholars instead of paying for users to access articles.

The evolving relationship between libraries and publishers was crystallized in a series of contract negotiations between the University of California system and Elsevier in recent years. In 2019, the university system canceled its subscription package with the international publishing giant, and it pushed Elsevier to support more open-access publishing; the publisher came back to the university with a costly contract. When the two parties

returned to the negotiating table to sign a contract in 2021, UC agreed to pay Elsevier \$10.7 million, with small increases every year, while Elsevier agreed to provide open access to work produced by the university's scholars. In an announcement about the agreement, Elsevier noted that it published 81,000 open-access articles in 2020, about a seventh of its total output that year.

The deal was met with mixed response. Some librarians and open-access advocates said it was a step forward for the movement, with a major publishing company and one of the largest university systems working together on a transition to open access, demonstrating the power that libraries have in negotiation on the issue. But others noted that such deals are possible only with the biggest and most prominent universities and systems.

"We have real concerns over that model," says Joseph. "We do not promote the library community entering into these kinds of agreements with publishers." Not only does the deal exclude smaller institutions that do not have the power to negotiate with a major publisher, it does not substantially transform the relationship between libraries, scholars, and publishers.

Open access is a global endeavor, and similar efforts in other countries yield only limited insight into what's possible in the U.S. Schonfeld, of Ithaka S+R, believes that European universities, because they engage collectively on these issues, have clear advantages in securing open-access deals with established publishers. "We're not seeing this large-scale transformation toward publisher-driven open access in the U.S. in the same way we're seeing in Europe," he says.

Institutions in France, the Netherlands, and Poland are brokering deals with publishers as a national bloc, which both brings institutional heft to the negotiating table and allows smaller institutions to ride along with big ones.

"What ends up happening is that the universities that don't publish very much, in theory, can pay a lot less," he says. "When you're negotiating at a national level, you can

do that rebalancing, especially if the funding all comes from the central government."

In the United States, there are fewer instances of large, statewide systems with centralized funding. Even consortia or groups of large research institutions — like the Big Ten or Ivy League universities — do not negotiate as a bloc, and they exclude smaller and often struggling regional colleges and universities.

But Joseph argues that even European countries have been rethinking their agreements with publishers. Sweden is one example. Its universities were early adopters of transformative agreements, following a national goal to provide complete open access, but these accords are now seen as too costly. "We don't find the transformative agreements sustainable for the future," Wilhelm Widmark, the library director at Stockholm University, wrote in a newsletter in late 2021. Sweden's library consortium is reconsidering the contracts they signed with publishers and are beginning to investigate alternatives.

In general, Joseph notes, the open-access movement has not focused enough on a holistic notion of opening up scholarship and making it broadly available at low cost to all institutions and scholars. By retaining a reliance on legacy publishers, institutions have created "built-in biases and mechanisms that just replicate barriers that are in place."

"It's not about just taking what we're currently spending and giving it to the same players and hoping that we end up with a larger number of open articles at the end of the day," she says. "It's about changing the rules of the road, right? It's about us regaining control of our intellectual output."

A NEW SCHOLARLY PRESS

Libraries are even stepping into the world of scholarly publishing — as publishers themselves. Lever Press, founded in 2015 by the Oberlin Group, a consortium of libraries at liberal-arts colleges, has published 15 monographs on topics as wide ranging as musicology, Sophocles, higher education, and child sex abuse. The books can be purchased inexpensively in paper form or

downloaded for free from the press's website. The site shows that Lever Press books have been downloaded by scholars from nearly every continent.

Quality was extremely important to the press's legitimacy, particularly for faculty members who are frequently skeptical of publishing with an open-source press instead of a legacy academic one. Established scholars were quicker to buy into the idea than were more-junior ones, who needed recognizable publishers for their tenure reviews.

"It was frustratingly long until we actually had a book come out," says Marta Brunner, librarian at Skidmore College and a member of the press's oversight committee. "What we learned is it takes a while to generate a pipeline of viable manuscripts, and then it takes a while for the editing and production process." Marketing and fundraising were also challenges early on.

The Oberlin Group formed partnerships with Amherst College Press and Michigan Publishing, the scholarly publishing arm at the University of Michigan and a division of the library there, to help with acquisition, editing, peer review, digital layout, and printing options.

Academe would benefit from more partnerships like these, says Gregory Eow, president of the Center for Research Libraries. Libraries, university presses, and scholars (and scholarly societies) form "three legs of the stool" in higher ed — and libraries and university presses, frequently in the same administrative unit, often struggle for funding.

"Maybe we can come up with a whole new model for producing content in ways that keep the different parts of the stool that are working," Eow says. "Can we redefine the relationships between these different stakeholders to find a sustainable path forward?"

To cope, these disparate parts of the university could work more closely together to share resources and expertise. Some jobs are not that far apart anyway: A research librarian with a connection to the history department could be of great help to an acquisition editor who specializes in history. "Research librarians and acquisition editors could

probably be in the same department and, in some instances, actually the same staff," he says. But on most campuses, those two people don't even know each other.

OPEN EDUCATIONAL RESOURCES

The open movement has also drawn attention to a related issue: the high cost of textbooks and other learning materials assigned to students, which often adds hundreds of dollars to the cost of a course. For students from low-income families, these textbook costs can be prohibitive, and, even for students from moderate-income families, a significant financial burden. The open educational resources movement, or OER, has arisen in response. Where open access deals with scholarly publishing, OER applies principles from the open movement to textbooks and other course materials to reduce costs and barriers to students.

Broad, campuswide adoption of open educational resources can require coordination. Libraries often serve that function.

The energy around open-educational resources started with faculty members who saw how the cost of textbooks affected students. Librarians' involvement has been more recent — only in the past 10 years or so — but it has also been catalytic. That's because libraries could bring a wealth of expertise on how to make materials available online at a low cost or free — librarians tend

to understand copyright restrictions — and in finding new materials.

“Many faculty don’t have those skills to search databases and understand the licensing,” says Una Daly, director of the Community College Consortium for Open Educational Resources.

Libraries have also been key in organizing OER efforts on campuses from a central point. Broad, campuswide adoption of open educational resources can require coordination among academic departments, teaching-and-learning centers, campus bookstores, student-government bodies, and other entities. Libraries often serve that function.

“Libraries originally came to this as maybe an extension of their work on open access,” says Nicole Allen, director of open education for the Scholarly Publishing and Academic Resources Coalition. “It has created opportunities for libraries to open conversations with faculty and sort of expand the work that they’re doing in teaching and learning in new ways. And that’s especially been accelerated by the pandemic, when every faculty member has had to make the jump into online learning.”

Public financial support for the development of OER materials has also been a huge boon for the movement. California gave \$115 million to the California Community Colleges system to create and support “zero textbook cost” degrees.

In 2017, the City University of New York asked the state for \$1 million a year for three years to start work on open educational resources. The following year, the state gave CUNY and the State University of New York system \$4 million each for projects in open educational resources. “We were off and running” — and the money was routed through the libraries, “which is really amazing,” says Ann Fiddler, the CUNY system’s open-education librarian

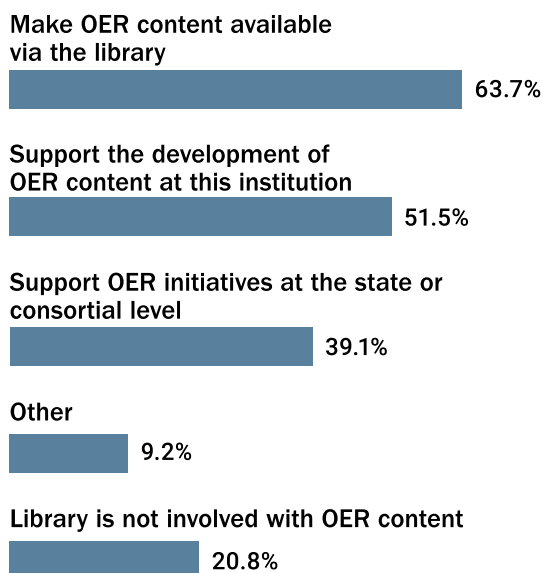
With all the bureaucratic hoops associated with state money, “it’s not easy to spend \$4 million, but we managed it, and now we’re in year five,” she says. New projects often wither and die with natural attrition at CUNY, she says, but the open-educational projects remain popular with staff and faculty members.

The money primarily goes to faculty members who want to convert their courses to OER, and to OER librarians who assist those faculty members. Librarians have been involved in conducting reviews of course syllabi and other learning materials used by professors, making suggestions for readings and materials that can be accessed for free, and helping professors publish their own material for courses online for students to use. Since 2018, various colleges in the CUNY system have converted 30,000 course sections to OER, saving students around \$90

Big Contributions to Open Educational Resources

More than half of librarians surveyed said they either made OER available or supported their development at their institution.

In which of the following ways is the library involved with open educational resources content?



Note: Responses are from libraries in North America.
Source: Library Journal/State of Academic Libraries survey, 2021, conducted spring 2021, released summer 2021.

LIBRARIANS AND DATA MINING

“Text and data mining is a research method where researchers go through a database and download massive quantities of text automatically to then analyze for evidence of things like relationships, public sentiments, etc. It’s catching on in many academic disciplines now, but our traditional-use licenses with our vendors do not allow for such mass harvests – additional licenses need to be negotiated for that, at an additional cost. The Wild West days of the internet are over, and fences are going up everywhere. An increasing amount of my time is devoted to helping researchers navigate all this.”

- Jeffrey A. Knapp, communications librarian, Pennsylvania State University Libraries



million. In course catalogs, the university advertises “zero textbook costs” and “low textbook costs” for courses.

Most OER materials at colleges across the country are covered under Creative Commons licenses. In many cases, instructors can adopt OER courses and materials from other institutions free of cost and alter them to fit their needs — even to include local cultural perspectives and populations.

“We know that when students can see themselves in the materials,” says Fiddler, “there is research to support that they do better, they engage better with their courses.”

Studies show that students who are using OER course materials do just as well in courses compared with students using traditional commercial materials. Some studies show that students who are Pell eligible, part time, or nonwhite fare better academically in courses with open materials.

In some ways, the librarians’ old role of gatekeeper to trusted information has changed to one of advocacy for free and low-cost materials for students. “Some of the challenge is getting past a faculty bias that the materials weren’t published by, say,

Macmillan,” says Daly. “So we have them look at the statistics: How many students in your class are actually buying the textbook? Or are a lot of them trying to get by without it?”

The commercial publishing industry is adapting to OER and has unfurled various offerings to try to compete with free and low-cost open-source materials. The most-prominent adaptation is something the publishing industry calls “inclusive access,” which bundles online course materials with tuition and fees. Access to the book is available only while the student is enrolled in the course. Borrowing or buying a used textbook at the beginning of the semester or selling it off at the end isn’t possible under that model, another aspect that irks student advocates. Those advocates are also worried about the data that publishers and associated companies are collecting from students. But data, used in a different context and purpose, has also presented an opportunity for librarians.

THE MANAGEMENT AND USE OF DATA

Data has become the DNA of academic research. Organizations and agencies that

HIDDEN INFORMATION

“The African American Subject Funnel Project does imperative work for addressing informational access inequities. E-catalogs, databases, digital collections, and other materials are all indexed by language drawn from the Library of Congress’s name and subject authority terms. When these terms become outdated, misapplied, or not applied at all by various catalogers, vendors, or metadata specialists, it creates discoverability issues. Information, especially when it comes to research about or by individuals of color, becomes technically accessible but ‘hidden’ within larger information schemes. As such, this makes it difficult for the average person to find information about or written by people of color. On a wider scale, linked data addresses this very issue by making connections between resources. But the work of the African American Subject Funnel targets this issue by addressing the existing terminology available to describe African American culture, history, and life broadly.”



**- Gemmicka Piper, assistant librarian and humanities librarian,
Indiana University-Purdue University Indianapolis University Library**

support research now frequently require scholars to store that data — to vet and reproduce studies, and potentially to repurpose or combine with data from other research for new discoveries. Those changes have had implications for the work of librarians.

Data comes in different forms and sizes, and it spans a huge range of activities and disciplines. The storage and management of it can be challenging. A researcher who has done a survey with thousands of participants can store much of her survey results and associated materials on a thumb drive in the drawer of a desk; in such cases, libraries need to be available to scholars to help them store and curate the data in appropriate ways. Librarians also are guiding scholars to external resources for data management; some of those are open-source research-management tools and repositories, like the Dataverse Project or OSF, while

others are commercial options.

So-called Big Data is another challenge altogether. Much of the storage and curation of Big Data in the sciences — for example, the 90 petabytes of data produced each year by the Large Hadron Collider — is managed by multiple institutions or governmental entities. But even social-media platforms produce an enormous amount of content; Twitter or Facebook produce petabytes of data every day.

Observers of the library field say that the management and use of data in libraries is relatively new, and that depth of experience and interactions with data curation and analysis vary among institutions. But on the whole, “universities tend not to have an integrated strategy for how to undertake research-data management,” says Schonfeld, of Ithaka S+R. Instead, roles for data management are often split among various

offices in compliance, research, technology, and the library, which may have a few people devoted to data.

This may represent a lost opportunity, he argues. The library community could have made a case a decade ago to become a home for all things related to research data — compliance, storage, consultation in working with data, and so on. Relatively few libraries made that case, he says, yet where they did, their impact has been limited. “It’s been great work where it’s happened, but it has resulted in a library with 400 employees and five of those people working on research data, not 200 people working on research data.”

Just as college and university libraries centralized over the decades, more institutions will place the management of data under a centralized office on campus. “But I doubt the library will be the vehicle to do that centralization,” he predicts. Libraries may simply be overextended.

“Libraries have an enormous amount of recurring commitments” — to personnel, to collections, says Schonfeld — “and have really struggled with the scale of redeployments necessary to really capture some of the newly important strategic roles.”

But observers also argue that libraries already have troves of data on shelves in the stacks and in special collections. Thomas Padilla, senior director of collections, technology, and partnerships at the Center for Research Libraries, advocates a framework of “collections as data.”

“Don’t only think about something as a book — or, once it’s scanned, as a picture of a book,” he says. “If you think about it as data, it opens up all these different affordances of possible use.” The text can be scanned and mined, and compared with other texts. That framework paves the way for additional uses for historic collections, and offers a new way to think about collections of new material.

“So much of contemporary cultural production already is data,” says Padilla, in the form of Zoom calls, emails, online news, YouTube videos, and Facebook posts. Much of that will be valuable to historians,

sociologists, and political scientists seeking to interpret, say, politics leading up to the 2020 election. But “the extent to which libraries are supported to engage with contemporary culture that way is very uneven.”

“Is the profession going to be trained and supported appropriately,” he says, “so they can easily move between supporting interpretation of a static newspaper as they would a collection of 10 million tweets around the presidential election?”

The library community could have made a case a decade ago to become a home for all things related to research data. Relatively few libraries did so.

For now, too often, data is merely treated as a static collection. “If they don’t treat it like a bunch of interlinked relational data, with standards governing it and a sense of algorithmic amplification,” Padilla asks, “what is the future role of libraries in supporting interpretation of the cultural record?”

SPECIAL COLLECTIONS

Of course, many libraries already have a lot of important material about the cultural record. They are the special collections that are often among the most-valuable pieces of cultural heritage that a library owns. Such collections often reflect the values or mission of institutions, and they form a piece of

CONNECTING THROUGH PODCASTS

Junior Tidal, associate professor and web-services and multimedia librarian at New York City College of Technology, City University of New York, is also author of *Podcasting: A Practical Guide for Librarians* (Rowman & Littlefield Publishers). He talked about what podcasting can bring to librarianship.

“My book is an introduction to how librarians can create their own podcasts. The proposal was accepted right before the pandemic happened, and written entirely during the pandemic, so the context of writing it was through that lens. The book covers the basics of podcasting, such as the technical set up of what equipment to use, how to get it on the internet, the interview process, and delving into videocasting, catered to the specific needs of libraries and librarians.

“I believe that podcasting is a huge thing in libraries today! I actually interviewed several librarian podcasters about their own experiences, which I drew upon and included in the book. My advice for initial library podcasters is to jump in and record. It won’t sound perfect but that gets easier and refined over time.”

“Since libraries were shut down due to Covid, I felt like librarians still needed to connect with their communities, if not face to face. Podcasting is a low-barrier and accessible way to do that, and I feel like it is an important and intimate



medium that supports remote learning and community-building.

“Libraries are in a unique position to not only create podcasts, but to share those digital-creation skills with students and faculty. That way, they can create their own, be it for pedagogical or personal

purposes. Podcasts are both an information resource and an opportunity to learn a new digital skill.

“There are typical library podcasts that promote library collections, services, and events, but also thematic shows that highlight librarians from underrepresented communities (the *LibVoices* podcast), and the labor involved in librarianship (the *Librarypunk* podcast). I believe that podcasts can reveal what happens behind the scenes of the profession, and can break the stereotype that librarians just sit around and get paid to read books. We’re involved in our unions, faculty governance, and teaching! The library isn’t a traditional classroom, but I feel that many don’t perceive it as the transformative learning environment that it is.”

a college or university's reputation.

Yale University has been collecting items for 300 years. In its Beinecke Rare Book & Manuscript Library, just one of seven collections the university owns, you could find a 13th-century Arthurian romance, 180-year-old pencil sketches of the Amistad captives awaiting trial in New Haven, and papers and manuscripts of many famous authors, including James Baldwin, Rachel Carson, and Edith Wharton. Some 40 percent of the library staff at Yale work on special collections.

While scholars interact with items in special collections regularly, they are often invisible to students and the public — or even hidden from them. Barbara Rockenbach, university librarian at Yale, plans to restructure special collections to provide the broadest possible access to library patrons and a frictionless experience for scholars.

The university's special collections — in discipline-specific areas including the arts, divinity, medical history, and music, along with the Beinecke Library, the Lewis Walpole Library, and Manuscripts and Archives — had been managed separately within the organization. Rockenbach unified the seven collections under one associate university librarian, to unify the vision for the collections and strengthen the experience of library users.

Five directors work under that associate university librarian, but they don't focus on specific collections. Rather, they focus on areas that Yale wants to improve across the seven collections. A director of community engagement, for example, will focus on drawing people from the community — not just students and scholars — into the library to see and experience special collections.

Technical services were brought under another director. "The challenge with having seven different repositories is that we had seven different procedures, and seven different backlogs. This enables us to get a full picture of what we've got and how we are making it

accessible." The university library can also coordinate its current work in "reparative descriptions," where librarians are revising the ways that some items in the collection have been described that are offensive or "not in keeping with our current understanding of the world," Rockenbach says.

A big piece of how Yale is rejiggering special collections focuses on the education of students. "The Yale library can play a role in educating our students in the kinds of skills that they are not going to get in the classroom," Rockenbach says. The library already has a good track record of familiarizing doctoral students in history and English with its special materials and placing them into jobs at special-collections libraries across the country. Rockenbach sees Yale training students in a wide range of skills through special collections, like paleography, data management, or digital humanities.

"Often these collections are tucked away; you have to go find them," Rockenbach says, and the lack of accessibility can diminish their impact. When she worked at Columbia University, she found that the university's acquisition of the Latino arts and activism collection was an effective way to engage the Latino community surrounding Columbia. "Every new collection we bring in is a new audience."

The library has established some prominent exhibition spaces that will advertise to visitors the kinds of things that are in the collection. Several years ago, Yale did a security audit to determine what it needed to do to open up its special collections more broadly to the public. In response, the library bolstered its inventory and security systems for the collection.

"The internet in some ways has shown us that if you put primary sources in the hands of people who are not scholars, they can do really incredible things with them," Rockenbach says. "Primary source material is where knowledge production comes from, and knowledge production can come from all over."

SECTION 3

SALISBURY UNIVERSITY
ACADEMIC COMMONS,
SASAKI ARCHITECTS



The Future of the Profession

WITHOUT LIBRARIANS, a library building is merely a warehouse of stuff. It's the librarian that makes a library what it is. And the library profession, much like the library itself, is undergoing profound change. As many of the activities of the library have moved online, the essential role of the librarian has had to adapt to keep up with broader shifts in technology, society, and demographics, all of which have had profound implications for the people entering the profession and the skills and qualifications it requires.

The ubiquity of information has changed librarianship in multiple ways. It has arguably elevated the profession to a position that is far more technical and diverse, in terms of roles and responsibilities, than it has ever been. In the past, librarians' relationships with professors centered on finding and retrieving materials, but librarians today are increasingly asked to help make sense of the information that those

Librarians have to bring a range of technical, legal, and people skills to work — and the growing and changing forms of information have made the job more complex.

The library profession is often a second career, and libraries are increasingly interested in hiring people who have degrees in disciplines other than library science.

Diversity remains a major challenge to the field, which is largely female and white.

researchers are getting. That role requires a combination of technical, teaching, and people skills that can be rare on campuses.

In a sense, the internet brought automation to the library; professions that have been affected by automation tend to evolve by incorporating more services that require so-called soft skills combined with specialized professional or technical skills.

“A librarian today has to be not only a librarian, but kind of a social worker, a lawyer, a business agent,” says Gary Marchionini, dean of the School of Information and Library Science at the University of North Carolina at Chapel Hill. “You’re trying to understand the patrons’ emotional state and needs. You’re trying to stay within the laws and regulations that govern copyrighted materials or even open-access materials that may be restricted in some way. There’s a lot more nuance to the job than people think.”

And, many library directors point out, many more types of people work in libraries now — not just people trained as librarians. Only about a third of people working in libraries identify as librarians, according to Association of College and Research Libraries. About 13 percent identify with another

profession, and a quarter of the workers in libraries are students.

In academic libraries, “we have a lot of professionals who run the gamut, but they wouldn’t necessarily be called librarians,” says Julie Garrison, dean of libraries at Western Michigan University and president of ACRL. “There are people who have curriculum-design or online-course-design skills that are being hired into libraries. In some cases, research libraries are hiring lawyers who can focus on intellectual property, copyright, and scholarly communications kinds of issues, issues around authors’ rights, etc. We are hiring people who are doing marketing. We’re hiring people who are doing fund raising.”

THE SKILLS

Clearly, librarians and other people who work in libraries need to have a broader set of skills than they did in the past. But what skills, specifically, does the academic world want of them?

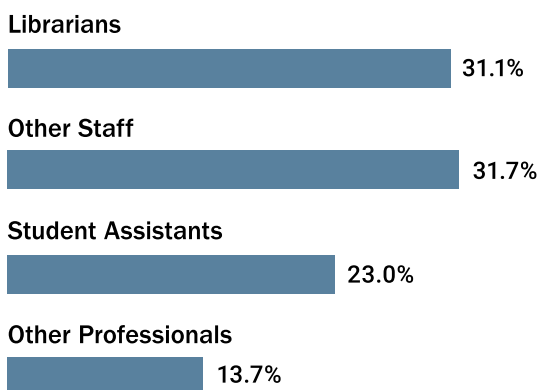
“Librarians today certainly have to be more technically savvy,” says Marchionini. Most of the students in the program at UNC take courses in databases. Research funding in higher education often comes with requirements to preserve and maintain the data associated with research at the institutions, and that responsibility falls to librarians much of the time.

But leaders of library-information schools say that a comfort with data is not merely about knowing how to store the numbers, or retrieve them from a repository somewhere. Librarians who are doing essential work are not just helping scholars get access to data, but also helping them interpret it, or figure out how to combine that data with other related information. In many ways the new role of the librarian is an enhancement of the traditional function of the job, retrieving documents.

The duties of the job increasingly involve helping scholars find other scholarly work — perhaps across disciplines — that can transform a project, says Eric T. Meyer,

Differing Backgrounds

People trained as librarians make up about a third of a library’s staff.



Source: Association of College and Research Libraries, 2022

dean of the information school at the University of Texas at Austin. “Librarians are playing more of a role in helping educate based on their interactions with previous scholars to say, ‘Well, here’s something another person did,’” he says. The process of searching for information becomes a learning activity.

Meyer has seen instances in which librarians have been able to help scholars studying a particular piece of music by finding digitized versions of related pieces of music to compare to the original. “That’s a pretty transformative use for someone who’s interested in musicology,” he says. “Librarians are getting more in the business of helping peo-

ple see those connections. It’s much more about partnerships.”

The conceptual framework for the purpose of library work is also being rethought. Rachel Ivy Clarke, an assistant professor at Syracuse University’s School of Information Studies, argues that librarianship should be focused on design as a process for interacting with scholars and students. Library “science” may be a misnomer, she says. The job is really much more about creativity and flexibility.

“What librarians really do is design tools and services to help connect people with information,” she says. Design in libraries isn’t just about buildings and pretty interiors. “If you look at the discipline of design and the

SECOND-CAREER LIBRARIANS

“My original career goal was to go into child/adolescent psychology and become a counselor. I was a higher-education counselor for several years, and while that was fulfilling, it does come with some burnout. I transitioned my passion for problem solving, academia, and helping people into a career in librarianship.”

“There are so many parallels between counseling and librarianship. Students come to you in both professions with a problem to solve, and you as the professional teach them what tools they can use to solve them. Another similarity is the discovery process that comes with both professions.

Much of the time when a student came to me as a counselor, they had an idea of what brought them to me, but after exploration and going down different rabbit holes they discovered something new about themselves. This is similar to the discovery process of research. As a librarian I love being present for those ‘aha!’ moments students have while discovering something new.”



**- Giovanna R. Colosi, librarian for the School of Education,
subject instruction lead, Syracuse University Libraries**

theories that go into it, it's about creating tools, creating services that can be tangible or intangible." A key part of that design process is working with a scholar or student to find out their true need and to refine the tool or service.

Public libraries, in particular, have long been oriented toward interactions with patrons and public service. That ethos hasn't traditionally been prioritized in academic settings, librarians say — but that's changing. Library and information schools, and

“Librarians are getting more in the business of helping people see those connections. It's much more about partnerships.”

the job market, are putting more priority on communication, public speaking, outreach, and teaching skills.

“The idea that somebody can be a successful librarian today by staying away from people to be a cataloger, work in a back room, or roam the stacks, it's not going to work,” says Marchionini. “They have to be interactive and have to have some people skills beyond the core or organizational information skills.”

Leadership skills are also crucial, say library directors, who note that the field is graying and needs younger librarians to shepherd institutions into a new era.

“If you talk to people in the field they will always say they want our new graduates to be more skilled in management,” says Katherine Izsak, associate dean for academic affairs in the College of Information Stud-

ies at the University of Maryland at College Park. Most students, she says, don't see the importance of library-management courses until after they graduate and have to grapple with negotiations and contracts, supervise people, and make budgets. “Often younger librarians don't necessarily think that they'll end up in management roles, so they just don't see the value until they're on the job.”

Sometimes, leadership and people skills include the ability to communicate the ways that librarians render valuable services — across a range of disciplines. Studies show that scholars from disciplines that rely on online journal articles and documents might not even recognize that they are using library resources.

“Academic libraries were very good at making themselves invisible to the vast majority of users, which is good from a service point of view,” says Meyer. “But it's not so good from a justify yourself as part of our budget point of view.”

THE QUALIFICATIONS

A master's degree in library science has long been one of the basic qualifications for a librarian's job in higher education. Librarians were historically trained under an apprenticeship model, but in the late 19th and early 20th centuries, the library field adopted the word “science” and offered training. In 1883, Melvil Dewey, head librarian for Columbia University and inventor of the Dewey Decimal Classification, established the School of Library Economy at Columbia University. “Library science then was one of those rather American social sciences which began coalescing in the late nineteenth and early twentieth centuries as part of the move to professionalize vocational activities and as such would include dairy science, management science, military science, mortuary science, political science, and even creation science/intelligent design today,” John V. Richardson Jr., professor emeritus of information studies at the University of California at Los Angeles, wrote in a history of the profession.

THE TEACHING LIBRARIAN

Among other previous jobs, Gayle Schaub taught English as a foreign language before she entered the library profession. Now, she's a liaison librarian at Grand Valley State University, where she runs information-literacy instruction sessions, consults with students, creates workshops, and develops materials, chiefly for online courses. She discussed her background and how it helps her in her current work. (This interview has been edited for length and clarity.)

Q: Why did you leave your previous teaching job and become a librarian? What do you bring from the old job to the new?

A: I served as an elected commissioner on our library board (in Grand Rapids, Mich.) for six years and realized through that experience that librarianship would offer me a way to help people gain knowledge and improve their lives without having to be in front of a classroom, day after day. I never really wanted to be a classroom teacher.

I'm still an educator, though I don't have my own classes. I help students navigate increasingly complicated layers of tools and systems: I see it as a kind of translation. I help them to articulate and then translate their research ideas and topics into words they can use effectively to locate the information they need. Lots of professors assume – incorrectly – that their students know this stuff already. I do about 50 consultations each semester, so I can confidently state that a fair number of grad students don't enter their programs sufficiently prepared.

Q: You seem to favor working with students who are restarting, much like you did. What is satisfying about working with them? What do they need from academic libraries and higher education?

A: Maybe this population just fits my personality and approach: I'm very practical. The Grand Valley Education Department has over a dozen grad emphases, and these students are, for the most part, working adults



with families and responsibilities and experiences that compete for their time. They may be returning to university study after many years away. Many are uncomfortable using the resources, they're intimidated and afraid of outing themselves as unsure and confused. Maybe it's because this role makes me feel needed. I have a box of Kleenex at the ready, because it's not unusual for students to let themselves feel vulnerable and let it out with me instead of with their professor. I'm a teacher, a confidant, a guide, and more.

In my opinion, these students would benefit from a required information-literacy course, which is something we don't have in place. Students rarely have the time or the context in which to recognize and develop their identities as researchers. They're ticking boxes and completing assignments, mostly individually, without recognizing the bigger picture. They need help recognizing how one piece builds on another.

Q: What value do academic librarians bring to the university curricula?

A: We are always thinking about student learning. We are a big part of what makes this process work. In my situation, it's a liberal-arts education. We focus on the skills and concepts that enable learning to happen. Without understanding what information looks like, how information is organized and stored, the many ways it has value (and power), and how using information wisely helps one make sense of all the other content in a particular discipline, students can't really dig into a discipline with confidence.

Given the ways that librarianship and scholarship are interacting and changing within a library, many academic-library directors acknowledge that they are seeking job candidates with other qualifications. The MLS qualification is coming under some scrutiny generally in the profession.

“Librarians who have been the most successful historically and today come out of an academic background,” says Harriette Hemmasi, dean of the library at Georgetown University. “They understand the culture of that scholarly endeavor and they are able to speak the language.”

“Both sides could learn from each other,” she says. Too often librarians are technicians, who understand the tools and

services but might not be familiar with academic culture or the topics.

In 2015, scholars at the library and information school at the University of Maryland released a report, *Re-Envisioning the MLS: Findings, Issues, and Considerations*, which examined some of the essential skills, competencies, and qualifications that the library job market would need. The authors noted that discussions about “whether an MLS is still relevant or necessary” arose throughout the work on the report. They called it the “elephant in the room”; some library professionals say the MLS is viewed as a kind of union card in the profession.

“There was a sense that an MLS is not required — nor perhaps desirable — for all aspects of library work,” the report notes. “For

LIBRARIAN WITH A PH.D.

“I am a librarian for Pennsylvania State University but I don’t have my library degree and I never entered the library in undergrad! I am the online learning coordinator for Penn State, where I get to bring my functional expertise to the libraries and move us forward in the area of online learning. I have my Ph.D. in learning, design, and technology, and my main student population at Penn State is World Campus. This means that one day I might be helping a student in Asia access a book for their class and the next day I am building a module to be used across all English rhetoric and composition classes. If I knew this position existed in the library, I would have imagined myself in a library!”



“I think that I bring a unique perspective to the position. Diversity of thought is very valuable and I have a different skill set than someone from a more traditional background. For example, I am extremely strong in learning theory and research methods and, from talking with my colleagues, that is not a focus they have in library school. I do encounter some bias from people who think I need to have an MLIS, but I feel that I overcome that when I share my expertise and value their expertise.”

**- Victoria Raish, online learning coordinator,
Penn State University Libraries**

example, having human resources, business managers, communications staff, information-technology staff, web designers, and other operations staffed by those with expertise and relevant degrees was preferable.”

The Council on Library & Information Resources has long offered a fellowship program for recent Ph.D. graduates, giving them an opportunity to learn some aspect of information management and librarianship, while also placing them in a position at an academic library. Recent fellows earned their doctorates in such fields as American studies, design, education policy, English, history, media and communications, and organizational behavior.

When that program started about 15 years ago, some traditional librarians saw it as “class warfare,” says Marta Brunner, the library director at Skidmore College. She has not a master’s degree in library science, but a doctorate from the history of consciousness program at the University of California at Santa Cruz. She started working as a library assistant at the University of Chicago in 2004, while her husband was in graduate school there.

“In order to write my dissertation, I had to ask for a day pass each day just to enter that library, and then I couldn’t check anything out,” she says. “So I ended up looking for jobs on campus so I could get library privileges.” Brunner found working in the library intellectually stimulating and interdisciplinary in nature, much like her doctoral program.

She rose up the institutional ladder, working in digital humanities and teaching-and-learning services, eventually becoming the head of collections at the University of California at Los Angeles, before moving to Skidmore.

Libraries can provide a more-diverse perspective at an institution by recruiting from applicant pools outside of the library-school track, Brunner and others say. With academic programs closing and a glut of Ph.D.s on the job market, libraries could find talented scholars to hire. Those scholars need to be interested in libraries and the work of librarians, says Brunner, not just seeking a

backdoor into the institution. The library should also be conscious of protecting those scholars from being exploited at the institution as adjuncts.

Library programs themselves have considered providing alternative ways to enter the field. Many institutions are considering micro-credentials in library skills and other kinds of paraprofessional training. “Making sure that we’ve got multiple paths towards success in careers is important,” says Meyer,

Libraries can provide a more-diverse perspective at an institution by recruiting from applicant pools outside of the library-school track.

of the University of Texas at Austin. Drawing nontenured academics into the library offers strengths but also requires some delicate framing. Institutions have to depict library work as a legitimate and successful career path, rather than a consolation prize for academics who couldn’t find a tenure-track job.

Of course, some librarians have faculty status and even tenure, while others have ranks as staff members. At some institutions, that employment status is in flux. In late 2021, M. Katherine Banks, president of Texas A&M University at College Station, announced a plan to pull tenured and tenure-track faculty out of the library to be placed in a new information school; the library would be established as a “service unit” for the entire campus — a move that some librarians took as a status demotion. At about the same time at Northwestern Uni-

47

Average age of librarians and media-collections specialists working full time in higher education in 2019

69.13%

Estimated share of female higher-ed librarians and media-collections specialists in 2019

Source: Association of College and Research Libraries, U.S. Census Bureau's American Community Survey

versity, librarians formed a union, after layoffs and years of working without substantial pay increases. At the University of Maryland at College Park, administrators say that some librarians struggle with a status that falls awkwardly between faculty and staff.

"It's all over the map in terms of how schools have decided to classify their librarians and what it means," says Izsak, of Maryland. She wants her students to be prepared

for the publishing requirements and other expectations that would come with a tenure-track job, since not all are aware of how varied the field can be. "It's something that is really important for students to understand as they're going in."

DIVERSITY IN THE PROFESSION

The library holds a special place in the imagination of many people. The librarian, meanwhile, is often cast as a stereotype: Popular culture has long promoted an image of a woman with cat-eye glasses, an obsession with books, and a tendency to shush.

In fact, real librarians are quite different. Attend any college-library conference, and it's not uncommon to see librarians with tattoos and purple hair alongside others wearing business suits. Librarians have also been notably politically active in progressive causes: They frequently take stands against censorship and government assaults on privacy, and more recently have gotten involved in support for Black Lives Matter and equity issues. (In 2019, the American Library Association removed Melvil Dewey's name from its most prestigious award, given the library pioneer's history of racism, anti-Semitism, and sexual harassment.)

And yet, the stereotypes about who works in the profession do have some basis in reality: Library directors and leaders in the field consistently say that the academic-library ranks lack diversity. The profession is overwhelmingly white and nearly 70-percent female. (Some analysis of the data suggests that men working in the profession are more likely to be nonwhite.) That might be a legacy of what librarianship has been on campus in the past.

"For many years, it was a good spouse job," says Meyer. "And so historically — for ill or for good, but mostly for ill — it was mainly men in the faculty jobs and women in the support jobs."

But the lack of diversity in the field may have as much to do with socioeconomic factors in society at large. Public investment in public and school libraries has been

inconsistent, even in decline, in underserved communities across the country. That lack of exposure to well-funded, richly programmed libraries shaped the perceptions about libraries among young people in those communities. “One of the leading factors that influences people to go into librarianship is that they had a positive experience with a library or with a librarian in their youth,” says Clarke, of Syracuse. “If you don’t have that connection at a young age, if you don’t have a librarian that you sort of bond with or see yourself reflected in, you’re not going to see yourself going down that path.”

Many leaders in librarianship and observers say the field’s lack of diversity can pose problems in unexpected places — by, for example, introducing bias into the way that collections are identified, acquired, and described.

“To me, it’s an existential threat to the future of the profession to not be sufficiently representative of the populations that we’re serving,” says Thomas Padilla, senior director of collections, technology, and partnerships at the Center for Research Libraries. “It creates all kinds of blind spots in terms of thinking about our collections, our services, and in ensuring that we’re creating welcoming spaces for students or researchers.”

Programs in library science are trying to counter these trends in various ways. The University of Texas at Austin, which has a diverse student body, has started an undergraduate program in informatics to build a pipeline into the graduate programs. Meyer has also noticed another trend among graduate students in the past five years: They are younger than they were in the past, an indication that young people see information-oriented fields as important and viable careers — a trend that could help diversify the field.

“The typical age used to be 30 for graduate students in our school,” says Meyer, noting that many people came to library work as a second career. “Now our typical student in our graduate program is much more likely to

be in their early 20s, either one year straight out of college or maybe just three or four years out of college.”

The university is also planning to offer a concentration in cultural-heritage informatics, which deals with the access to, preservation of, and advocacy for materials important to specific cultures, and a program in social-justice informatics, which studies how information technology can “make the world a better place,” says Meyer. Other library-science programs have similar offerings, all in an effort to help prospective students see a relevance in the profession.

“Those changes, getting more undergraduates opportunities to see our field as a choice, are starting to diversify the field. But it does take a while.”

“I think we’re a little stale. That’s something at the heart of the future of the profession.”

Future academic librarians — for now, largely white and female, and mainly coming from a humanities background — also need to be more sensitive to inclusiveness in serving diverse populations that might be unfamiliar to them. Those populations could come from a different socioeconomic status or a different country — or even a different discipline.

Librarianship surely needs to diversify in terms of race and gender, says Clarke, but it also needs librarians from diverse academic backgrounds. “How do we get more folks from STEM? How do we get more folks from art and design — so we can diversify our thinking and our approaches?” she says. “I think we’re a little stale. That’s something at the heart of the future of the profession.”

LIBRARIES' STRUGGLES TO DIVERSIFY

**Q: What do you think about diversity in librarianship over all?
Why does the profession struggle to attract a more diverse work force?**

“Those who know me have heard me say, ‘I feel like a unicorn in CUNY libraries.’ This is not to say there aren’t many other success stories, because I am certain of this. ... Why me? I’m no more special than the person sitting in the cubicle next to me. ... I see others work as hard if not harder. I know (numerous) classified staff members with postsecondary library degrees, yet they work, and will continue working as classified staff. One would wonder, How is this possible?”

“Part of what’s missing is quite evident. ... CUNY libraries’ internal talent pool. Hiring in any organization costs time, money, energy, and effort to vet, train, and employ new staff members. CUNY invests in these resources with the intention of retaining valuable employees to grow and succeed in the job and/or profession. Here is where I struggle: Many of my library colleagues/friends work to progress in leadership roles within their respective departments, yet advancement opportunities are few and far between.”

**- Nilda A. Sanchez-Rodriguez, associate professor and chief architecture librarian,
City College of New York, Bernard and Anne Spitzer School of Architecture**



“It is a complicated issue that can be resolved by inclusive-minded, proactive librarians, and management who are comfortable with diversity and change. The employment makeup of a library is a reflection of its internal political culture as well as its surrounding community. If the library has problems recruiting diverse professionals it should use library association diversity committees for assistance.

“The library profession has a negative public-relations image when compared to other professions. The profession is not perceived as exciting and innovative. Library associations need to recruit from ... professional associations that are showcasing their diverse membership. The American Chemical Society and other STEM associations have been showcasing librarians and members of diverse cultural backgrounds.”

**- Adwoa Boateng, library liaison to the Colleges of Science and of Health
Sciences and Technology, Rochester Institute of Technology**



“Modern American libraries are rooted in a history of white supremacy and exclusion; the lack of diversity in the field today is a consequence of that design. True change will only take place when leaders are willing to make sacrifices, relinquish power in pursuit of equity, and center Bipoc [Black, Indigenous, and people of color] voices. This is difficult for some to hear, but all the other small steps only serve to appease the guilt of the privileged. Token scholarships and decolonized collections mean little when most institutions have yet to hold themselves accountable in more important structural areas like recruitment and hiring practices.”

- Shiva Darbandi, director of the Joanne Waxman Library, Maine College of Art & Design



“For most of my life I was a gay man, and in librarianship that isn’t really a big deal, at least it wasn’t for me. ... A few years ago, thanks in part to one of my library colleagues and her nail-polishing skills, I realized that I was nonbinary. Coming out at my library at an all-staff meeting was met with a bit of confusion and silence. Not much else happened. In retrospect it would have been a perfect opportunity for a gender reveal party at work, with a big cake, loud music, and dancing.”

“I can’t speak for the whole library profession and their connections to the queer community, but overall the engagement seems spotty. ... I see some glimmers of growing diversity in librarianship. I’m a member of a gender variant Slack group and seeing new members join, students in library school, points to a sea change in library employee diversity. In library school there were few queer students, and I didn’t really see any out and queer librarians in the profession until I moved to academia, so some of the issue is actually seeing and knowing of, or knowing a librarian which maps to your identity or identities. Having a supportive group to ask questions, field ideas, and share thoughts really helped me to adjust to my new life as a queer nonbinary librarian.”

- Mark Bieraugel, business librarian, Orfalea College of Business, California Polytechnic State University



LIBRARIANSHIP AND THE PANDEMIC

While technology has wrought change on the profession over the past few decades, Covid-19 has had more immediate impacts. After the onset of the pandemic, librarians became vital partners with scholars, instructors, students, and patrons in a way few had experienced before. Librarians were working with instructional designers to teach people how to set up courses in online formats, with materials and readings that students could access remotely. They found ways to deliver research materials — both in paper and digitally — to scholars who would have otherwise been stifled when libraries closed their doors. They shifted much of their library instruction, book readings, and public events to Zoom sessions — and often drew far more spectators than they would have during in-person convenings before the pandemic.

If academic librarianship is focused on public engagement and service, can librarians effectively deliver those services from a computer and phone at home?

Librarians themselves also took advantage of the upended (and maybe extended) workday, increasing the time spent on professional development during the pandemic by an hour and a half per week on average, according to a survey conducted by Clarke. There is a strong desire for professional development among librarians, she says, but not enough time or money to meet the need.

At many locations, libraries selected a handful of people who continued to work in college library buildings, retrieving bound volumes and maintaining other services.

But in many instances, librarians were working from home, like many other faculty and staff members. This arrangement, of course, has become a preferred option for employees who mainly have office work — and colleges everywhere have to determine who gets the privilege of working from home, and how often. It can be perceived as an equity issue.

“As leaders, we need to dispel the myth that productivity equals presence on campus or in a specific work location,” says Lorraine J. Haricombe, vice provost and director of the University of Texas Libraries. “If library staff members need a better work-life balance, give them that flexibility and trust that the work will get done. We’ve just demonstrated we can do it, and do it excellently, as librarians.”

Certainly much of the decision would depend on the nature of the institution. Frances Maloy, the library director at Union College, says that part of the selling point of a small college is the personal touch — which means remote work won’t be a long-term option. But she thinks remote work is also changing the culture of the library.

“I feel things are fraying,” says Maloy. “A huge part of communicating is not just the words coming out of my mouth and into your ear. It’s the body language, and so many other things. As social beings, as humans, we need to be back together.”

However, she acknowledges the competitive advantage of remote work. She has lost workers to jobs that promised work-from-home options.

Even for libraries at larger research universities and community colleges, remote work raises some specific additional questions. If academic librarianship is focused on public engagement and service, can librarians effectively deliver those services from a computer and phone at home? Surely, in many cases they can.

But if the public already turns to Google

before they think of asking a librarian for help, should institutions make librarians even more distant from patrons? Or is online exactly where patrons want to interact with librarians, if only they could find them?

“Every person is a remote user of the library, and sometimes they come in,” says Lisa Janicke Hinchliffe, an affiliate professor at the School of Information Sciences at the University of Illinois at Urbana-Champaign. Given that, demand for library expertise should have been higher during

the pandemic, when everyone was forced online.

“The more people work remotely, the less they seem to actually seek out the expertise of library workers,” she says. “So if we wish to stay in the workflow — not just from a collections perspective, but from an expertise perspective, a consulting perspective, what have you — we probably need far more aggressive outreach programs than we currently have so people think of us as a place to seek assistance.”

Clearly, libraries are going through enormous changes in their interactions with scholars and students. And even many experts in the field are not sure how libraries will evolve over time, given that their forms and duties are so dependent on factors that are in flux: the shape and flow of information, the financial prospects for colleges, and the societal commitment to education and community.

But some trends in libraries and librarianship will be with us for years to come, given their importance to the academic community.

First, the library building will remain a campus hub. Many campuses are like small cities, and the library — as a multipurpose area that organically attracts the community — has long been a locus of campus activity. College leaders should consider how the library can support a range of activities related to student success and community building. Given the complexity of global challenges, higher education may need to encourage more interdisciplinary scholarship; the library could become a prime site for those cross-disciplinary interactions.

Library expertise will have to match the complexity of information and scholarship. The education and duties of librarians and the mission of libraries now have to cover a wider range of activities — preservation, data visualization and management, public engagement, digitization, and copyright, to name just a few. Some in the library profession say that jobs in the field could become even more specialized over time.

The open movement will grow. A commitment from major organizations supporting the democratization of science and other scholarly work, along with financial pressures on institutions and students alike, will continue to drive interest in expanding access to scholarly materials and textbooks. How the open movement affects the relationship between libraries and publishers in the long run is yet to be determined.

Higher education may need to encourage more interdisciplinary scholarship; the library could become a prime site for those cross-disciplinary interactions.

And higher-education institutions — and society as a whole — will continue to need people who can identify sources of valid information. This important duty — foundational in the mission of libraries — may become more vital as scholarship becomes more open.

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